SOCIETY FOR INVESTIGATIVE DERMATOLOGY

ATL15

2015 ANNUAL MEETING
ATLANTA, GA

Meeting Program

HILTON ATLANTA
MAY 6-9, 2015

MISSION

The SID mission is to advance and promote the sciences relevant to skin health and disease through education, advocacy and scholarly exchange of scientific information.

VISION

The SID will be the pre-eminent organization for the science of skin health and diseases. It will be a leading purveyor of educational programming. It will promote a culture of discovery and serve as the premier forum for the exchange of scientific information relating to dermatologic research. It will build cross-disciplinary bridges to provide catalytic leadership in attaining intellectual, political, and financial support for skin-related scientific investigation. The SID will be – and be viewed as – a significant force in shaping public policy. As a result of recruiting, nurturing, and mentoring the next generation of scientists, it will be a financially robust and self-sustaining organization.

CORE VALUES

- Integrity
- Collegiality
- Shared beliefs
- Innovation
- Leadership

CONNECT WITH THE SID!

#SIDATL2015

www.sidnet.org

Check-in and check for updates at the SID 2015 Annual Meeting Facebook

www.facebook.com/SID2015annualmeeting

COMMERCIAL SUPPORT

As of March 26, 2015

Abbvie

Actelion

Amgen

Anacor

Celgene

Eli Lilly

2015 EXHIBITORS

Cell n Tec

CYTOO

Elsevier

Metabolon, Inc.

NIAMS

Pfizer

ZenBio, Inc.

FUTURE ANNUAL MEETINGS

75th Annual Meeting
May 11-14, 2016
The Westin Kierland Resort & Spa
Scottsdale, Arizona

76th Annual Meeting
April 26-29, 2017
Hilton Portland & Executive Tower
Portland, Oregon

JID- 2018
May 16-19, 2018
Rosen Shingle Creek
Orlando, Florida

77th Annual Meeting
May 8-11, 2019
Hilton Chicago
Chicago, Illinois

OFFICERS

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Fang Liu, PhD
Lisa Liu, MD/PhD

Welcome to Atlanta

On behalf of the Society for Investigative Dermatology (SID), welcome to the 2015 Annual Meeting in Atlanta. The capital city of Georgia, Atlanta has a rich history, a thriving present, and an exciting future. Home to Coca Cola, CNN, Gone with the Wind, the Atlanta Symphony Orchestra, Martin Luther King and the Civil Rights Movement, the Atlanta Braves, the busiest airport in the world, and a host of world renowned universities and research institutions, including Emory University, Georgia Institute of Technology, and the Centers for Disease Control and Prevention, Atlanta is an international hub for business, culture, entertainment, and academia.

We hope you will find time to enjoy the city's vibrant, multicultural atmosphere, world-class restaurants, and outstanding historic and cultural attractions. Atlanta blends all the excitement of a major metropolitan center with genuine Southern charm and hospitality, and I'm confident that you will enjoy your stay.

As always, we are grateful to the Committee on Scientific Programs which has again this year planned an exciting and enlightening program for us.

SID COMMITTEE ON SCIENTIFIC PROGRAMS
Co-Chairs
Anthony Gaspari, MD & My Mahoney, PhD

COMMITTEE MEMBERS
Sam Hwang, MD, Sarah Millar, PhD, Paul T. Nghiem, MD/PhD, Abrar A. Quareshi, MD/PhD, Nicole L. Ward, PhD, Victoria P. Werth, MD, Daniel Kaplan, MD/PhD, Ethan Lerner, MD/PhD

Since its founding in 1937, the SID has been committed to facilitating the careers of young investigators by providing a dynamic forum in which a diverse group of scientists can interact. We remain fully committed to this goal and to offer programming that reaches all members of the dermatology and cutaneous biology research communities.

We have scheduled a variety of activities to highlight scientific advances made by our community, and social events that will celebrate our international scientific community and the culture and beauty of Atlanta.

Welcome to what promises to be another truly outstanding SID Annual Meeting!

S. Wright Caughman
President

Alice P. Pentland
Secretary-Treasurer

Richard L. Gallo
Asst. Secretary-Treasurer

The photos of the Atlanta skyline are provided as part of a collaborative effort by Dr. Andrew Kowalczyk, Mr. Joshua Lewis, and Ms. Sara Stahley. Andrew Kowalczyk is a faculty member at Emory University in the Departments of Cell Biology and Dermatology, and a member of the SID Board of Directors. Josh Lewis and Sara Stahley are PhD candidates in the Biochemistry, Cell and Developmental Biology program in Emory University's Laney Graduate School. Research in the Kowalczyk lab focuses on the basic biology of cell adhesion and the pathomechanisms of the skin disease pemphigus vulgaris. The group's interest in photography dovetails with their expertise in high resolution light microscopy to gain insights into cell adhesion in development and skin disease.

Claim CME and help the Society for Investigative Dermatology (SID)!

Attention SID 2015 Annual Meeting attendees:

The SID requests that everyone who needs CME to claim hours for its meeting. CME hours are important to claim because you need them to maintain licensure and Board Certification and credentialing.

Presentations during the four-day SID Annual Meeting cover a wide range of common and rare skin diseases and feature data on promising therapeutics but, did you know that CME educational grants also support the SID and its Members? Educational Grants allow the SID and its Committee on Scientific Programs to independently develop a meeting template with content based on the stated needs of the skin research community. This results in high quality presentations that provide objective and scientific discourse to our global audience.

In addition, feedback from CME evaluations enables the Society to employ a cycle of continuous improvement. Our abstract categories evolve in parallel with emergent areas of science. We want the data compiled from these surveys to be representative of the SID community. Your suggestions for future topics and keywords ensure that we stay on the cutting edge of discovery.

Claim your CME hours! Help yourself, and help support the SID.

CME Statement & Objectives

University of Rochester School of Medicine and Dentistry presents…

THE 2015 SOCIETY FOR INVESTIGATIVE DERMATOLOGY ANNUAL MEETING

COMMERCIAL SUPPORT STATEMENT

Commercial Support Acknowledgment: This CME activity is supported by educational grants. A complete list of supporters will be published in the course syllabus.

STATEMENT OF NEED

The educational programming of the SID is designed to develop, maintain, and/or increase the abilities, skills, and professional performance of its target audiences. SID CME activities will:

1) Disseminate updated evidence-based knowledge of skin biology/disease and applications for maintaining health and preventing, diagnosing, and treating disease in a manner that fosters scientific excellence, elevates the standard of care, and meets high ethical standards.
2) Provide target audiences with a relevant forum for the exchange of cutting-edge scientific ideas, information, and methodology.
3) Advance the science involved in basic skin biology and clinical care of patients with skin disease.
4) Provide exposure to novel science (both concepts and methods) which may be relevant in the future to understanding and treatment skin disease.

TARGET AUDIENCE

The primary target audiences for SID CME activities include all of the sectors of the dermatology community, consisting of research investigators, clinicians, research and clinical trainees, members of industry, and community advocates for skin health/disease.

LEARNING OBJECTIVES

At the conclusion of this activity, participants should be able to:

- Identify which disease states require new or additional research
- Evaluate state-of-the-are information relating to basic skin biology research
- Describe how newly discovered, evidence-based scientific information may or may not be applied to the current practice of investigative or clinical dermatology
- Apply strategies to structure and design successful research proposals, abstracts, and manuscripts
- Facilitate interdisciplinary and/or collaborative investigation in clinical dermatology and skin biology to improve research hypotheses, processes and/or techniques
- Incorporate knowledge gained from interactions between basic scientists and clinicians into daily decision-making

FACULTY LISTING

Activity Medical Director:
Alice P. Pentland, MD
Chair, Department of Dermatology
University of Rochester

SUMMARY OF FACULTY DISCLOSURE/ CONFLICT RESOLUTION

Staff and Content Validation Reviewer Disclosure

The staff involved with this activity and any content validation reviewers of this activity have reported no relevant financial relationships with commercial interests.

Resolution of Conflicts of Interest

In accordance with the ACCME Standards of Commercial Support of CME, the University of Rochester School of Medicine and Dentistry will implement mechanisms, prior to the planning and implementation of this CME activity, to identify and resolve conflicts of interest for all individuals in a position to control content of this CME activity.

UNAPPROVED USE DISCLOSURE STATEMENT

The University of Rochester requires CME faculty (speakers) to disclose to attendees when products or procedures being discussed are off-label, unlabeled, experimental, and/or investigational (not FDA approved); and any limitations on the information that is presented, such as data that are preliminary or that represent ongoing research, interim analyses, and/or unsupported opinion. This information is intended solely for continuing medical education and is not intended to promote off-label use of these medications. If you have questions, contact the medical affairs department of the manufacturer for the most recent prescribing information. Faculty will not be discussing information about pharmaceutical agents that is outside of U.S. Food and Drug Administration approved labeling.

DISCLAIMER

The information provided at this CME activity is for continuing education purposes only and is not meant to substitute for the independent medical judgment of a healthcare provider relative to diagnostic and treatment options of a specific patient's medical condition.

INSTRUCTIONS ON HOW TO RECEIVE CREDIT

In order to receive CME credit, participants must sign-in, review the CME information (accreditation, learning objectives, faculty disclosures, etc.) and attend the CME activity. Participants should also complete the activity evaluation form and return it to the appropriate representative following the CME activity. Participants should also complete the activity evaluation form and return it to the Society for Investigative Dermatology via fax to 216.579.9333 or mail to:

Society for Investigative Dermatology CME
526 Superior Avenue E, Suite 540
Cleveland, OH 44114

ACCREDITATION STATEMENT

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the University of Rochester School of Medicine and Dentistry and the Society for Investigative Dermatology. The University of Rochester School of Medicine and Dentistry is accredited by the ACCME to provide continuing medical education for physicians.

CERTIFICATION

The University of Rochester School of Medicine and Dentistry designates this live activity for a maximum of 29.25 AMA PRA Category 1 Credit(s)TM. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

2015 EDUCATIONAL TRACKS
Y Young Investigator/Trainee Track
I Inflammatory Skin Disease
S Skin Cancer

MEETING-AT-A-GLANCE

TUESDAY, MAY 5, 2015

Pachyonychia Congenita Project (PC Project) Symposium — 1:00 pm – 4:10 pm
Salon C, Hilton Atlanta

Resident Retreat for Future Academicians — 4:30 pm – 9:30 pm
Salon D, Hilton Atlanta

Resident/PhD Retreat Dinner — 6:00 pm – 7:30 pm
Salon E, Hilton Atlanta

PhD Retreat — 7:30 pm – 9:30 pm
Salon C, Hilton Atlanta

WEDNESDAY, MAY 6, 2015

Pachyonychia Congenita Project (PC Project) Symposium — 7:00 am – 12:00 pm
Salon C, Hilton Atlanta

Resident Retreat for Future Academicians — 7:00 am – 3:00 pm
Salon D, Hilton Atlanta — By Invitation Only

PhD Retreat for Future Investigators — 7:00 am – 3:00 pm
Salon E, Hilton Atlanta — By Invitation Only

SID Board of Directors Meeting — 7:00 am – 2:15 pm
Crystal Ballroom, Hilton Atlanta

Registration — 8:00 am – 6:30 pm
Convention Registration Area, First Floor, Hilton Atlanta

S **Translational Science Symposium: Immune Therapies in Skin Cancer** — 12:00 pm – 3:00 pm
Grand Ballroom, Hilton Atlanta

Y **Irvin H. Blank Forum** — 3:00 pm – 5:00 pm
Getting Under Your Skin: Collaboration with Biomedical Engineers
Grand Ballroom, Hilton Atlanta

State-of-the-Art Plenary Lecture 1 — 5:00 pm - 5:30 pm
Basic Mechanisms and Dynamics of Skin Regeneration
Valentina Greco, PhD
Grand Ballroom, Hilton Atlanta

State-of-the-Art Plenary Lecture 2 — 5:30 pm - 6:00 pm
Two Sides of a Coin: Hair Keratins in Teeth
Maria I. Morasso, PhD
Grand Ballroom, Hilton Atlanta

President's Welcome — 6:00 pm -6:15 pm
S. Wright Caughman, MD

Kligman/Frost Leadership Lecture — 6:15 pm - 6:45 pm
The Importance of Sticking Together
Kathleen J. Green, PhD
Grand Ballroom, Hilton Atlanta

American Skin Association Achievement Awards — 6:45 pm – 6:55 pm
Grand Ballroom, Hilton Atlanta

ASA/David Martin Carter Award — 6:55 pm -7:00 pm
Grand Ballroom, Hilton Atlanta

Welcome Reception — 7:00 pm – 9:00 pm
Pool/Tennis Deck 3rd Floor (weather permitting)
or Grand Ballroom/Salon Foyer Location

THURSDAY, MAY 7, 2015

Pediatric Dermatology Research Alliance/ Society for Pediatric Dermatology Session — 7:00 am – 8:00 am
Rooms 204-207, Hilton Atlanta

Registration — 7:30 am – 5:00 pm
S Convention Registration Area, First Floor, Hilton Atlanta

Plenary Session I — 8:00 am – 9:00 am
I Grand Ballroom, Hilton Atlanta

Eugene M. Farber Lecture — 9:00 am – 9:30 am
A Natural History of Psoriasis
Christopher E.M. Griffiths, MD, FRCP, FMedSci
I Grand Ballroom, Hilton Atlanta

Naomi M. Kanof Lecture — 9:30 am – 10:00 am
Silencing the Sézary Cell – Past, Present, & Future
Madeleine Duvic, MD
Y I Grand Ballroom, Hilton Atlanta

Clinical Scholars Program Session 1 — 10:00 am – 12:00 pm
Co-Morbidities: Skin & Systemic Disease
Grand Ballroom, Hilton Atlanta

Poster Session I — 10:00 am – 12:00 pm
Poster #'s 001-245 Odd & #'s 246-490 Even
Galleria Exhibit Hall, Hilton Atlanta

American DermatoEpidemiology Network (ADEN) Meeting — 12:00 pm - 1:45 pm
Salon C, Hilton Atlanta

American Acne and Rosacea Society (AARS) Scientific Symposium — 12:00 pm – 1:45 pm
Grand Ballroom, Hilton Atlanta

Satellite Symposium — 12:00 pm – 12:45 pm
Academic-Industry Partnership Project
Panel Discussion 12:00 pm - 12:45 pm
Salon A/B, Hilton Atlanta

National Rosacea Society Research Workshop — 12:00 pm – 1:45 pm
Salon D, Hilton Atlanta

International Society for Cutaneous Lymphomas/Cutaneous T-Cell Lymphoma Symposium (ISCL/CTCL) — 12:00 pm – 1:45 pm
Room 204-207, Hilton Atlanta

Concurrent Mini-Symposia — 2:00 pm – 5:00 pm

Auto Immunity
S Salon E, Hilton Atlanta

Carcinogenesis & Cancer Genetics
Grand Ballroom, Hilton Atlanta

Epidemiology
S I Salon C, Hilton Atlanta

Gene Therapy & Clinical Therapeutics
Salon A/B, Hilton Atlanta

Skin & Hair Developmental Biology
Salon D, Hilton Atlanta

Mini-Symposia Mixers — 5:00 pm – 6:00 pm
Individual Concurrent Meeting Rooms

The National Eczema Association Reception – The Decade of Eczema! — 5:00 pm – 6:30 pm
Crystal Ballroom, Hilton Atlanta

Social Event — 6:30 pm - 10:30 pm
Georgia Aquarium — Ticketed Event: Pre-Registration Required
Buses depart from the Hilton Atlanta beginning at 6:00 pm. Buses will begin shuttling guests back to the hotel beginning at 8:30 pm.

MEETING-AT-A-GLANCE

FRIDAY, MAY 8, 2015

Pediatric Dermatology Research Alliance/ Society for Pediatric Dermatology Meeting — 7:00 am – 8:00 am
Room 204-207, Hilton Atlanta

Registration — 7:30 am – 4:00 pm
Convention Registration Area, First Floor, Hilton Atlanta

Business Meeting for Members — 7:45 am – 8:30 am
Grand Ballroom, Hilton Atlanta

Plenary Session II — 8:30 am – 9:30 am
Grand Ballroom, Hilton Atlanta

(S) **Stephen Rothman Memorial Award** — 9:30 am – 9:45 am
Presented to Ervin H. Epstein, Jr., MD
Grand Ballroom, Hilton Atlanta

(S) **Herman Beerman Lecture** — 9:45 am – 10:15 am
Cancer immunotherapy via blockade of the PD 1 pathway
Drew M. Pardoll, MD/PhD
Grand Ballroom, Hilton Atlanta

State-of-the-Art Plenary Lecture 3 — 10:15 am – 10:45 am
Translational Research in Vitiligo: Launching a New Era of Targeted Treatment
John E. Harris, MD/PhD
Grand Ballroom, Hilton Atlanta

State-of-the-Art Plenary Lecture 4 — 10:45 am – 11:15 am
Mitochondria as Signaling Organelles
Navdeep S. Chandel, PhD
Grand Ballroom, Hilton Atlanta

Poster Session II — 11:15 am – 1:15 pm
Poster #'s 002 - 244 Even & #'s 491 – 735 Odd
Galleria Exhibit Hall, Hilton Atlanta

Research in Cutaneous Surgery (RCS) Meeting — 12:00 pm – 1:45 pm
Salon A/B, Hilton Atlanta

Women's Dermatologic Society Luncheon — 12:00 pm – 1:45 pm
Crystal Ballroom, Hilton Atlanta

(I) **NIAID Symposium** — 12:00 pm – 1:45 pm
Understanding Host Defense In Atopic Dermatitis
Grand Ballroom, Hilton Atlanta

Concurrent Mini-Symposia — 2:00 pm – 5:00 pm

(S) (I) Clinical Research (Observations, Pathophysiology & Outcomes)
Salon D, Hilton Atlanta

Epidermal Structure & Barrier Function
Salon C, Hilton Atlanta

Genetic Disease & Gene Regulation
Rooms 204-207, Hilton Atlanta

Innate Immunity, Inflammation & Microbiology
Salon E, Hilton Atlanta

(S) Pigmentation & Melanoma
Salon A/B, Hilton Atlanta

(S) Interdisciplinary Spotlight: Skin Cancer
Grand Ballroom, Hilton Atlanta

(Y) **Mini-Symposia Mixers** — 5:00 pm - 6:00 pm
Individual Concurrent Meeting Rooms

North American Hair Research Society- Scientific Session and Annual Business Meeting — 6:00 pm – 9:30 pm
Grand Ballroom, Hilton Atlanta

National Psoriasis Foundation Scientific Advisory Board Meeting — 6:00 pm – 9:30 pm
Room 203, Hilton Atlanta

National Alopecia Areata Foundation (NAAF) Reception — 6:00 pm – 9:30 pm
Room 206 – 207, Hilton Atlanta

Trainee Dinner — 7:00 pm - 9:00 pm
Crystal Ballroom, Hilton Atlanta
Ticketed Event: Pre-registration Required

SATURDAY, MAY 9, 2015

SID Board of Directors Meeting — 7:00 am – 7:45 am
Crystal Ballroom, Hilton Atlanta

Registration — 7:30 am – 12:00 pm
Convention Registration Area, First Floor, Hilton Atlanta

(I) **Plenary Session III** — 8:00 am – 9:00 am
Grand Ballroom, Hilton Atlanta

(S) **William Montagna Lecture** — 9:00 am – 9:30 am
Therapeutic Target Practice in Melanoma
Hensin Tsao, MD/PhD
Grand Ballroom, Hilton Atlanta

(I) **Julius Stone Lecture** — 9:30 am – 10:00 am
The Multifaceted Immunoregulatory Functions of the PD-1 pathway
Arlene H. Sharpe, MD/PhD
Grand Ballroom, Hilton Atlanta

Poster Session III — 10:00 am – 12:00 pm
Poster #'s 247-489 Odd & #'s 492-736 Even
Galleria Exhibit Hall, Hilton Atlanta

(Y) (I) **Clinical Scholars Program Session II** — 10:15 am – 12:15 pm
Grand Ballroom, Hilton Atlanta

Concurrent Mini-Symposia — 12:30 pm – 3:30 pm

(I) Adaptive Immunity & Vaccination
Salon D, Hilton Atlanta

Growth Factors, Cell Adhesion & Matrix Biology
Salon A/B, Hilton Atlanta

Photobiology
Salon C, Hilton Atlanta

Tissue Regeneration & Wound Healing
Salon E, Hilton Atlanta

International Societies for Investigative Dermatology (ISID) Informational Meeting — 2:00 pm – 3:30 pm
Crystal Ballroom, Hilton Atlanta

2015 EDUCATIONAL TRACKS

The SID is pleased to offer special educational tracks-special collections of focused topics within the 2015 Annual Meeting: The Skin Cancer, Inflammatory Skin Disease, and Trainee Tracks. The SID has been increasing the variety of sessions offered at the Annual Meeting that are geared toward residents, fellows, students and clinicians. The Track system is an easy way for attendees identify components of the Meeting that provide in-depth coverage. Session components of each track are indicated with initials on the 'Meeting at a Glance' pages as follows: Skin Cancer Track (SC); Inflammatory Skin Diseases (I); and Trainee Track (T).

Tracks include portions of the meeting that offer a density of thematic content, providing a cohesive learning experience. They also provide significant opportunities for networking and collaboration, as attendees share common clinical and research interests. Note: These Tracks merely highlight themes that run throughout the meeting. Attendees are encouraged to select sessions by conducting keyword searches for disease, mechanism, gene, etc.

Y Young Investigator/Trainee Track

There are several sessions offered during the SID meeting that are designed for Trainees. They are intended to provide an overview of basic, clinical and translational science, along with opportunities to interact with senior faculty. The target audience includes medical and biomedical science students, research fellows, Dermatology residents, PhD/ post-doctoral candidates, and junior faculty.

TRACK COMPONENTS:

- May 6: Irwin Blank Forum
- May 7 & 9: Clinical Scholars Sessions
- Round Table Discussions (during all Poster Sessions): Drop in at one of our Round Tables! An informal setting during poster sessions with experts from the SID community to help you understand poster session topics, techniques, and disease areas.
- Mini-Symposia Mixers: These informal Q&A sessions will occur after all poster session topics, May 8-9 Concurrent Sessions. Mixers start at 5:00 pm to provide opportunities for interaction among meeting attendees. Light refreshments/snacks provided.

I Inflammatory Skin Disease

This track includes special sessions occurring over the four-day Sid meeting and offers an in-depth view of Inflammatory Skin Diseases, both common and rare, through a variety of lenses. Presentations span the full translational continuum-from animal surrogate models to human trials, utilizing genetic, mechanistic, epidemiological, and technical approaches.

TRACK COMPONENTS:

- May 7: Eugene Farber Lecture
- May 7: Naomi M. Kanof Lecture
- May 7: Clinical Scholars Plenary Session
- May 7: Mini-Symposium - Gene Therapy & Clinical Therapeutics
- May 8: NIAID Symposium
- May 8: Mini-Symposium - Clinical Research (Observations, Pathophysiology, and Outcomes)
- May 8: Mini-Symposium - Innate Immunity, Inflammation & Microbiology
- May 9: Plenary Session III
- May 9: Julius Stone Lecture
- May 9: Clinical Scholars - Infectious Skin Disease
- May 9: Mini-Symposium - Adaptive Immunity & Vaccination

S Skin Cancer

A significant amount of skin cancer research will be presented during this year's SID meeting. More than a fourth of the abstract submissions relate to all types of skin cancers, and many of the Invited/Named Lectures relate to emergent areas of cutaneous oncology.

TRACK COMPONENTS:

- May 6: Translational Symposium, 'Immune Therapies for Skin Cancer'
- May 7: Plenary Session I
- May 7: Mini-Symposium - Carcinogenesis & Cancer Genetics
- May 7: Mini-Symposium - Gene Therapy & Clinical Therapeutics
- May 8: Stephen Rothman Memorial Award
- May 8: Herman Beerman Lecture
- May 8: Mini-Symposium - Clinical Research (Observations, Pathophysiology, and Outcomes)
- May 8: Mini-Symposium - Pigmentation & Melanoma
- May 8: Interdisciplinary Spotlight: Skin Cancer
- May 9: William Montagna Lecture

2015 SID RESIDENT RETREAT ATTENDEES

Lauren Becker, MD, University of Minnesota
Kristin Bibee, MD, PhD, University of Pittsburgh Medical Center
Yiyin Erin Chen, MD, PhD, University of California, San Francisco
Albert Sean Chiou, MD, Stanford University
William E. Damsky, MD, PhD, Yale University School of Medicine
Stephanie Gallitano, MD, SUNY Downstate
Albert Gutierrez JR., MD, PhD, Mayo Clinic Arizona
Noori Kim, MD, Johns Hopkins School of Medicine
Newsha Lajevardi, MD, Warren Alpert Medical School of Brown University
Valerie Laniosz, MD, PhD, Mayo Clinic College of Medicine, Rochester
Matthew R. LeBoeuf, MD, PhD, University of Pennsylvania
Evelyn Lilly, MD, Yale University School of Medicine
Karla I. Martínez Rosales, MD, Universidad Autónoma de Baja California
William H. McCoy IV, MD, PhD, Washington University School of Medicine
Alexander Means, MD, The University of Chicago Medicine
Rajini Murthy, MD, Emory University
Giang-Huong Nguyen, MD, PhD, University of Colorado
Khang Nguyen, MD, University of Texas, Southwestern
Ellen Pritchett, MD, Drexel University College of Medicine
Syril Keena Que, MD, University of Connecticut Health Center
Adam Raff, MD, PhD, Harvard University
Bahram Razani, MD, PhD, University of California, San Francisco
Chris Richardson, MD, PhD, University of Rochester
Todd Rickett, MD, Rush University
Rachel Rosenstein, MD, PhD, New York University, Langone Medical Center
Sandeep Saluja, MD, University of Utah
Michael Sargen, MD, Emory University
David Schairer, MD, Einstein-Montefiore
Jeffrey Scott, MD, University Hospitals, Case Medical Center
Susan Seo, MD, Roger Williams Medical Center
Arsalan Shabbir, MD, PhD, University of Miami
Elisha Singer, MD, Northwestern University
Pooja Sodha, MD, Medstar Washington
Karl William Staser, MD, PhD, Washington University School of Medicine
Andrea Suarez, MD, PhD, Weill Cornell Medical College/New York Presbyterian Hospital
Jennifer C. Tang, MD, Marshfield Clinic
Rebecca Vasquez, MD, University of Texas, Southwestern
Matthew Vesely, MD, PhD, Yale University School of Medicine
Annie Wang, MD, Warren Alpert Medical School of Brown University
Sarah Whitley, MD, PhD, University of Pittsburgh Medical Center
Howa Yeung, MD, Emory University
Shali Zhang, MD, Emory University
Xiaolong (Alan) Zhou, MD, MSc, University of Miami

2015 SID PHD RETREAT ATTENDEES

Nathan Archer, PhD, Johns Hopkins School of Medicine
Xiaomin Bao, PhD, Stanford University
Joshua Broussard, PhD, Northwestern University
Jing Chen, PhD, University of Pennsylvania
Natalie Chernets, PhD, Thomas Jefferson University
Ann E. Collier, PhD, Indiana University
Duncan Hieu M Dam, PhD, Northwestern University
Guillermo C. Rivera González, PhD, Yale University School of Medicine
Geoffrey Hannigan, PhD (2015 Candidate), University of Pennsylvania
Joanna Jacków, PhD, Laboratory of Genetic Skin Diseases, Imagine Institute, France
Kindra Kelly-Scumpia, PhD, University of California, Los Angeles
Dongwon Kim, PhD, Johns Hopkins School of Medicine
Tetsuro Kobayashi, DVM, PhD, National Cancer Institute, National Institutes of Health
Samantha Yu-Jean Lin, PhD, Yale University School of Medicine
Alon Mantel, PhD, Hampton University, Skin of Color Research Institute
Tiago Reis Matos, MD, MSc, Harvard Medical School / Dana-Farber Cancer Institute
Terry Medler, PhD, Oregon Health and Science University
Haris Mirza, MD, PhD, Yale University School of Medicine
Christopher Nirschl, PhD, Brigham and Women's Hospital
John T. O'Malley, MD, PhD, Harvard Medical School / Brigham and Women's Hospital
Mrinal Kumar Sarkar, PhD, University of Michigan
Asuka Suto, DVM, Hokkaido University Graduate School of Medicine
Thirthar Palanivelu Vetrichevvel, MD, University of Western Australia

2015 SID ALBERT M. KLIGMAN TRAVEL FELLOWSHIP AWARDEES

Zelma Chiesa, University of Pennsylvania Perelman School of Medicine
Vida Chitsazzadeh, MD Anderson Cancer Center
Gina DeStefano, Columbia University
Philip Eliades, MGH, Tufts University School of Medicine
Christoph Ellebrecht, University of Pennsylvania
Keitaro Fukuda, Keio University School of Medicine
Mizuho Fukunaga-Kalabis, The Wistar Institute
Sameer Gupta, Massachusetts General Hospital, Harvard Medical School
Ali Jabbari, Columbia University
Prajakta Jaju, Stanford University
Chanisa Kiatsurayanon, Juntendo University Graduate School of Medicine
Dong Joo Kim, The Rockefeller University, Stony Brook University
Tetsuro Kobayashi, Keio University School of Medicine, NCI, NIH
Bradley Kubick, University of Colorado AMC
Katherine Lewandowski, Northwestern University
Chung-Ping Liao, University of Texas Southwestern Medical Center
Xinjian Liu, Duke University
Kathryn Martires, New York University School of Medicine
YC Metzger, Tel Aviv Sourasky Medical Center
Haley Naik, National Cancer Institute, National Heart, Lung and Blood Institute
Audrey Nosbaum, University of California, San Francisco
Carly Page, Johns Hopkins University
Sanjay Premi, Yale University School of Medicine
Pawinee Rerknimitr, Kyoto University Graduate School of Medicine
Adriana Rodríguez-Arámbula, Hospital Central "Dr. Ignacio Morones Prieto", Universidad Autónoma de San Luis Potosí
James Sanford, University of California, San Diego
Martina Sanlorenzo, University of California, San Francisco
Lindsey Seldin, Duke University
Raghav Tripathi, Case Western Reserve University
Stephen Watt, University of Dundee
Hua Zhou, University of Maryland Medical School

2015 SID STUDENT RESEARCH / FELLOW TRAVEL AWARDEES

Velina Atanasova, Thomas Jefferson University
Aparna Bhaduri, Stanford University
Brandon Cohen, New York University Langone Medical Center
Annie Collier, Indiana University School of Medicine
Duncan Hieu Dam, Northwestern University
Liza Gill, Michigan State University
Alex Han, Brown University
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Joanna Jackow, Inserm UMR 1163 and Imagine Institute of Genetic Diseases
Dongwon Kim, Johns Hopkins School of Medicine
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Mrinal Sarkar, University of Michigan
Amanda Suggs, Case Western Reserve University
Eddy Wang, University of British Columbia
Andrew Word, University of Texas-Southwestern
Hsin-Jung Wu, Indiana University
Xuesong Wu, Medical College of Wisconsin
Xianyong Yin, Anhui Medical University

SID / APSA COLLABORATION TRAVEL AWARDEES

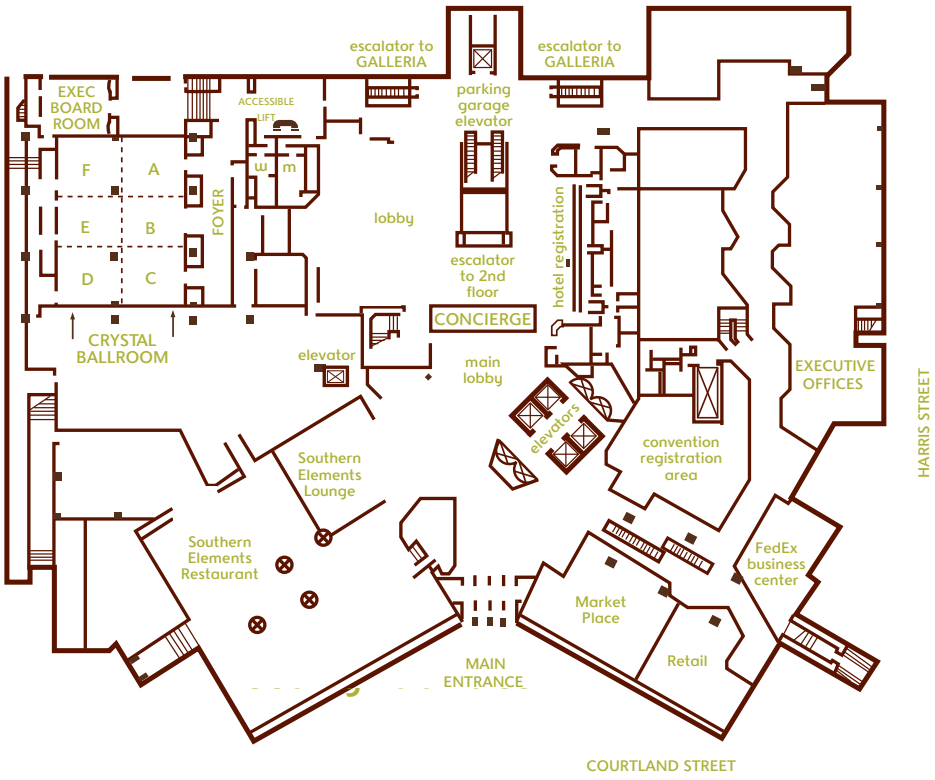
Joseph Cho, University of Utah
Sakeen Kashem, University of Minnesota
Goran Micevic, Yale School of Medicine

2015 JSID / SID YOUNG COLLEGIALITY AWARDEES

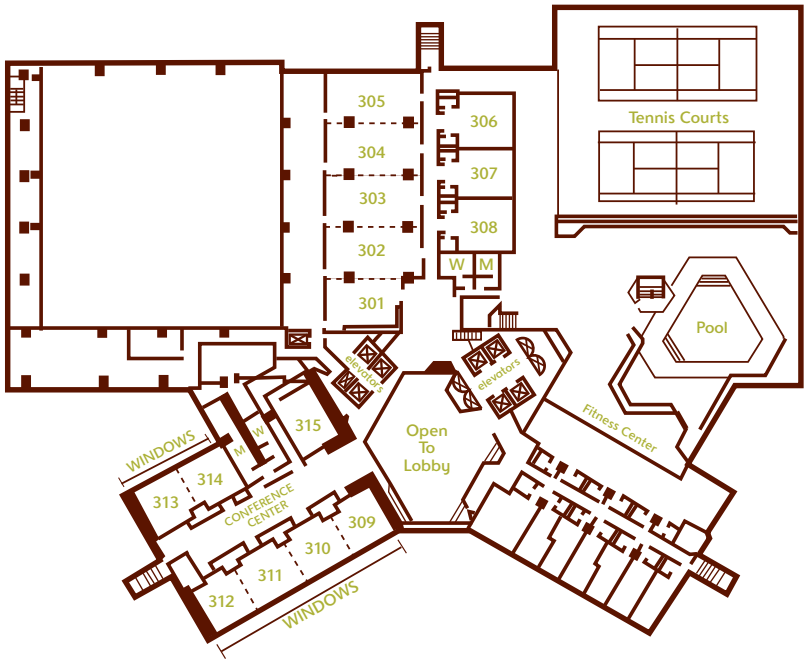
Yutaka Inaba, Wakayama Medical University
Asuka Suto, Hokkaido University
Takeshi Yamauchi, Tohoku University

HOTEL MAP

First Floor

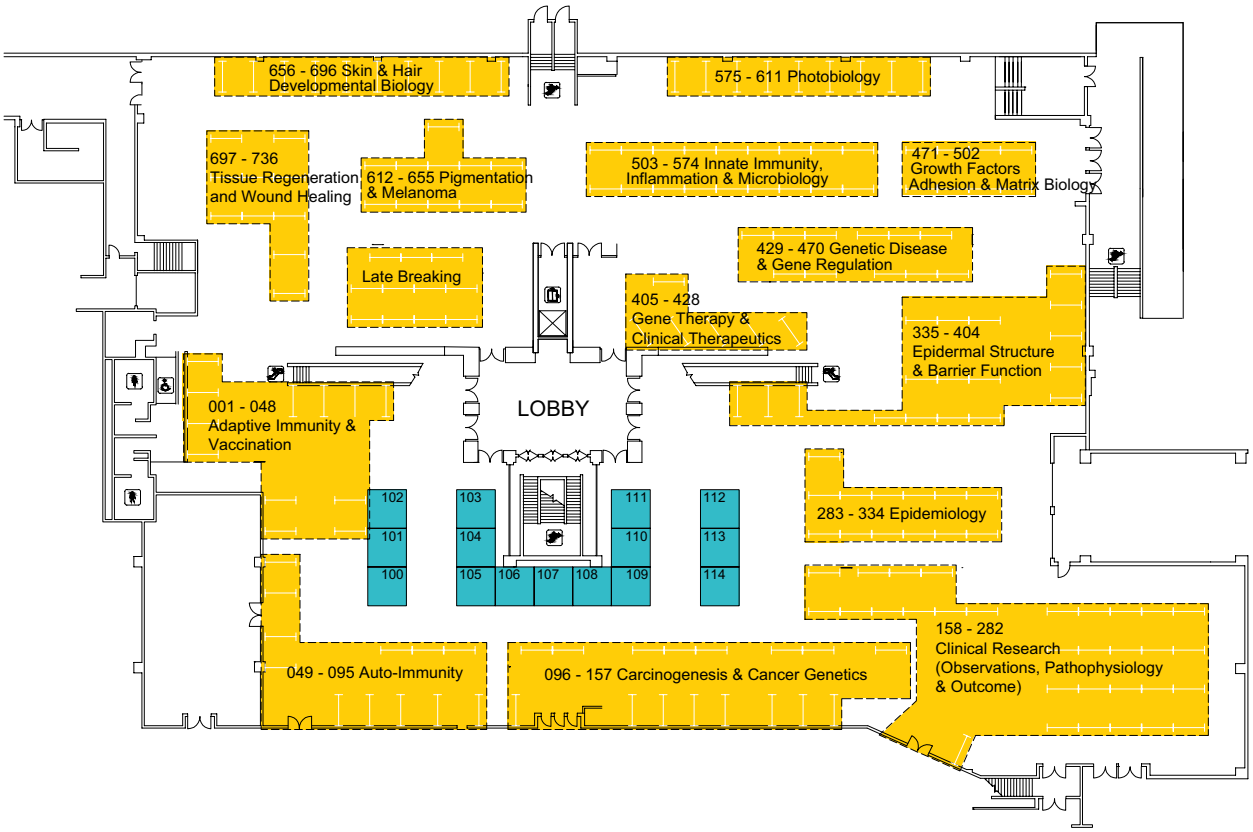


Second Floor



Third Floor

Galleria Exhibit/Poster Hall



Meeting Information & Policies

REPRODUCTION AND PHOTOGRAPHY POLICY

Any photography, filming, taping, recording or reproduction in any medium of any of the programs, exhibits, or lectures (oral or posters) presented at the 2015 SID Annual Meeting is strictly forbidden. Failure to comply with this rule may lead to the removal of your Meeting credentials.

ON-SITE REGISTRATION

On-site registration will take place at the SID Registration Counter in the Convention Registration Area on the first floor during the following hours:

Wednesday, May 6, 2015	8:00 am - 6:30 pm
Thursday, May 7, 2015	7:30 am - 5:00 pm
Friday, May 8, 2015	7:30 am - 4:00 pm
Saturday, May 9, 2015	7:30 am - 12:00 pm

BADGES

Badges for both pre- and on-site registration can be picked up at the SID Registration Counter (First Floor registration area of the Hilton Atlanta Hotel). Meeting attendees are required to wear their badges at all times for entry to all sessions and other Meeting activities.

SPECIAL SERVICES FOR THE PHYSICALLY CHALLENGED

The Atlanta Hilton Hotel's facilities are fully accessible to the physically challenged.

If you have any special needs, please stop at the SID Registration Counter upon arrival or call 404.572.6473 by Thursday, April 30, 2015.

TABLETOP EXHIBITORS

Stop by our "Coalition of Skin Diseases" tabletop exhibitors located outside of registration!

American Acne and Rosacea Society
https://acneandrosacea.org/

National Alopecia Areata Foundation (NAAF)
https://www.naaf.org/

National Eczema Association
http://nationaleczema.org/

Emory Science Advocacy Network (EScAN)
https://www.facebook.com/PolitScientists

PLACEMENT SERVICES

The SID is pleased to offer a placement service to its members. A year-round placement/job postings page is available to members on the SID website at www.sidnet.org. In addition, prospective employers and candidates may conduct interviews or post additional announcements at the Meeting. A poster board will be available in the registration area for such postings.

TECHNICAL EXHIBITS

Exhibits will be on display during the following times in the Galleria Exhibit Hall – Lower Level of the Hilton Atlanta Hotel:

Thursday, May 7, 2015	10:00 am – 12:00 pm
Friday, May 8, 2015	11:15 am – 1:15 pm
Saturday, May 9, 2015	10:00 am – 12:00 pm

The SID welcomes representatives from the following organizations:

Cell n Tec

CYTOO

Elsevier

Metabolon, Inc.

NIAMS

Pfizer

ZenBio, Inc.

Wednesday Sessions


SOCIETY FOR INVESTIGATIVE DERMATOLOGY
Education • Advocacy • Exchange
Foundations for Future Discovery
Established 1937

Meeting-At-A-Glance

WEDNESDAY, MAY 6, 2015

International Pachyonychia Congenita Consortium (IPCC) Symposium — **7:15 am – 12:00 pm**
Salon C, Hilton Atlanta

Dermatology Resident Retreat for Future Academicians — **7:00 am – 3:00 pm**
Salon D, Hilton Atlanta — By Invitation Only

PhD Retreat for Future Investigators — **7:00 am – 3:00 pm**
Salon E, Hilton Atlanta — By Invitation Only

SID Board of Directors Meeting — **7:00 am – 2:00 pm**
Crystal Ballroom, Hilton Atlanta

Registration — **8:00 am – 6:30 pm**
Convention Registration Area, First Floor, Hilton Atlanta

Translational Science Symposium: — **12:00 pm – 3:00 pm**
Immune Therapies in Skin Cancer
Grand Ballroom, Hilton Atlanta

Irvin H. Blank Forum — **3:00 pm – 5:00 pm**
Getting Under Your Skin: Collaboration with Biomedical Engineers
Grand Ballroom, Hilton Atlanta

State-of-the-Art Plenary Lecture 1 — **5:00 pm - 5:30 pm**
Basic Mechanisms and Dynamics of Skin Regeneration
Valentina Greco, PhD
Grand Ballroom, Hilton Atlanta

State-of-the-Art Plenary Lecture 2 — **5:30 pm - 6:00 pm**
Two Sides of a Coin: Hair Keratins in Teeth
Maria I. Morasso, PhD
Grand Ballroom, Hilton Atlanta

President's Welcome — **6:00 pm -6:15 pm**
S. Wright Caughman, MD

Kligman/Frost Leadership Lecture — **6:15 pm - 6:45 pm**
The Importance of Sticking Together
Kathleen J. Green, PhD
Grand Ballroom, Hilton Atlanta

American Skin Association (ASA) Achievement Awards — **6:45 pm – 6:55 pm**
Grand Ballroom, Hilton Atlanta

ASA/David Martin Carter Award — **6:55 pm -7:00 pm**
Grand Ballroom, Hilton Atlanta

Welcome Reception — **7:00 pm – 9:00 pm**
Pool/Tennis Deck 3rd Floor (weather permitting)
or Grand Ballroom/Salon Foyer Location

ASSOCIATE MEETINGS

WEDNESDAY, MAY 6, 2015

International Pachyonychia Congenita Consortium (IPCC) Symposium
7:15 am – 12:00 pm
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7:00 am – 2:00 pm
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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 3**

Translational Science Symposium
Immune Therapies in Skin Cancer

Wednesday, May 6, 2015 12:00 pm – 3:00 pm Grand Ballroom, Hilton Atlanta

12:00 pm **Introduction**
Oscar Colegio, MD/PhD

Dr. Colegio, MD/PhD, is an Assistant Professor of Dermatology at Yale School of Medicine where his clinical practice and research is focused on immunodeficiency-associated skin cancers and skin disorders associated with solid organ transplantation. He directs the Yale Transplant Dermatology Clinic at the Yale-New Haven Transplantation Center, a clinic where care is provided to kidney, liver, heart, pancreas, lung and bone marrow transplant recipients. Dr. Colegio's research focuses on defining the role of immune cells called macrophages in tumor progression. His studies have characterized pathways of tumorigenesis critical to a variety of tumor types including melanoma and cutaneous squamous cell carcinoma. Dr. Colegio is a graduate of The University of Texas at Austin, where he earned a B.S. in Pharmacy in 1995, and of Yale University where he earned a Ph.D. in Cell Biology in 2003 and an M.D., with election to Alpha Omega Alpha, in 2004.

12:10 pm **Melanoma**
Mario Sznol, MD
Immune Checkpoint Inhibitors for Treatment of Metastatic Melanoma

Dr. Sznol received his undergraduate degree from Rice University and Baylor College of Medicine (BCM) in Houston, Texas. He trained in internal medicine at BCM and completed a medical oncology fellowship in the Department of Neoplastic Diseases, Mount Sinai Hospital, New York. He spent the next twelve years in the Biologics Evaluation Section (BES), Investigational Drug Branch (IDB), Cancer Therapy Evaluation Program of the National Cancer Institute, and was Head of the BES from 1994-1999. He attended in the Biological Response Modifiers Program, NCI, from 1988-1996 and on the Immunotherapy Service of the Surgery Branch, NCI, from 1997-1999. From 1999 to 2004 Dr. Sznol was a Vice President and Executive Officer of Vion Pharmaceuticals in New Haven, CT. Dr. Sznol is currently Professor of Internal Medicine at Yale University School of Medicine and is Deputy Section Chief of Medical Oncology, Co-Director of the Melanoma Program, and Co-Director of Yale SPORE in Skin Cancer.

12:40 pm **Melanoma**
Paul Tumeh, MD
Unique Cellular Signatures (CD8, PD1, PDL1, Clonality) in the Tumor Microenvironment Predict Response to Anti-PD1 Therapy in Melanoma

Dr. Paul Tumeh is currently an Assistant Professor in the Division of Dermatology at UCLA. He has an active melanoma specialty clinic and serves as a sub-principle investigator on all melanoma immunotherapy clinical trials at UCLA Medical Center. His translational research program has two main objectives: i) to identify niches (i.e., discrete cellular microenvironments) within tumors that drive or inhibit response to therapies that block the PD1/PDL1 axis, and ii) to isolate distinct cell-types (e.g., myeloid-derived cells) from their native microenvironment in order to investigate the molecular mechanisms underlying response and non-response to anti-PD-1 therapy. He is currently focused on understanding the phenotype and function of PD-L1+ myeloid-derived cells at the invasive tumor margin and how these cells may determine treatment outcome. His most recent publications include articles in Nature, New England Journal of Medicine, and Clinical Cancer Research.

12:50 pm **Melanoma & Cutaneous T-cell lymphoma**
Rachael Clark, MD/PhD
Recognizing and Reversing Immune Evasion Strategies in Skin Cancer

Dr. Clark is a physician scientist, a human immunologist, and an Associate Professor of Dermatology at Brigham and Women's Hospital and Harvard Medical School. Her research focuses on the study of T cell responses in skin and other peripheral tissues, including T cell responses in healthy skin, impaired T cell responses in skin cancer, and maladaptive T cell activation in inflammatory skin diseases and cutaneous lymphomas. Her studies, carried out on human cells and tissues, have the goals of developing novel therapies for skin disease while at the same time advancing our understanding of human immune responses.

1:10 pm **Cutaneous T-cell lymphoma**
Richard Edelson, MD
Immunizing Against Patient-Specific CTCL Antigens

Dr. Edelson is the Aaron and Marguerite Lerner Professor and Chairman of the Department of Dermatology. A graduate of Hamilton College and Yale Medical School, he was a medical intern at the University of Chicago, a Dermatology resident at Harvard and an immunology post-doctoral fellow at the National Cancer Institute. He has been Yale Dermatology Chairman since 1986, and has also served as Deputy Dean for Clinical Affairs and Director of the Yale Comprehensive Cancer Center.

1:30 pm **Cutaneous T-cell lymphoma**
Thomas Kupper , MD
New Insights Into CTCL

Dr. Kupper is the Fitzpatrick Professor of Dermatology at Harvard Medical School, the Chairman of the Departments of Dermatology at Brigham and Women's Hospital and the Dana Farber Cancer Institute, and the Director of the Cutaneous Oncology Program at the Dana Farber Brigham and Women's Cancer Center. He received his BS at UCLA, and his MD at Yale Medical School, where he trained as a resident and fellow in Surgery and Dermatology. Dr. Kupper has a long track record of outstanding research accomplishments and extramural funding. He serves as an Associate Editor for several journals, including the Journal of Clinical Investigation, and has chaired and participated in multiple NIH study sections. Dr. Kupper's research has focused on cellular and molecular mechanisms in innate and adaptive immunity, focusing on cytokines, dendritic cells, and T cells, and includes the study of inflammatory diseases of skin and other epithelial tissues, vaccine development and bioterrorism, wound healing, and cancers of the skin and lymphoid organs, including translational research in cutaneous lymphomas and melanoma.

1:50 pm **Merkel cell carcinoma**
Paul Nghiem, MD/PhD
Merkel polyomavirus and rationale for immunotherapy in Merkel cell carcinoma

Dr. Nghiem is the Michael Piepkorn {pronounced pip-corn} Endowed Chair in Dermatology Research and a Professor of Dermatology and Pathology at the University of Washington and the Fred Hutchinson Cancer Research Center in Seattle. He grew up in Olympia, Washington, and attended college at Harvard University.He then pursued MD and PhD degrees at Stanford University where he studied Cancer Biology and Immunology.

2:10 pm **Merkel cell carcinoma**
Isaac Brownell, MD/PhD
Immunotherapy Trials for Merkel cell carcinoma

Dr. Brownell is a Board Certified Dermatologist and a Fellow of the American Academy of Dermatology. He obtained degrees in electrical engineering and mathematics prior to undergoing MD/PhD training at Baylor College of Medicine. Dr. Brownell completed a dermatology residency at the New York University School of Medicine, and a postdoctoral research fellowship the laboratory of Dr. Alexandra Joyner at the Sloan-Kettering Institute. On the clinical faculty at the Memorial Sloan-Kettering Cancer Center, his practice focused on patients with high-risk skin cancers. In 2011, Dr. Brownell joined the Dermatology Branch in the Center for Cancer Research, National Cancer Institute where he is Head of the Cutaneous Development and Carcinogenesis Section.

2:20 pm **Squamous cell carcinoma**
Sarah Aaron, MD/PhD
Infection and Immunity in Cutaneous Squamous Cell Carcinoma

Dr. Aaron is Assistant Professor in residence of dermatology at the University of California, San Francisco (UCSF) and the Helen Diller Family Comprehensive Cancer Center (HDFCC). She is Director of the High Risk Skin Cancer Program, Director of the Dermatology Clinical Research Unit and the Associate Director of the Dermatologic Surgery and Laser Center at UCSF. She is also Chief of Mohs Micrographic Surgery at the San Francisco VA Medical Center and is affiliated with the Melanoma Center in San Francisco.

2:30 pm **Closing Panel**

ASSOCIATE MEETINGS

WEDNESDAY, MAY 6, 2015

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7:00 am – 3:00 pm
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PhD Retreat for Future Investigators
7:00 am – 3:00 pm
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By Invitation only

SID Board of Director's Meeting
7:00 am – 2:00 pm
Crystal Ballroom, Hilton Atlanta

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 2**

Irvin H. Blank Forum

Getting Under Your Skin: Collaboration with Biomedical Engineers

Wednesday, May 6, 2015 3:00 pm – 5:00 pm Grand Ballroom, Hilton Atlanta

3:00 pm **INTRODUCTION**
Andrew Kowalczyk, PhD

Dr. Kowalczyk is a faculty member at Emory University in the departments of Cell Biology and Dermatology. Research in the Kowalczyk laboratory addresses fundamental mechanisms of cell-cell contact in the context of epidermal blistering diseases, and in vascular development and angiogenesis. Dr. Kowalczyk's current work centers on the regulation of plasma membrane dynamics of members of the cadherin family of cell adhesion molecules, and the roles of these proteins in the mechanical integrity of the epidermis and other tissues.

3:05 pm **TECHNOLOGIES & SKIN**
John Rogers, PhD

Dr. Rogers obtained BA and BS degrees in chemistry and in physics from the University of Texas, Austin, in 1989. From MIT, he received SM degrees in physics and in chemistry in 1992 and the PhD degree in physical chemistry in 1995. From 1995 to 1997, Rogers was a Junior Fellow in the Harvard University Society of Fellows. He joined Bell Laboratories as a Member of Technical Staff in the Condensed Matter Physics Research Department in 1997, and served as Director of this department from the end of 2000 to 2002. He is currently Swanlund Chair Professor at University of Illinois at Urbana/Champaign, with a primary appointment in the Department of Materials Science and Engineering, and joint appointments in several other departments, including Bioengineering. He is Director of the Seitz Materials Research Laboratory.

3:30 pm **MECHANICAL ENGINEERING & SKIN**
Valerie Horsley, PhD

Dr. Horsley grew up in the Atlanta area and went to Furman University for her undergraduate work. She received her Ph.D. from Emory University in 2003 where she studied muscle regeneration with Grace Pavlath. Dr. Horsley did her postdoctoral work in Elaine Fuchs' laboratory and joined Yale's faculty in 2009 in the department of Molecular, Cellular and Developmental Biology. She is currently an associate professor and a member of the Dermatology department, the Yale Stem Cell Center and Yale Cancer Center.

3:55 pm **MICRO-NEEDLES, DEVICES & THE SKIN**
Mark Prausnitz, PhD

Dr. Prausnitz earned his B.S. from Stanford University and his PhD from the Massachusetts Institute of Technology. In collaboration with Emory University, the Centers for Disease Control and Prevention and other organizations, Dr. Prausnitz's group is advancing microneedles from device design and fabrication through pharmaceutical formulation and pre-clinical animal studies through studies in human subjects. In addition to developing a self-administered influenza vaccine using microneedles, Dr. Prausnitz is translating microneedles technology especially to make vaccination in developing countries more effective.

4:20 pm **BIOMATERIALS & TISSUES**
Themis Kyriakides, PhD

Dr. Kyriakides received his B.Sc. and Ph.D. from Washington State University. In 1997, Dr. Kyriakides joined the University of Washington Engineered Biomaterials ERC, a NSF-funded center and held the position of Acting Instructor and Research Assistant Professor. In 2004, Dr. Kyriakides joined Yale University as a member of the Vascular Biology Program with appointments in Pathology and Biomedical Engineering. Currently, he holds the rank of Associate Professor and has split appointment between Pathology and Biomedical Engineering. His current research is primarily focused on cell-matrix and cell-biomaterial interactions in the foreign body response and wound healing.

4:45 pm **WRAP-UP**
Andrew Kowalczyk, PhD

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: .5**

State-of-the-Art Plenary Lecture 1

Basic Mechanisms and Dynamics of Skin Regeneration

Wednesday, May 6, 2015 5:00 pm – 5:30 pm Grand Ballroom, Hilton Atlanta

Introduction by: Paul Nghiem, MD/PhD

Valentina Greco, PhD
Yale University
New Haven, CT

Dr. Greco was born in Palermo, Italy. She did her undergraduate in Molecular Biology at the University of Palermo, Italy. Valentina did her PhD with Suzanne Eaton at the EMBL / MPI-CBG (Germany) (1998-2002) and a post-doc with Elaine Fuchs at the Rockefeller University (2003-2009). Dr. Greco is currently an Assistant Professor in the Genetics and Dermatology Department, and a member of the Yale Stem Cell Center and Yale Cancer Center at Yale University (2009-present).

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ASSOCIATE MEETINGS

WEDNESDAY, MAY 6, 2015

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7:15 am – 12:00 pm
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7:00 am – 3:00 pm
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PhD Retreat for Future Investigators
7:00 am – 3:00 pm
Salon E, Hilton Atlanta
By Invitation only

SID Board of Director's Meeting
7:00 am – 2:00 pm
Crystal Ballroom, Hilton Atlanta

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: .5**

State-of-the-Art Plenary Lecture 2

Two Sides of a Coin: Hair Keratins in Teeth

Wednesday, May 6, 2015 5:30 pm – 6:00 pm Grand Ballroom, Hilton Atlanta

Introduction by: Victoria Werth, MD

Maria I. Morasso, PhD
NIH, NIAMS
Bethesda, MD

Dr. Morasso received her PhD in Biochemistry from the Venezuelan Institute of Scientific Investigations (IVIC). She started at the NIH as a post-doctoral fellow in the laboratory of Dr. Thomas Sargent in NICHD. In May 2000, she became a tenure-track investigator and headed the Developmental Skin Biology Unit. Since May 2008, Dr. Morasso is the Chief of the Developmental Skin Biology Section and the Laboratory of Skin Biology. She also serves as an adjunct investigator in the Center for Cancer Research, NCI.

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: .5**

Albert M. Kligman / Phillip Frost Leadership Lecture

The Importance of Sticking Together

Wednesday, May 6, 2015 6:15 pm – 6:45 pm Grand Ballroom, Hilton Atlanta

Introduction by: S. Wright Caughman, MD

Kathleen J. Green, PhD
Northwestern University
Chicago, Illinois

Dr. Kathleen Green is the Joseph L. Mayberry Professor of Pathology and Professor of Dermatology at Northwestern University Feinberg School of Medicine. Following her graduation with honors in Biology from Pomona College in Claremont California, Dr. Green obtained Ph.D. training in Cell and Developmental Biology at Washington University in St. Louis. She moved to Chicago to do postdoctoral research in Cell Biology at Northwestern University and joined the Pathology faculty in 1987. The Green laboratory has a longstanding interest and expertise in defining functions of the cadherin family of adhesion receptors in development and differentiation, particularly of the epidermis. These molecules and their associated proteins assemble into intercellular junctions where they play critical roles in mediating cell-cell adhesion. Beyond their structural roles, cadherins mediate cross talk with signaling pathways including growth factor receptor tyrosine kinases to regulate tissue morphogenesis, differentiation and pathogenesis. Her work was instrumental in the discovery of the plakin gene family, members which link the cytoskeleton to cell junctions, and facilitated the identification of human diseases resulting from mutations in desmoplakin. Dr. Green is active in the leadership of several scientific societies and recently served as President of the Society for Investigative Dermatology. She is currently Secretary of the American Society for Cell Biology. In addition to having been a member and Chair of multiple peer review committees, Dr. Green served on the Advisory Council for the National Institute of Arthritis, Musculoskeletal and Skin Disease from 2007-10. She is consulting Editor for the Journal of Clinical Investigation, Associate Editor for the Journal of Investigative Dermatology and Deputy Editor in Chief of the Journal of Cell Science.

LECTURESHIP HISTORY

Established in 2007 by Dr. Phillip Frost, the lectureship is intended to honor Dr. Albert M. Kligman, whose great commitment to dermatology and numerous contributions to the specialty has inspired generations of researchers and practitioners. The award is made to an individual in acknowledgment of significant contributions in the past five years to the understanding of structure and function of skin.

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7:00 am – 2:00 pm
Crystal Ballroom, Hilton Atlanta

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 0**

American Skin Association (ASA) Research Achievement Awards

Wednesday, May 6, 2015 6:45 pm – 6:55 pm Grand Ballroom, Hilton Atlanta

Instituted in 1989 to identify established scientists in investigative dermatology and cutaneous biology, ASA's Research Achievement Awards recognize those who have greatly advanced work related to autoimmune and inflammatory skin diseases, melanoma and non-melanoma skin cancer, psoriasis, public policy and medical education, and vitiligo and pigment cell disorders.

American Skin Association is delighted to present its 2015 Research Achievement Awards to:

Mark C. Udey, MD/PhD
National Cancer Institute
Autoimmune and Inflammatory Skin Disorders Research

Alain H. Rook, MD
University of Pennsylvania
Melanoma and Skin Cancer Research

David J. Margolis, MD/PhD
University of Pennsylvania
Psoriasis Research

Mayumi Ito, PhD
New York University
Vitiligo and Pigment Cell Biology Research

Alexa Boer Kimball, MD/MPH
Massachusetts General Hospital
Public Policy and Medical Education

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 0**

ASA/David Martin Carter Mentor Award

Wednesday, May 6, 2015 6:55 pm – 7:00 pm Grand Ballroom, Hilton Atlanta

ASA's David Martin Carter Mentor Award honors a member of the dermatology community who embodies the characteristics of the late David Martin Carter, MD, PhD that made him an inspiration to many dermatologists/investigators, colleagues and medical students throughout the world.

American Skin Association is delighted to present its 2015 David Martin Carter Mentor Award to:

Howard P. Baden, MD
Massachusetts General Hospital

ASSOCIATE MEETINGS

WEDNESDAY, MAY 6, 2015

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 0**

Welcome Reception

Wednesday, May 6, 2015 **7:00 pm – 9:00 pm** **Pool/Tennis Deck 3rd Floor (weather permitting) or Grand Ballroom/Salon Foyers, Hilton Atlanta**

Join us for a Welcome Reception to kick off the 2015 SID Annual Meeting!

All attendees are invited, free of charge, to gather for drinks and hors d'oeuvres and mingle with colleagues at the Pool/Tennis Deck on the third floor immediately following the last session of the evening. In the event of inclement weather, the reception will be held in the Grand Ballroom/Salon Foyers.

(Beverage tokens will be distributed in meeting registration packets.).

Thursday Sessions


SOCIETY FOR INVESTIGATIVE DERMATOLOGY
Education • Advocacy • Exchange
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Established 1937

Meeting-At-A-Glance

THURSDAY, MAY 7, 2015

Pediatric Dermatology Research Alliance/ Society for Pediatric Dermatology Session **7:00 am – 8:00 am**
Rooms 204-207, Hilton Atlanta

Registration **7:30 am – 5:00 pm**
Convention Registration Area, First Floor, Hilton Atlanta

Plenary Session I **8:00 am – 9:00 am**
Grand Ballroom, Hilton Atlanta

Eugene M. Farber Lecture **9:00 am – 9:30 am**
A Natural History of Psoriasis
Christopher E.M. Griffiths, MD, FRCP, FMedSci
Grand Ballroom, Hilton Atlanta

Naomi M. Kanof Lecture **9:30 am – 10:00 am**
Silencing the Sézary Cell – Past, Present, & Future
Madeleine Duvic, MD
Grand Ballroom, Hilton Atlanta

Clinical Scholars Program Session 1 **10:00 am – 12:00 pm**
Co-Morbidities: Skin & Systemic Disease
Grand Ballroom, Hilton Atlanta

Poster Session I **10:00 am – 12:00 pm**
Poster #'s 001-245 Odd & #'s 246-490 Even
Galleria Exhibit Hall, Hilton Atlanta

American DermatoEpidemiology Network (ADEN) Meeting **12:00 pm - 1:45 pm**
Salon C, Hilton Atlanta

American Acne and Rosacea Society (AARS) Scientific 4th Annual Scientific Symposium **12:00 pm – 1:45 pm**
Grand Ballroom, Hilton Atlanta

Satellite Symposium **12:00 pm – 12:45 pm**
Academic-Industry Partnership Project
Panel Discussion 12:00 pm - 12:45 pm
Salon A/B, Hilton Atlanta
Individual Meetings (set up in advance by the SID) – Room 203, Hilton Atlanta 12:00 pm - 1:45 pm

National Rosacea Society Research Workshop **12:00 pm – 1:45 pm**
Salon D, Hilton Atlanta

International Society for Cutaneous Lymphomas-Cutaneous T-Cell Lymphoma Symposium (ISCL/CTCL) **12:00 pm – 2:00 pm**
Room 204-207, Hilton Atlanta

Concurrent Mini-Symposia **2:00 pm – 5:00 pm**

Auto Immunity
Salon E, Hilton Atlanta

Carcinogenesis & Cancer Genetics
Grand Ballroom, Hilton Atlanta

Epidemiology
Salon C, Hilton Atlanta

Gene Therapy & Clinical Therapeutics
Salon A/B, Hilton Atlanta

Skin & Hair Developmental Biology
Salon D, Hilton Atlanta

Mini-Symposia Mixers **5:00 pm – 6:00 pm**
Individual Concurrent Meeting Rooms

The National Eczema Association Reception – The Decade of Eczema! **5:00 pm – 6:30 pm**
Crystal Ballroom, Hilton Atlanta

Social Event **6:30 pm - 10:30 pm**
Georgia Aquarium Ticketed Event: Pre-Registration Required
Buses depart from the Hilton Atlanta beginning at 6:00 pm. Buses will begin shuttling guests back to the hotel beginning at 8:30 pm.

ASSOCIATE MEETINGS

THURSDAY, MAY 7, 2015

Pediatric Dermatology Research Alliance/ Society for Pediatric Dermatology Session
7:00 am – 8:00 am
Room 204-207, Hilton Atlanta

American Dermato-Epidemiology Network Symposium (ADEN)
12:00 pm – 1:45 pm
Salon C, Hilton Atlanta

American Acne and Rosacea Society (AARS) Scientific 4th Annual Scientific Symposium
12:00 pm – 1:45 pm
Grand Ballroom, Hilton Atlanta

Academic/Industry Session
Panel Discussion
12:00 pm – 12:45 pm

Individual Meetings (set up in advance by the SID) – Room 203, Hilton Atlanta
12:00 pm - 1:45 pm

International Society for Cutaneous Lymphomas/Cutaneous T-Cell Lymphoma Symposium (ISCL/CTCL)
12:00 pm – 2:00 pm
Room 204-207 – Hilton Atlanta

National Rosacea Society Research Workshop
12:00 pm – 1:45 pm
Salon D, Hilton Atlanta

The National Eczema Association Reception– The Decade of Eczema!
5:00 pm – 6:30 pm
Crystal Ballroom, Hilton Atlanta

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 0**

PEDIATRIC DERMATOLOGY RESEARCH ALLIANCE/SOCIETY FOR PEDIATRIC DERMATOLOGY SESSION

Thursday, May 7, 2015 **7:00 am - 8:00 am** **(COFFEE WILL BE SERVED)** **Rooms 204-207, Hilton Atlanta**

7:00 am **Welcome/Overview I: Pediatric Dermatology at SID**
Megha Tollefson, Mayo Clinic

7:15 am **Special Presentation: Inflammation and Immunity in Skin: Learning from Acne**
Jenny Kim, University of California, Los Angeles

7:40 am **Abstract Presentation #036**
Pediatric atopic dermatitis is characterized by increased T-cell activation with aberrant T-cell development. Hitokazu Esaki et al. Mt. Sinai School of Medicine, New York and Northwestern University, Chicago

7:50 am - 7:55 am **Discussion and Concluding Remarks**

Special thanks to the Pediatric Dermatology Research Alliance and the Society for Pediatric Dermatology for supporting these sessions.

NOTES

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 1**

PLENARY SESSION I

Presiders: Richard L. Gallo, MD/PhD and Alice Pentland, MD

Thursday, May 7, 2015 8:00 am - 9:00 am Grand Ballroom, Hilton Atlanta

1. **Functional characterization of AHR promoter polymorphism that contributes to reduced vitiligo risk.** Xiaowen Wang, Kai Li, Ling Liu, Zhe Jian, Gang Wang, Chunying Li and Tianwen Gao. Xi'an, China. *8:00 am, Poster #319*

2. **A wave of regulatory T cells into neonatal skin mediates tolerance to commensal microbes.** Tiffany C. Scharschmidt, Kimberly S. Vasquez, Hong-An Truong, Sofia V. Gearty, Mariela L. Pauli, Audrey Nosbaum, Michael Otto, James J. Moon, Abul K. Abbas, Michael A. Fischbach and Michael D. Rosenblum. San Francisco, CA; Bethesda, MD and Charlestown, MA. *8:12 am, Poster #011*

3. **Desmoglein 3 chimeric autoantibody receptor T cells: A novel strategy for immunotherapy of pemphigus vulgaris.** Christoph Ellebrecht, Michael Jeffrey T. Cho, Xuming Mao, Vijay G. Bhoj, Ching-Yi Tsai, Selene Nunez-Cruz, Michael C. Milone and Aimee S. Payne. Philadelphia, PA. *8:24 am, Poster #059*

4. **Cutaneous neoplasms undergo a dynamic immunoediting process.** Dennis R. Roop and Bradley J. Kubick. Aurora, CO. *8:36 am, Poster #114*

5. **The microbiome of patients with atopic dermatitis has deficient antimicrobial function.** Teruaki Nakatsuji, Tissa Hata, Aimee Two, Kimberly Chun, Paul Kotol, Amina Bouslimani, Haythem Latif, Alexandre Lockhart, Keli Artis, Gloria David, Patricia Taylor, Joanne Strieb, Peter Dorrestein, Karsten Zengler, Donald Leung and Richard L. Gallo. San Diego, CA; Chapel Hill, NC and Denver, CO. *8:48 am, Poster #193*

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ASSOCIATE MEETINGS

THURSDAY, MAY 7, 2015

Pediatric Dermatology Research Alliance/ Society for Pediatric Dermatology Session
7:00 am – 8:00 am
Room 204-207, Hilton Atlanta

American Dermato-Epidemiology Network Symposium (ADEN)
12:00 pm – 1:45 pm
Salon C, Hilton Atlanta

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12:00 pm – 1:45 pm
Salon D, Hilton Atlanta

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5:00 pm – 6:30 pm
Crystal Ballroom, Hilton Atlanta

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: .5**

EUGENE M. FARBER LECTURE

A Natural History of Psoriasis

Thursday, May 7, 2015 **9:00 am - 9:30 am** **Grand Ballroom, Hilton Atlanta**

Introduction by: Nicole L. Ward, PhD

Christopher E.M. Griffiths MD, FRCP, FMedSci
University of Manchester
Manchester, UK

LECTURER BIO

Dr. Griffiths gained a 1st Class Hons BSc in Anatomy and qualified in Medicine from St Thomas' Hospital Medical School, London University. He trained in Dermatology at St Mary's Hospital, London, and at the University of Michigan. He was appointed to the Foundation Chair in Dermatology at the University of Manchester in 1994 and is an honorary consultant dermatologist at Salford Royal NHS Foundation Trust. At the University of Manchester he has served variously as: Head of Medicine and Neuroscience; Head of the School of Translational Medicine; Research Dean and; Director of the Manchester Academic Health Science Centre.

LECTURESHIP HISTORY

The Eugene M. Farber endowment was established by the family of Eugene M. Farber, MD, who devoted his scientific career to understanding the pathogenesis of psoriasis. In 2007, the SID Board of Directors voted to create the Eugene M. Farber Endowed Lecture. It is presented at the Society's Annual Meeting by an investigator whose work is relevant to expanding our insights into the pathophysiology and treatment of psoriasis.

NOTES

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: .5**

NAOMI M. KANOF LECTURE

Silencing the Sézary Cell - Past, Present, and Future

Thursday, May 7, 2015 9:30 am - 10:00 am Grand Ballroom, Hilton Atlanta

Introduction by: Mark Udey, MD/PhD

Madeleine Duvic, MD
The University of Texas,
MD Anderson Cancer Center
Houston, TX

LECTURER BIO

Dr. Duvic is Professor of Internal Medicine and Dermatology and Deputy Chairman of the Department of Dermatology at The University of Texas, MD Anderson Cancer Center in Houston, Texas. She attended Rice University and Duke University Medical School, completing residencies in internal medicine and dermatology, and fellowships in molecular biology and geriatrics. She joined the faculty at Duke and University of Texas Medical School and Cancer Center where she established a translational molecular biology laboratory and a busy cutaneous lymphoma clinic (CTCL) focused on understanding the pathogenesis and developing new drugs for CTCL.

LECTURESHIP HISTORY

Established in 1988, this award was established to honor the memory of Naomi Kanof, MD. The Naomi M. Kanof Lectureship honors an individual making significant contributions to the improvement of health through clinical research. Clinical research is broadly defined as any scientific endeavor with a direct application to improving the prevention, diagnosis or treatment of clinical disease. This investigative work can be based in the laboratory and should be implemented or just ready to be implemented in clinical practice.

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 0**

CLINICAL SCHOLARS PROGRAM – SESSION I

Thursday, May 7, 2015 10:00 am – 12:00 pm Grand Ballroom, Hilton Atlanta

10:00 am **Co-Morbidities: Skin and Systemic Disease**
Overview
Richard Weller, MD, FRCP

Dr. Weller is an academic dermatologist at the University of Edinburgh, UK. He trained in internal medicine in the UK and Australia, and in dermatology at the St Johns' Institute of Dermatology, London, and in Scotland. Dr. Weller's research training took place in Edinburgh, Dusseldorf, Germany and Pittsburgh USA. His major research interest is on NO mediated biology in the skin and cardiovascular system and how this is affected by UV radiation.

10:25 am **Cutaneous Regulation of Blood Pressure**

Psoriasis severity is increased by alcohol abuse: An animal model of alcohol abuse and psoriasis. Rhonda M. Brand, Melissa Paglia, Louis D. Falo.
Poster #402, Presented by Rhonda M. Brand, PhD

10:35 am **Q&A**

10:45 am **TCR sequencing provides superior diagnosis, staging and clinical assessment of patients with cutaneous T cell lymphoma.** John Thomas OMalley, Ilan Kirsch, Rei Watanabe, David Williamson, Laura Campbell, Chris Elco, Jessica Emberley Teague, Ahmed Gehad, Elizabeth Lowry, James G. Krueger, Harlan Robins, Thomas S. Kupper and Rachael Clark.
Poster #225, Presented by John T. O'Malley, MD/PhD

10:55 am **Q&A**

11:05 am **Salt-sensitive Hypertension: A Skin Disease?**
Jens Titze, MD

Dr. Titze is an Associate Professor at Vanderbilt University School of Medicine. His clinical specialties and interests are Nephrology: General Nephrology. Dr. Titze's education and medical training was at Charité- Universitätsmedizin Berlin. His clinical trials include Tissue Sodium in Pre-hypertensive Patients and Testing Tissue Sodium Stores in CAPD Patients—Aims 1 & 2.

11:20 am **Q&A**

11:30 am **PANEL DISCUSSION**
Richard Weller, MD, FRCP
Jens Titze, MD
Joel Gelfand, MD, MSCE
Dr. Gelfand is Associate Professor of Dermatology and Epidemiology (tenured) at the University of Pennsylvania's Perelman School of Medicine. He is principal investigator of three large NIH funded psoriasis projects. Dr. Gelfand is the author of over 100 scientific publications (cited over 8000 times, H index 38) which appear in journals such as JAMA, BMJ, European Heart Journal, Annals of Rheumatology, JAMA Dermatology, JAAD, and the JID. He is the recipient of the American Skin Association's Psoriasis Achievement Award, PENN's Marjorie Bowman Award, and is an elected member of the American Society for Clinical Investigation. He has given over 10 named lectureships and keynote addresses including the Society for Investigative Dermatology's Eugene M. Farber lecture. He has received grant support from NIH (F32, K23, RC1, 3 R01's, K24), FDA (R01), the Dermatology Foundation, the American Skin Association, the National Psoriasis Foundation, and numerous pharmaceutical companies to support his independent research program.

Abrar Qureshi, MD
Dr. Qureshi is Chair of the Department of Dermatology at the Warren Alpert Medical School of Brown University and Dermatologist-in-Chief at Rhode Island Hospital, The Miriam Hospital and Hasbro Children's Hospital in Providence. His major research interest is in population science, particularly the clinical and molecular epidemiology of skin diseases. Dr. Qureshi's laboratory encompasses work in epidemiology, outcomes research, clinical trials and health services research. On the clinical front, he enjoys working in a multidisciplinary environment closely with his rheumatology colleagues, caring for patients with complex skin and musculoskeletal conditions. Helping care for some of the sickest medical dermatology patients has been an inspiration for his research.

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 0**

SATELLITE SYMPOSIUM

Academic-Industry Partnership Project (AIPP)

Thursday, May 7, 2015 **12:00 pm – 1:45 pm** **Salon A/B – Panel Session**
Room 203 – Speed-Dating Session

12:00 pm – 12:45 pm **Panel Session** (open to all registered meeting attendees)
12:05 pm – 1:45 pm **Speed-Dating Session** (pre-registration required)
Individual Meetings (set up in advance by the SID)

12:00 pm **Introductions**
Kevin Cooper, MD

Dr. Kevin D. Cooper is the Professor and Chair of the Department of Dermatology at Case Western Reserve University (CWRU) and University Hospitals Case Medical Center (UHCMC) in Cleveland, Ohio. He directs the NIH NIAMS Skin Diseases Research Center at CWRU and the UHCMC Murdough Family Center for Psoriasis, and directed the first NIAMS Center of Research Translation focused on skin disease. He is co-inventor of the first biologic approved for psoriasis, has taken several lab-based projects into NIH-funded phase I clinical trials, and has participated in multiple industry-based pre-clinical and clinical translational therapeutic programs.

12:05 pm **Positive Licensing Experience**
David Woodley, MD

Dr. Woodley completed his undergraduate degree in English Literature at Washington University in St. Louis and his medical school education at the University of Missouri in Columbia, Missouri. He completed his dermatology residency training at the University of North Carolina in Chapel Hill, North Carolina. Dr. Woodley's scientific interests include type VII collagen, keratinocyte motility, wound healing, keratinocyte-derived collagenases, autoimmune bullous diseases and hereditary dystrophic epidermolysis bullosa.He is the Co-Editor of a book entitled The Biology of Skin with Dr. Ruth Freinkel and serves as an Associate Editor of The Journal of the American Academy of Dermatology, The Archives of Dermatology, Clinical and Experimental Dermatology and Dermatology.

12:15 pm **Successful Leap to Working in Industry**
Howard Welgus, MD

Dr. Welgus has been Chief Medical Officer at Thesan Pharmaceuticals for the past 2 years. Before this, he served as CMO and VP and Head of R&D at Nycomed U.S. (Fougera / PharmaDerm). In this capacity, he directed the post-approval development of Solaraze®, Cutivate Lotion®, and Veregen®. Prior to Nycomed U.S., Dr. Welgus was VP and Head of the Inflammation and Dermatology Therapeutic Areas at Pfizer – Ann Arbor. During this time, his Dermatology team placed 10 new compounds into clinical development. He was also involved in developing Lyrica® for fibromyalgia and Xeljanz® for rheumatoid arthritis and psoriasis. The first half of Dr. Welgus' career was spent in academics where he was Professor of Dermatology at Washington University School of Medicine. During this time, he published over 115 original scientific articles.

12:25 pm **Summary of March 2015 Dermatology Entrepreneurship Conference**
William Ju, MD

Dr. Ju is a board-certified dermatologist and has over 20 years of biopharmaceutical experience in a wide variety of therapeutic areas, including dermatology. He is president and a founding trustee of Advancing Innovation in Dermatology, Inc. He has been president and chief executive officer of Follica, Inc. and chief operating officer at PTC Therapeutics, Inc. (PTCT). In addition, he has held executive positions at Pharmacia Corporation/Pfizer, Inc. Merck & Co., Inc., and Hoffmann La Roche, Inc. in a broad spectrum of product development functions. Dr. Ju served as project leader for SUTENT®, introduced CANCIDAS® into humans, and was part of the product development teams for CRIXIVAN® and TRANSLARNA™. He obtained his M.D. with Alpha Omega Alpha honors at the University of Pennsylvania School of Medicine and his A.B. with Phi Beta Kappa honors at Princeton University. Dr. Ju is a co-founder of Zoomi, Inc., currently serves as a member of the board of directors for Zoomi and for Brickell Biotech, Inc., and is a trustee of the Morristown Medical Center Foundation.

12:35 pm **Q & A**

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 0**

AMERICAN DERMATOEPIDEMIOLOGY NETWORK (ADEN) SYMPOSIUM

Thursday, May 7, 2015 **12:00 pm - 1:45 pm** **Salon C, Hilton Atlanta**

246 **Quality of life is equivalent between atopic dermatitis patients managed through a direct-access online model compared to in-office care: A randomized controlled trial.** April W. Armstrong, Mary Ann Johnson, Steven Lin, Caitlin Clark, Aleksandra G. Florek and Fu-Tong Liu. Aurora, CO and Sacramento, CA.

267 **The impact of chocolate consumption on acne vulgaris.** Jenifer Rae Lloyd, Gregory Raymond Delost, Jacqueline Selph, Maria Ermenia Delost and Rachael J Pohle-Krauza. Cleveland, OH; Erie, PA and Youngstown, OH.

307 **Sustained reduction in skin biopsies after 5-FU treatment.** Joanna L Walker, Moniyka Sachar, Hyemin Pomerantz, Suephy C. Chen, Susan Swetter, Robert Dellavalle, George Stricklin and Martin A Weinstock. Providence, RI; Atlanta, GA; Palo Alto, CA; Denver, CO and Nashville, TN.

311 **Pigmentary traits and indoor tanning bed use among women in the United States.** Wen-Qing Li, Eunyoung Cho, Shaowei Wu and Abrar A. Qureshi. Providence, RI.

320 **Childhood eczema is associated with anemia in 18 US population-based studies.** Jonathan Silverberg, Kerry E Drury. Chicago, IL.

NOTES

FREE ADMISSION FOR ALL SID ATTENDEES **CME CREDIT: 0**

AMERICAN ACNE AND ROSACEA SOCIETY (AARS) 4TH ANNUAL SCIENTIFIC SYMPOSIUM

Thursday, May 7, 2015 12:00 pm – 1:45 pm Grand Ballroom, Hilton Atlanta

12:00 pm **Welcome and Red Hot 2015 Updates from AARS**
Diane Thiboutot, AARS Past-President, Penn State University, Hershey, PA, USA

12:10 pm **Acne Vaccines Targeting Secretory CAMP Factor of Propionibacterium Acnes**
Chun-Ming Eric Huang, Division of Dermatology, University of California, San Diego, San Diego, CA, USA;
Mentor: Richard Gallo

12:25 pm **Improving Pediatric Acne Management: A Prospective Multicenter Study of Case-Based Guideline Education**
Lawrence Eichenfield, Dermatology, University of California, San Diego, San Diego, CA; Pediatric Dermatology, Rady Children's Hospital, San Diego, CA, USA

12:40 pm **A Meta-Analysis of Laboratory Monitoring During Treatment with Isotretinoin**
Joslyn Kirby, College of Medicine, Penn State Hershey Medical Center, Hershey, PA, USA;
Mentor: Diane Thiboutot

12:55 pm **Pentobra: A Novel Antimicrobial Compound with Lytic Activity Against Propionibacterium Acnes**
Stephanie Kao, Department of Medicine, Division of Dermatology, David Geffen School of Medicine, UCLA, Los Angeles, CA, USA;
Mentor: Jenny Kim

1:10 pm **Nitric Oxide Releasing Nanoparticles Effectively Prevent P. Acnes-Induced Inflammation by Both Clearing the Organism and Inhibiting Microbial Stimulation of the Innate Immune Response**
Gabrielle Wei, Department of Medicine, Division of Dermatology, David Geffen School of Medicine, UCLA, Los Angeles, CA, USA;
Mentor: Jenny Kim

1:25 pm **Skin Microbiome Characterizations are Biased by Sequencing Approach**
Jacquelyn Meisel, Department of Dermatology, University of Pennsylvania, Philadelphia, PA, USA;
Mentor: Elizabeth Grice

1:40 pm **Closing Comments**
Diane Thiboutot, AARS Past-President, Penn State University, Hershey, PA, USA

Visit www.acneandrosacea.org for more information about the AARS and its membership!

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 0**

INTERNATIONAL SOCIETY FOR CUTANEOUS LYMPHOMAS / CUTANEOUS T-CELL LYMPHOMA SYMPOSIUM (ISCL/CTCL)

Thursday, May 7, 2015 12:00 pm – 2:00 pm Room 204-207, Hilton Atlanta

12:00 pm ISCL Announcements with deli lunch

8 minutes for presentation + 2 minutes for Q&A and change of speaker

1. **12:15 pm Cutaneous Lymphoma Foundation's Young Investigator's Award**

2. **12:25 pm Targeting tumor-associated macrophages with anti-CSF-1R antibodies as a strategy for inhibiting T cell lymphoma tumorigenesis.** Sam Hwang, Xuesong Wu, Yasutomo Imai. *Poster #534*

3. **12:35 pm Epigenetic changes in the GPi-linked biosynthetic pathway underlie down regulation of CD52 and resistance of CTCL patients to alemtuzumab.** Jessica E. Teague, Ga-Young Lee, Ahmed Gehad, Elizabeth Lowry, David C. Fisher, Thomas S. Kupper, Rachael Clark. *Poster #421*

4. **12:45 pm Slow-cycling cells in cutaneous T-cell lymphoma: A dynamic subpopulation with reduced chemosensitivity and increased tumorigenic potential.** Wasakorn T. Kittipongdaja, Xuesong Wu, Stefan M. Schieke. *Poster #117*

5. **12:55 pm VEGF-A and PlGF are involved in progression of cutaneous T-cell lymphoma.** Tomomitsu Miyagaki, Makoto Sugaya, Tomonori Oka, Naomi Takahashi, Makiko Kawaguchi, Hiraku Suga, HIdeki Fujita, Shinichi Sato. *Poster #188*

6. **1:05 pm Rapamycin alters the metabolic phenotype in human cutaneous T-cell lymphoma.** Wasakorn T. Kittipongdaja, Xuesong Wu, Sam Hwang, Stefan M. Schieke. *Poster #126*

7. **1:15 pm Circulating cell-free DNA is increased in sera of Sézary syndrome patients.** Zuolin Ying, Timothy Langridge, Madeleine Duvic, Xiao Ni. *Poster #101*

8. **1:25 pm Adolescent and young adult cutaneous lymphomas: Clinical spectrum and autoimmunity.** Gregory R. Delost, Jacqueline Selph, Ritva Vyas, Kord Honda, Kevin D. Cooper. *Poster #332*

9. **1:35 pm Low dose irradiation kills malignant T cells, spares benign T cells and is a potentially curative therapy for mycosis fungoides.** Elizabeth Lowry, Tiago R. Matos, Victor Huang, Rei Watanabe, Ahmed Gehad, Jessica E. Teague, Phillip Devlin, Thomas S. Kupper, Rachael Clark. *Poster #415*

10. **1:45 pm Whole genome sequencing reveals oncogenic mutations in mycosis fungoides.** Laura Y. McGirt, Peilin Jia, Devin Baerenwald, Robert J. Duszynski, John A. Zic, Jeffrey Zwerner, Zhongming Zhao, Christine M. Eischen. *Poster #138*

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 3**

CONCURRENT MINI-SYMPOSIUM 1
AUTO-IMMUNITY

Thursday, May 7, 2015 **2:00 pm – 5:00 pm** **Salon E, Hilton Atlanta**

Presiders: Kiyoshi Ariizumi, PhD and Jan Dutz, MD

1. **Delineation of ST18 role in the pathogenesis of pemphigus vulgaris.** D. Vodo, S Geller, E. Ben-Asher, T. Olender, I. Goldberg, J. Nosgorodsky, A. Alkelai, P. Tatarsky, T. Zeeli, S. Baum, A. Barzilai, I. Saleh, D. Zillikens, D. Lancet and O. Sarig, E. Sprecher. Tel Aviv, Israel; Rehovot, Israel and Luebeck, Germany. *2:00 pm, Poster #066*

2. **IL-13 receptor alpha 1 downregulation as a protective mechanism and therapeutic target in pemphigus.** Kristina Seiffert-Sinha, Elizabeth Z. Welch, Rama Dey-Rao and Animesh A. Sinha. Buffalo, NY. *2:12 pm, Poster #069*

3. **Pemphigus foliaceus patients have IgG4 antibodies that recognize Amb a 1, a component from short ragweed pollen allergen.** Ye Qian, Joseph S. Jeong and Luis A. Diaz. Chapel Hill, NC. *2:24 pm, Poster # 092*

4. **Anti-BP180 IgG4 autoantibodies are inhibitory in BP in BP180 humanized mouse model.** Yagang Zuo, Flor Evangelista, Antonio Guilabert, Ning Li, Luis A. Diaz and Zhi Liu. Chapel Hill, NC. *2:36 pm, Poster #091*

5. **Collagen XVII autoantibodies are present in Parkinson's Disease patients and co-localize with tyrosine hydroxylase in the substantia nigra.** Kelly Messingham, Nandakumar Narayanan, Samantha Aust, Joseph Helfenberger, Martin Cassell, Stephanie Alberico and Janet A. Fairley. Iowa City, IA. *2:48 pm, Poster #084*

6. **IL-7 blockade prevents the onset of alopecia areata.** Zhenpeng Dai, Luzhou Xing, Ali Jabbari, Raphael Clynes and Angela Christiano. New York, NY. *3:00 pm, Poster #089*

7. **Alopecia areata skin transcriptome correlates with disease severity and response to treatment.** Ali Jabbari, Jane E. Cerise, Julian Mackay-Wiggan, Madeleine Duvic, Maria Hordinsky, Vera H. Price, David Norris, Raphael Clynes and Angela Christiano. New York, NY; Houston, TX; Minneapolis, MN; San Francisco, CA and Denver, CO. *3:12 pm, Poster #079*

8. **Essential requirement for IRF7 in the production of autoantibodies in murine lupus.** Fumi Miyagawa and Hideo Asada. Kashihara, Japan. *3:24 pm, Poster #054*

9. **Expanded αß T cell clones are present in the healed lesions of psoriasis and likely represent the autoreactive T cells of origin.** Tiago R. Matos, John T. O'Malley, Ahmed Gehad, Jessica E. Teague, Elizabeth Lowry, Harlan Robins, Thomas S. Kupper, James Krueger and Rachael Clark. Boston, MA; Seattle, WA and New York, NY. *3:36 pm, Poster #082*

10. **T-bet-deficient mice are protected from imiquimod-induced psoriasis-like dermatitis due to the protective IL-4 producing NKT cells.** Dinghong Wu, Ling Han, Jingwen Deng, Li Zhou, Chuanjian Lu and Qing-Sheng Mi. Guangzhou, China and Detroit, MI. *3:48 pm, Poster #093*

11. **A pathogenic role for IL-9 in psoriasis: IL-9 producing T cells are frequent in human psoriasis and IL-9 enhances dermatitis in two IL-17 dependent mouse models of psoriasiform dermatitis.** Ahmed Gehad, Christoph Schlapbach, Tiago R. Matos, Jessica E. Teague, Victor Huang, Elizabeth Lowry, Thomas S. Kupper and Rachael Clark. Boston, MA and Bern, Switzerland. *4:00 pm, Poster #072*

12. **Skin-homing and systemic T-cell subsets show higher activation in atopic dermatitis versus psoriasis.** Tali Czarnowicki, Juana Gonzalez, Avner Shemer, Mayte Suarez-Farinas, James Krueger and Emma Guttman-Yassky. New York, NY and Tel Aviv, Israel. *4:12 pm, Poster #055*

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 3**

CONCURRENT MINI-SYMPOSIUM 2
CARCINOGENESIS & CANCER GENETICS

Thursday, May 7, 2015 2:00 pm – 5:00 pm Grand Ballroom, Hilton Atlanta

Presiders: Kenneth Tsai, MD/PhD and Xiao-Jing Wang, MD/PhD

1. **Lack of resistant SMO mutations and decreased mutational load of Gorlin-associated basal cell cancers explain marked response to smoothened inhibitors.** Kavita Sarin, Melika Rezaee, Prajakta Jaju, Anne Lynn S. Chang, Anthony Oro, Ervin Epstein and Jean Tang. Stanford, CA and Oakland, CA. *2:00 pm, Poster #135*

2. **Smoothened (SMO) resistance is driven by PI3K–Akt signaling in a subset of murine ASZ001 BCC cells displaying tumor-initiating cell (TIC)-like characteristics.** Guang C. Jin, Yucui Zhu, Arianna Kim and David R. Bickers. New York, NY. *2:12 pm, Poster #115*

3. **Epidermal differentiation protects against Hedgehog pathway-driven tumorigenesis.** KL Harms, M. Grachtchouk, A. Ermilov, K. Pais, A. Photenhauer, D. Wilbert, D. Metzger, P. Chambon and AA Dlugosz. Ann Arbor, MI and Illkirch, France. *2:24 pm, Poster #155*

4. **Tumor-intrinsic PD-1 signaling promotes Merkel cell carcinoma growth.** Sonja Kleffel, Christian Posch, Stephen Fucaloro, Margot C. Joubert, Manisha Thakuria, Thomas S. Kupper and Tobias Schatton. Boston, MA. *2:36 pm, Poster #123*

5. **Upregulation of pro-oncogenic Fbxw7 substrates in Merkel cell carcinoma.** Monique E. Verhaegen, Doris Mangelberger, Ehab Nazzal, Kristin Rybski, Jack Weick, Tracy Vozheiko, Dawn Wilbert and Andrzej Dlugosz. Ann Arbor, MI. *2:48 pm, Poster #124*

6. **Identification of a pre-programmed metastasis-associated homozygous deletion in Chr2q37.3 in human melanoma.** Kasey L. Couts, Ichiro Nakachi, Yuchun Luo, Hieu Van, Akihiro Fujisawa, Steven Robinson, William Robinson, Mark Geraci and Mayumi Fujita. Aurora, CO and Denver, CO. *3:00 pm, Poster #106*

7. **Mutation burden is associated with gender and survival in metastatic melanoma.** Sameer Gupta, Mykyta Artomov, William Goggins, Mark Daly and Hensin Tsao. Boston, MA and Shatin, Hong Kong. *3:12 pm, Poster #134*

8. **Periostin is a key niche component for melanoma wound metastasis.** Keitaro Fukuda, Eiji Sugihara, Shoichiro Ohta, Kenji Izuhara, Takeru Funakoshi, Masayuki Amagai and Hideyuki Saya. Tokyo, Japan and Saga, Japan. *3:24 pm, Poster #098*

9. **Neurofibroma development is dependent on the presence of peripheral neurons in the tumor microenvironment.** Chung-Ping Liao, Sanjay Pradhan, Zhiguo Chen, Amish J. Patel, Chiachi Liu, Reid C. Booker and Lu Q. Le. Dallas, TX. *3:36 pm, Poster #108*

10. **A counter-intuitive role for caspase 3 in promoting genetic instability and skin carcinogenesis.** Xinjian Liu. Durham, NC. *3:48 pm, Poster #128*

11. **Identification of the KNSTRN proteome by APEX2 targeting.** Carolyn Lee, Angela Mah, Christie Nguyen and Paul Khavari. Stanford, CA and Palo Alto, CA. *4:00 pm, Poster #145*

12. **Evidence for reciprocal interaction between bone marrow and cutaneous epithelial cells.** Rebecca J. Morris, Kelly Johnson, Kelsey Boland, Nyssa Readio, Heuijoon Park, Derek Gordon and Douglas Londono. Austin, MN and Piscataway, NJ. *4:12 pm, Poster #118*

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 3**

CONCURRENT MINI-SYMPOSIUM 3
EPIDEMIOLOGY

Thursday, May 7, 2015 **2:00 pm – 5:00 pm** **Salon C, Hilton Atlanta**

Presiders: Joel Gelfand, MD and Robert Kirsner, MD/PhD

1. **Melanoma screening consequences.** Martin A. Weinstock, Laura Ferris, Melissa Saul, Alan Geller, Patricia Risica, Francis Solano, John Lagnese and John Kirkwood. Providence, RI; Pittsburgh, PA and Boston, MA. *2:00 pm, Poster #322*

2. **Duration of oral antibiotic therapy for the treatment of adult acne: A retrospective analysis investigating adherence to guideline recommendations and opportunities for cost-savings.** Chelsey S. Straight, Young S. Lee, Guodong S. Liu and Joslyn Kirby. Hershey, PA. *2:12 pm, Poster #296*

3. **Air pollution is associated with increased eczema prevalence and severity.** Parul Kathuria and Jonathan Silverberg. Chicago, IL. *2:24 pm, Poster #327*

4. **Ozone exposure and extrinsic skin aging: Results from the SALIA cohort.** Anke Hüls, Tamara Schikowski, Ursula Krämer, Dorothee Sugiri, Sabine Stolz, Andrea Vierkoetter and Jean Krutmann. Düsseldorf, Germany and Basel, Switzerland. *2:36 pm, Poster #286*

5. **Incidence of skin cancer in a cohort of 1278 patients with vitiligo, 2001-2013.** Liza Gill, Gordon Jacobsen, Richard Krajenta, Henry W. Lim, Iltefat H. Hamzavi and Melody J. Eide. Detroit, MI and East Lansing, MI. *2:48 pm, Poster #287*

6. **Increased risk of pneumonia among patients with psoriasis: A population-based cohort study in the United Kingdom.** Junko Takeshita, Daniel B. Shin, Alexis Ogdie and Joel Gelfand. Philadelphia, PA. *3:00 pm, Poster #289*

7. **Long-term efficacy of topical 5-fluorouracil 5% cream in treating actinic keratosis.** Hyemin Pomerantz, Daniel Hogan, David Eilers, Susan Swetter, Suephy C. Chen, Sharon Jacob, Erin M. Warshaw, George Stricklin, Robert Dellavalle, Navjeet Sidhu-Malik, Nellie Konnikov, Victoria Werth, Jonette Keri, Robert Lew and Martin Weinstock. Providence, RI; Bay Pines, FL; Hines, IL; Palo Alto, CA; Atlanta, GA; San Diego, CA; Minneapolis, MN; Nashville, TN; Denver, CO; Durham, NC; Boston, MA; Philadelphia, PA and Miami, FL. *3:12 pm, Poster #291*

8. **A large cohort study of lithium use and melanoma incidence and progression.** Maryam M. Asgari, Zheng Zhu, E. Margaret Warton, Charles Quesenberry, Bruce Fireman and Andy Chien. Oakland, CA and Seattle, WA. *3:24 pm, Poster #305*

9. **Childhood versus adulthood sun exposure and skin cancer risk in Caucasian post-menopausal women in the Women's Health Initiative.** Katherine J. Ransohoff, Mina S. Ally, Marcia Stefanick, Elizabeth Keiser, Katrina Spaunhurst, Kristopher Kapphahn, Sherry Pagoto, Catherine Messina, Haley Hedlin, JoAnn E. Manson and Jean Y. Tang. Redwood City, CA; Stanford, CA; San Diego, CA; Cleveland, OH; Boston, MA and Stony Brook, NY. *3:36 pm, Poster #315*

10. **Incidence and survival of sebaceous carcinoma in the United States.** Raghav Tripathi, Zhengyi Chen, Li Li and Jeremy Bordeaux. Cleveland, OH. *3:48 pm, Poster #334*

11. **Disparities in sunburns, photoprotection, indoor tanning, and skin cancer screening among U.S. men and women in same- and opposite-sex relationships.** Howa Yeung and Suephy C. Chen. Atlanta, GA. *4:00 pm, Poster #284*

12. **Young adults who frequently indoor tan report decreased sun-protective practices and low rates of total body skin examinations.** Alexander H. Fischer, Timothy Wang, Sewon Kang and Anna L. Chien. Baltimore, MD. *4:12 pm, Poster #314*

ASSOCIATE MEETINGS

THURSDAY, MAY 7, 2015

Pediatric Dermatology Research Alliance/ Society for Pediatric Dermatology Session
7:00 am – 8:00 am
Room 204-207, Hilton Atlanta

American Dermato-Epidemiology Network Symposium (ADEN)
12:00 pm – 1:45 pm
Salon C, Hilton Atlanta

American Acne and Rosacea Society (AARS) Scientific 4th Annual Scientific Symposium
12:00 pm – 1:45 pm
Grand Ballroom, Hilton Atlanta

Academic/Industry Session
Panel Discussion
12:00 pm – 12:45 pm

Individual Meetings (set up in advance by the SID) – Room 203, Hilton Atlanta
12:00 pm - 1:45 pm

International Society for Cutaneous Lymphomas/Cutaneous T-Cell Lymphoma Symposium (ISCL/CTCL)
12:00 pm – 2:00 pm
Room 204-207 – Hilton Atlanta

National Rosacea Society Research Workshop
12:00 pm – 1:45 pm
Salon D, Hilton Atlanta

The National Eczema Association Reception– The Decade of Eczema!
5:00 pm – 6:30 pm
Crystal Ballroom, Hilton Atlanta

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 3**

CONCURRENT MINI-SYMPOSIUM 4
GENE THERAPY & CLINICAL THERAPEUTICS

Thursday, May 7, 2015 **2:00 pm – 5:00 pm** **Salon A/B, Hilton Atlanta**

Presiders: Mei Chen, PhD and M. Joyce Rico, MD/MBA

1. **Phase I clinical trial for recessive dystrophic epidermolysis bullosa using genetically corrected autologous keratinocytes.** Zurab Siprashvili, Ngon T. Nguyen, Emily Gorell, Kylie Loutit, Phuong Khuu, Louise K. Furukawa, H P. Lorenz, Thomas H. Leung, Douglas R. Keene, Paul Khavari, Alfred Lane, Jean Y. Tang and M. Peter Marinkovich. Stanford, CA; Portland, OR and Palo Alto, CA. *2:00 pm, Poster #418*

2. **Allogeneic mesenchymal stromal cell therapy for children with recessive dystrophic epidermolysis bullosa: an open-label, phase 1, single-centre trial.** Gabriela Petrof, Su M. Lwin, Magdalena Martinez-Quiepo, Alya Abdul-Wahab, Simon Tso, Jemima Mellerio, Ineke Slapen-Cortenbach, Jaap J. Boelens, Jakub Tolar, Paul Veys, Tendai Kadiyirire, Mercy Ofuya, Janet L. Peacock, Anna Martinez and John McGrath. London, United Kingdom; Utrecht, Netherlands and Minneapolis, MN. *2:12 pm, Poster #411*

3. **Autologous fibroblasts therapy for recessive dystrophic epidermolysis bullosa.** Joanna Jackow, Matthias Titeux, Soeli Charbonnier and Alain Hovnanian. Paris, France. *2:24 pm, Poster #405*

4. **Assessment of amlexanox, an antagonist of nonsense mediated mRNA decay (NMD), for the treatment of RDEB.** Velina Atanasova, Q. Jiang, J. Uitto and Andrew P. South. Philadelphia, PA. *2:36 pm, Poster #426*

5. **Hematopoietic cell transplantation (HCT) for recessive dystrophic epidermolysis bullosa (RDEB): Reduced intensity conditioning (RIC) has a better outcome than myeloablative conditioning (MAC).** Jakub Tolar, John McGrath, Mark J. Osborn, Douglas R. Keene, Kristen Hook, Maria Hordinsky, David T. Woodley, Mei Chen, Alain Hovnanian, Katsuto Tamai, Bruce Blazar and John Wagner. Minneapolis, MN; London, United Kingdom; Portland, OR; Los Angeles, CA; Paris, France; Minneapolis, MN and Osaka, Japan. *2:48 pm, Poster #408*

6. **Investigation into the safety and efficacy of human ES/iPS-derived keratinocytes for therapeutic reprogramming.** Hanson Zhen, Elizaveta Bashkirova, Sandra Melo, Lingjie Li, Jessica Torkelson, Eric Liaw and Anthony Oro. Stanford, CA. *3:00 pm, Poster #428*

7. **Differentiating endothelial cells from human induced pluripotent stem cells.** Zongyou Guo, Chong Shen, Karl Gledhill, Hasan E. Abaci, Abigail Coffman, Satoru Shinkuma, Claire Higgins, Brian Gillette, Samuel K. Sia and Angela Christiano. New York, NY. *3:12 pm, Poster #427*

8. **Regression of cutaneous squamous cell carcinomas induced by topical application of PI3K/mTOR inhibitors.** X Yang, C Marshall, T Dentchev, T Salah, S Shankar, F Stauffer, A Lerchner, F Seiler, F Kalthoff and John Seykora. Philadelphia, PA and Basel, Switzerland. *3:24 pm, Poster #416*

9. **Topically delivered spherical nucleic acid nanoconjugates targeting TNF improve the psoriatic phenotype.** Katherine Lewandowski, Weston Daniel, Richard Kang, David Giljohann, Chad Mirkin and Amy S. Paller. Chicago, IL; Skokie, IL and Evanston, IL. *3:36 pm, Poster #413*

10. **The effects of bisphosphonates on ectopic soft tissue mineralization caused by mutations in the ABCC6 gene: Potential treatment of PXE.** Q. Li, John P. Sundberg, Michael A. Levine, Joshua Kingman and J. Uitto. Philadelphia, PA and Bar Harbor, ME. *3:48 pm, Poster # 422*

11. **A novel therapeutic inhibits Rac1 mediated invasion and metastasis in a newly described *in vivo* model of human melanoma.** M. C. Winge, Joanna Kovalski, Ngon T. Nguyen, Diane Wu, Ashley Zehnder, Paul Khavari and M. Peter Marinkovich. Stanford, CA. *4:00 pm, Poster #412*

12. **Novel long-non-coding RNA in melanoma: MIRAT a biomarker of small molecule inhibitor response.** Martina Sanlorenzo, Igor Vujic, Christian Posch, Kevin Lai, Kevin Lin, Deborah Stephanie Gho, Adrian Moy, Abhinay Gajjala and Susana Ortiz-Urda. San Francisco, CA. *4:12 pm, Poster #409*

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 3**

CONCURRENT MINI-SYMPOSIUM 5
SKIN & HAIR DEVELOPMENTAL BIOLOGY

Thursday, May 7, 2015 **2:00 pm – 5:00 pm** **Salon D, Hilton Atlanta**

Presiders: Valentina Greco, PhD and Bruce Morgan, PhD

1. **Polycomb repressive complex maintains epidermal progenitors by repressing key Merkel cell differentiation genes.** Evan Bardot, Carolina Perdigoto and Elena Ezhkova. New York, NY. *2:00 pm, Poster #680*

2. **Hdac1 and hdac2 are required for maintenance and survival of embryonic and adult epidermal stem cells**. Matthew LeBoeuf, Fang Liu, Xinyi Zhao, Eric Olson and Sarah Millar. Philadelphia, PA and Dallas, TX. *2:12 pm, Poster #668*

3. **Wnt signaling controls the reversible differentiation of melanocyte stem cells during their self-renewal.** Qi Sun, Hai Hu, Makoto Takeo, Wendy Lee, Mark M. Taketo and Mayumi Ito. New York, NY and Kyoto, Japan. *2:24 pm, Poster #689*

4. **Wnt/ß-catenin signaling marks self-renewing stem cells in multiple epithelial tissues.** Mingang Xu, Jeremy Horrell, Heather Gochnauer, Jiawei Cui, Melinda Snitow, Tien Peng, Edward Morrisey and Sarah Millar. Philadelphia, PA. *2:36 pm, Poster #685*

5. **Dynamic interactions between nail epithelium and digit bone by Wnt signaling.** Makoto Takeo, Christopher S. Hale and Mayumi Ito. New York, NY. *2:48 pm, Poster #664*

6. **Gorab is essential for dermal papilla cells to respond to hedgehog signals during hair follicle formation.** Ying Liu, Elizabeth R. Snedecor, Yeun Ja Choi, Ning Yang, Xu Zhang, Yuhuan Xu, Yunlin Han, Evan C. Jones, Kenneth R. Shroyer, Richard A. Clark, Lianfeng Zhang, Chuan Qin and Jiang Chen. Beijing, China and Stony Brook, NY. *3:00 pm, Poster #687*

7. **Inhibition of JAK-STAT signaling promotes hair growth.** Sivan Harel, Claire Higgins, Jane E. Cerise, James C. Chen, Zhenpeng Dai, Raphael Clynes and Angela Christiano. New York, NY. *3:12 pm, Poster #682*

8. **Serum response factor (SRF) regulates the development and cyclic regeneration of the hair follicle, and functions in epidermal development in a stage-specific manner.** Congxing Lin, Aaron Koppel, Alexi Kiss, Liang Ma and Tatiana Efimova. St. Louis, MO. *3:24 pm, Poster #681*

9. **Rapid hair cycle pattern breakdown during mouse development revealed with the aid of mathematical modeling.** Ji Won Oh, Qixuan Wang, Qing Nie and Maksim Plikus. Irvine, CA. *3:36 pm, Poster #695*

10. **The LINC complex promotes keratinocyte cell-cell adhesion and hair follicle structure.** Rachel Stewart, Amanda Zubek, Kathryn A. Rosowski, Megan King and Valerie Horsley. New Haven, CT. *3:48 pm, Poster #694*

11. **Studying hair cycle clock with the aid of multi-scale diffusion-based mathematical modeling.** Ji Won Oh, Qixuan Wang, Qing Nie and Maksim Plikus. Irvine, CA. *4:00 pm, Poster #693*

12. **Alopecia areata is transferred via activated T-lymphocytes.** Eddy H. Wang, Mohsen Khosravi-Maharlooei, Reza Jalili, Richard Yu, Aziz Ghahary, Jerry Shapiro and Kevin J. McElwee. Vancouver, BC, Canada. *4:12 pm, Poster #673*

ASSOCIATE MEETINGS

THURSDAY, MAY 7, 2015

Pediatric Dermatology Research Alliance/ Society for Pediatric Dermatology Session
7:00 am – 8:00 am
Room 204-207, Hilton Atlanta

American Dermato-Epidemiology Network Symposium (ADEN)
12:00 pm – 1:45 pm
Salon C, Hilton Atlanta

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12:00 pm – 1:45 pm
Grand Ballroom, Hilton Atlanta

Academic/Industry Session
Panel Discussion
12:00 pm – 12:45 pm

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12:00 pm – 1:45 pm
Salon D, Hilton Atlanta

The National Eczema Association Reception– The Decade of Eczema!
5:00 pm – 6:30 pm
Crystal Ballroom, Hilton Atlanta

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 0**

MINI-SYMPOSIA MIXERS

Thursday, May 7, 2015 **5:00 pm – 6:00 pm** **Individual Concurrent Meeting Rooms, Hilton Atlanta**

Immediately following the afternoon Concurrent Minisymposia Sessions, a 45-minute mixer will be held. Presenters, moderators and attendees will be able to interact as they enjoy light refreshments and snacks These mixers are designed to encourage informal discussion, mingling and networking among SID meeting attendees.

NOTES

PRE-REGISTRATION REQUIRED **CME CREDIT: 0**

SOCIAL EVENT

Thursday, May 7, 2015 **6:30 pm – 10:30 pm** **Georgia Aquarium**

Join us on Thursday, May 7, 2015 from 6:30 p.m. – 10:30 p.m. for the annual SID Social Event, this year at the Georgia Aquarium. Featuring more animals than any other aquarium in more than ten million gallons of water and through a path of more than 60 exhibits, the Georgia Aquarium entertains, engages and educates. It is a leading facility for aquatic animal conservation and research and is the only integration of an aquarium and a veterinarian teaching hospital. Come see for yourself!

The SID is pleased to announce that the Social Event will take place throughout the entire venue.

TICKETED EVENT: PRE-REGISTRATION REQUIRED

Buses depart from the Hilton Atlanta beginning at 6:00 pm. Buses will begin shuttling guests back to the hotel beginning at 8:30 pm.

ASSOCIATE MEETINGS

THURSDAY, MAY 7, 2015

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Crystal Ballroom, Hilton Atlanta

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Friday Sessions


SOCIETY FOR INVESTIGATIVE DERMATOLOGY
Education • Advocacy • Exchange
Foundations for Future Discovery
Established 1937

Meeting-At-A-Glance

FRIDAY, MAY 8, 2015

Pediatric Dermatology Research Alliance/ Society for Pediatric Dermatology Session — **7:00 am – 8:00 am**
Room 204-207, Hilton Atlanta

Registration — **7:30 am – 4:00 pm**
Convention Registration Area, First Floor, Hilton Atlanta

Business Meeting for Members — **7:45 am – 8:30 am**
Grand Ballroom, Hilton Atlanta

Plenary Session II — **8:30 am – 9:30 am**
Grand Ballroom, Hilton Atlanta

Stephen Rothman Memorial Award — **9:30 am – 9:45 am**
Presented to Ervin H. Epstein, Jr., MD
Grand Ballroom, Hilton Atlanta

Herman Beerman Lecture — **9:45 am – 10:15 am**
Cancer immunotherapy via blockade of the PD 1 pathway
Drew M. Pardoll, MD/PhD
Grand Ballroom, Hilton Atlanta

State-of-the-Art Plenary Lecture 3 — **10:15 am – 10:45 am**
Translational Research in Vitiligo: Launching a New Era of Targeted Treatment
John E. Harris, MD/PhD
Grand Ballroom, Hilton Atlanta

State-of-the-Art Plenary Lecture 4 — **10:45 am – 11:15 am**
Mitochondria as Signaling Organelles
Navdeep S. Chandel, PhD
Grand Ballroom, Hilton Atlanta

Poster Session II — **11:15 am – 1:15 pm**
Poster #'s 002 - 244 Even & #'s 491 – 735 Odd
Galleria Exhibit Hall, Hilton Atlanta

Research in Cutaneous Surgery (RCS) Symposium — **12:00 pm – 1:45 pm**
Salon A/B, Hilton Atlanta

Women's Dermatologic Society Luncheon — **12:00 pm – 1:45 pm**
Crystal Ballroom, Hilton Atlanta

NIAID Symposium — **12:00 pm – 1:45 pm**
Understanding Host Defense In Atopic Dermatitis
Grand Ballroom, Hilton Atlanta

Concurrent Mini-Symposia — **2:00 pm – 5:00 pm**

Clinical Research (Observations, Pathophysiology & Outcomes)
Salon D, Hilton Atlanta

Epidermal Structure & Barrier Function
Salon C, Hilton Atlanta

Genetic Diseases & Gene Regulation
Rooms 204-207, Hilton Atlanta

Innate Immunity, Inflammation & Microbiology
Salon E, Hilton Atlanta

Pigmentation & Melanoma
Salon A/B, Hilton Atlanta

Interdisciplinary Spotlight: Skin Cancer
Grand Ballroom, Hilton Atlanta

Mini-Symposia Mixers — **5:00 pm – 6:00 pm**
Individual Concurrent Meeting Rooms

ASSOCIATE MEETINGS

FRIDAY, MAY 8, 2015

Pediatric Dermatology Research Alliance/ Society for Pediatric Dermatology Session
7:00 am – 8:00 am
Room 204-207, Hilton Atlanta

NIAID Symposium
12:00 pm – 1:45 pm
Grand Ballroom, Hilton Atlanta

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12:00 pm – 1:45 pm
Salon A/B, Hilton Atlanta

Women's Dermatologic Society (WDS) Luncheon
12:00 pm – 1:45 pm
Crystal Ballroom, Hilton Atlanta

North American Hair Research Society (NAHRS)-Scientific Session and Annual Business Meeting
6:00 pm – 9:30 pm
Grand Ballroom, Hilton Atlanta

National Psoriasis Foundation (NPF) Scientific Advisory Board Meeting
6:00 pm – 9:30 pm
Room 203, Hilton Atlanta

National Alopecia Areata Foundation (NAAF) Reception
6:00 pm – 9:30 pm
Room 206-207, Hilton Atlanta

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Meeting-At-A-Glance

FRIDAY, MAY 8, 2015

North American Hair Research Society-Scientific Session and Annual Business Meeting Grand Ballroom, Hilton Atlanta	**6:00 pm – 9:30 pm**
National Psoriasis Foundation Scientific Advisory Board Meeting Room 203, Hilton Atlanta	**6:00 pm – 9:30 pm**
National Alopecia Areata Foundation (NAAF) Reception Room 206 & 207, Hilton Atlanta	**6:00 pm – 9:30 pm**
Trainee Dinner Crystal Ballroom, Hilton Atlanta Ticketed event: pre-registration required	**7:00 pm - 9:00 pm**

NOTES

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 0**

PEDIATRIC DERMATOLOGY
AT THE SOCIETY FOR INVESTIGATIVE DERMATOLOGY

Friday, May 8, 2015 **7:00 am - 8:00 am** **(COFFEE WILL BE SERVED)** **Rooms 204-207, Hilton Atlanta**

7:00 am **Introduction and Welcome**
Amy Paller, MD/MS, Northwestern University

7:05 am **Abstracts #90, 272, and 459: *IFN-□ pathway blockade and use of oral ruxolitinib to induce hair regrowth in alopecia areata, Angela Christiano et al,*** Columbia University, New York

7:15 am **Special Presentation:**
Ectodermal dysplasias: new approaches to disease modeling and treatment design
Maranke Koster PhD, University of Colorado

7:40 am **Abstract #255**
Epicutaneous sensitization to peanuts and other food allergens by patch testing promotes Th2 polarization with increased IL-33.
Benjamin Ungar et al., Rockefeller University, New York

7:50 am **Discussion and Concluding Remarks**

Special thanks to the Pediatric Dermatology Research Alliance and the Society for Pediatric Dermatology for supporting these sessions.

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ASSOCIATE MEETINGS

FRIDAY, MAY 8, 2015

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7:00 am – 8:00 am
Room 204-207, Hilton Atlanta

NIAID Symposium
12:00 pm – 1:45 pm
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Room 206-207, Hilton Atlanta

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 0**

BUSINESS MEETING FOR MEMBERS

Friday, May 8, 2015 **7:45 am - 8:30 am** **Grand Ballroom, Hilton Atlanta**

Honorary Membership is one of the highest honors the Society for Investigative Dermatology (SID) bestows. Each of the following SID Members has made sustained and important contributions to the research base in cutaneous biology and has contributed to the organizational success of the SID. Each has also excelled in their role as a mentor to numerous individuals over the course of their academic career.

Congratulations to Richard A. Clark, Shinji Shimada, and Stuart H. Yuspa on their appointment to SID Honorary Membership!

Richard A. Clark, MD
SUNY Stony Brook
Stony Brook, New York

Dr. Clark has demonstrated outstanding service to the Society as a former SID President and Board Member, along with service on multiple Standing and ad hoc Committees. He has made major scientific contributions to the understanding of connective tissue biomechanics and wound healing and regenerative medicine as well as animal models to advance these areas of investigation.

Shinji Shimada, MD/PhD
University of Yamanashi
Yamanashi, Japan

Dr. Shimada has made significant contributions to fostering global research collaborations in Dermatology. He was the Secretary-Treasurer and President of the Japanese Society for Investigative Dermatology (JSID), and lead organizer of the 2008 International Investigative Dermatology (IID) meeting in Kyoto. His leadership helped set the stage for the development of what is now the International Societies for Investigative Dermatology (ISID). Dr. Shimada has made major scientific contributions to the understanding of cutaneous immune systems clarifying the role of innate and acquired immunity against melanoma and viral infections in the skin.

Stuart H. Yuspa, MD
National Cancer Institute, NIH
Bethesda, Maryland

Dr. Yuspa has been an SID Member for three decades. During this time and throughout his career at the National Cancer Institute, he has mentored countless numbers of young investigators, many of whom are now in leadership positions worldwide. He has made major scientific contributions to current understanding of the mechanisms of the pre-metastatic stages of cancer pathogenesis. By employing skin carcinogenesis as a model, Dr. Yuspa's work has delineated the signaling pathways associated with oncogenic RAS-induced benign squamous neoplasia and the multistep progression to squamous cell carcinoma.

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 1**

PLENARY SESSION II

Presiders: Anthony Gaspari, MD and My Mahoney, PhD

Friday, May 8, 2015 8:30 am - 9:30 am Grand Ballroom, Hilton Atlanta

1. **NuMA/microtubule interactions are critical for asymmetric cell divisions and epidermal morphogenesis.** Lindsey Seldin and Terry Lechler. Durham, NC. *8:30 am, Poster #371*

2. **Inducing hair follicle neogenesis with 3 protein factors.** Sabrina Mai-Yi Fan, Chien-Mei Yen, Szu-Hua Pan, Yu-Ju Chen and Sung-Jan Lin. Taipei, Taiwan. *8:42 am, Poster #671*

3. **Silymarin mediated DNA repair is a mechanism for suppression of UVB induced Treg cells and prevention of photocarcinogenesis.** Hui Li, Donggou He, Tripti Singh, Ram Prasad, Santosh K. Katiyar and Hui Xu. Birmingham, AL. *8:54 am, Poster #591*

4. **Nesprin-2 declines during skin aging and its loss negatively impacts fibroblast and keratinocyte behavior *in vitro*.** Robert Maidhof, Ying Chen, Uma Santhanam and John Lyga. Suffern, NY. *9:06 am, Poster #697*

5. **Site-specific genome editing using CRISPR/Cas9 and TALENs for correction of iPS cells derived from dominant dystrophic epidermolysis bullosa.** Satoru Shinkuma, Zongyou Guo and Angela Christiano. New York, NY. *9:18 am, Poster #419*

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ASSOCIATE MEETINGS

FRIDAY, MAY 8, 2015

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Room 203, Hilton Atlanta

National Alopecia Areata Foundation (NAAF) Reception
6:00 pm – 9:30 pm
Room 206-207, Hilton Atlanta

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 0**

STEPHEN ROTHMAN MEMORIAL AWARD

Friday, May 8, 2015 **9:30 am - 9:45 am** **Grand Ballroom, Hilton Atlanta**

Introduction by: S. Wright Caughman, MD

Ervin H. Epstein, Jr., MD
Children's Hospital Oakland Research Institute
Oakland, CA

LECTURER BIO

Ervin Epstein, MD, joined CHORI in May, 2007 after 35 years at UCSF. He graduated from Harvard College, UCSF Medical School, and received his subsequent clinical dermatology and research training at Washington University of St Louis, Harvard, New York University, and the National Institutes of Health. Since 1972 he has divided his time between independent private practice of Dermatology in Oakland and Lafayette and independent research into the molecular bases of skin diseases. He has authored more than 100 published papers and, among other organizational posts, has been the President of the Society for Investigative Dermatology, the world's largest organization devoted to investigation of the skin and its diseases. He has delivered numerous named award lectureships including those honoring Sulzberger (the American Academy of Dermatology) and Dohi (the Japanese Dermatologic Association) and was the 2005 recipient of a Lifetime Achievement Award from the American Skin Association.

His current NIH-funded research focuses on non-melanoma skin cancers, in particular the commonest human cancer - basal cell carcinomas. He and others identified a crucial molecular abnormality driving the development and maintenance of these tumors a decade ago and subsequently has focused on adopting this new information into therapies that someday might make surgical extirpation obsolete. In addition his lab is investigating the cell of origin of these tumors, characterizing the cancer stem cells that perpetuate their growth, determining why some people are so much more susceptible to their growth than are others, even if of the same skin coloration, the role of the immune system in inhibiting their growth, and the development not only of new treatments but also of effective preventive approaches.

AWARD HISTORY

The Stephen Rothman Memorial Award is presented annually for distinguished service to investigative cutaneous medicine. The recipient of this award has made major scientific achievements and excelled as a teacher and recruiter of outstanding dermatologists. The recipient is an individual who has distinctly altered the course and image of dermatology or its allied fields. It is the Society's highest award.

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: .5**

HERMAN BEERMAN LECTURE

Cancer immunotherapy via blockade of the PD 1 pathway

Friday, May 8, 2015 9:45 am - 10:15 am Grand Ballroom, Hilton Atlanta

Introduction by: S. Wright Caughman, MD

Drew M. Pardoll, MD/PhD
Johns Hopkins University School of Medicine
Baltimore, MD

LECTURER BIO

Dr. Pardoll holds the Abeloff Professorship in the Department of Oncology of Johns Hopkins University School of Medicine. Dr. Pardoll's interest includes a focus on the regulation of antigen-specific T cell responses and studies approaches to modify these responses from immunotherapy.

LECTURESHIP HISTORY

This award is given in recognition of Dr. Herman Beerman's long and devoted service to the SID and his efforts to secure for it a position of respect in the scientific community. The Herman Beerman Lecture is given by a distinguished medical scholar at a scientific session of the Society's Annual Meeting. Traditionally, lecturers from fields other than dermatology are chosen in order to give meeting attendees the opportunity to learn about scientific advances in other fields.

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ASSOCIATE MEETINGS

FRIDAY, MAY 8, 2015

Pediatric Dermatology Research Alliance/ Society for Pediatric Dermatology Session
7:00 am – 8:00 am
Room 204-207, Hilton Atlanta

NIAID Symposium
12:00 pm – 1:45 pm
Grand Ballroom, Hilton Atlanta

Research in Cutaneous Surgery (RCS) Symposium
12:00 pm – 1:45 pm
Salon A/B, Hilton Atlanta

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12:00 pm – 1:45 pm
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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: .5**

State-of-the-Art Plenary Lecture 3

Translational Research in Vitiligo: Launching a New Era of Targeted Treatment

Friday, May 8, 2015 **10:15 am - 10:45 am** **Grand Ballroom, Hilton Atlanta**

Introduction by: Daniel Kaplan, MD/PhD

John E. Harris, MD/PhD
University of Massachusetts Medical School
Worcester, MA

LECTURER BIO

Dr. Harris is a tenure-track Assistant Professor in the Dermatology Division, Department of Medicine at the University of Massachusetts Medical School (UMMS) in Worcester, MA. Dr. Harris directs the Vitiligo Clinic and Research Center at UMMS, which incorporates a specialty clinic for the diagnosis and treatment of patients with vitiligo, as well as a vitiligo research laboratory. He uses basic, translational, and clinical research approaches to better understand autoimmunity in vitiligo, with a particular focus on developing more effective treatments. He earned his MD and PhD degrees at UMMS, and his PhD thesis was focused on the loss of autoimmune tolerance in juvenile diabetes. He entered a combined research/residency program in dermatology at the University of Pennsylvania in Philadelphia, PA, and his post-doctoral research focused on the development of a mouse model of vitiligo with epidermal depigmentation. He now advises multiple graduate students, MD/PhD students, and post-doctoral fellows in his research laboratory at UMMS, and teaches medical students and residents in his vitiligo clinic.

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: .5**

State-of-the-Art Plenary Lecture 4

Mitochondria as Signaling Organelles

Friday, May 8, 2015 10:45 am - 11:15 am Grand Ballroom, Hilton Atlanta

Introduction by: Ethan Lerner, MD/PhD

Navdeep S. Chandel, PhD
Northwestern University
Chicago, Illinois

LECTURER BIO

Navdeep Chandel, the David W. Cugell Professor of Medicine at Northwestern University, received a B.A. in mathematics and PhD in Cell Physiology at University of Chicago. He also did his post-doctoral work at University of Chicago. In 2000, he established his lab at Northwestern University focusing on the role of mitochondria as signaling organelles. Historically, mitochondria have been primarily viewed as biosynthetic and bioenergetic organelles. His work has elucidated that mitochondria participate in signaling by releasing reactive oxygen species which regulate distinct biological outcomes including differentiation, proliferation, and adaptation to stress.

Dr. Chandel's research focuses on the mitochondria as signaling organelles. The major function of mitochondria in cellular homeostasis has historically been the generation of energy through oxidative phosphorylation. However, Dr. Chandel and others have demonstrated that mitochondria can serve as a signaling organelle. The projects in Dr. Chandel's lab are driven by the hypothesis that when cells encounter stress the mitochondria serve as key regulators of biological outcomes that include the induction of adaptive genes, cellular proliferation, senescence and death.

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 2**

National Institute Of Allergy And Infectious Diseases (NIAID)–Symposium

Understanding Host Defense In Atopic Dermatitis

Friday, May 8, 2015 **12:00 pm – 1:45 pm** **Grand Ballroom, Hilton Atlanta**

12:00 pm **The Role Of The Microbiome In Atopic Dermatitis**
Richard Gallo, MD/PhD
University of California-San Diego

12:25 pm **Adaptive Immunity in Atopic Dermatitis and Implications for Management of Recurrent Infections**
Donald Leung, MD/PhD
National Jewish Health

12:50 pm **Skin Barrier Defects in Atopic Dermatitis: Prospects for Disease Prevention**
Eric Simpson, MD
Oregon Health & Sciences University,

1:15 pm **Innate Immune Responses in Atopic Dermatitis**
Lisa Beck, MD
University of Rochester

1:40 pm **Q&A with All Presenters**

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 1**

Research in Cutaneous Surgery (RCS) Symposium

Friday, May 8, 2015 **12:00 pm – 1:45 pm** **Salon A/B, Hilton Atlanta**

The Research in Cutaneous Surgery (RCS) Symposium is a forum for clinically relevant, patient-directed research in dermatologic surgery, including cancer surgery, laser surgery, and cosmetic surgery. With a primary emphasis on clinical research, the symposium aims to highlight clinical trials on procedure safety and effectiveness, as well as epidemiologic investigations. As research in cutaneous surgery is a growing field, the symposium also serves to bring together investigators to facilitate future collaborations. Pilot studies and early work are appropriate for submission.

#338 **Microneedle-mediated delivery of vismodegib across skin.** Hiep Xuan Nguyen, Ajay K **Banga. Atlanta, GA.**

#270 **University tort liability for allowing college debit card purchasing of indoor UV tanning.** Konstantin Grigoryan, Arthur Best and Robert Dellavalle. Cincinnati, OH and Denver, CO.

#234 **Geographically adjusted tool to estimate self-reported cumulative ultraviolet exposure and associated skin cancer risk.** Inbar Raber, Gefei Zhu, Shufeng Li, Sukolsak Sakshuwong, Angela Li, Caroline Z Tan and Anne Lynn Su Chang. Redwood City, CA.

#223 **Photodynamic therapy for benign neurofibromas.** Edit B Olasz, Ashley M Schock, Nathan Duncan, Zelmira Lazarova, Suresh Kumar, Brendan Quirk and Harry Whelan. Milwaukee, WI.

#210 **Photodynamic therapy using a white-light LED source is as effective and well-tolerated as daylight photodynamic therapy for the treatment of actinic keratoses, a randomised, single-blinded, prospective study.** Susan M O'Gorman, Julianne Clowry, MIchael Manley, Jackie McCavana, Linda Gray, Ann Kavanagh, Aoife Lally and Paul Collins. Dublin, Ireland.

#183 **Non-invasive imaging technologies for the delineation of basal cell carcinomas.** Syril Keena Que. Farmington, CT.

#174 **Combined treatment with arsenic trioxide and itraconazole inhibits the hedgehog pathway in patients with refractory metastatic basal cell carcinoma: results from a pilot trial.** Katherine J. Ransohoff, Mina Sarah Ally, Kavita Sarin, Scott Atwood, Melika Rezaee, **Irene Bailey, Phillip Beachy, Anne Lynn Su Chang, Anthony Oro, Dimitrios Colevas and Jean Y Tang. Stanford, CA.**

#168 **Oral sirolimus improves tuberous sclerosis complex skin tumors without evidence of resistance.** Neera Nathan, Ji-an Wang, Shaowei Li, Edward West Cowen, Mary Haughey, Joel Moss and Thomas N Darling. Bethesda, MD.

#160 **Photoaging in African-American skin: A reliable photonumeric scale reveals age, male gender, and sun exposure as contributory factors.** Anna L. Chien, Ji Qi, Radhika Grandhi, Tamia Harris-Tryon, Diane M Kuhn, Min Soo Jang, Noori Kim, Sherry Leung, Jessica Esandrio, Barbara Rainer, Flora Poon, Nancy Cheng, Ginette A Hinds and Sewon Kang. Baltimore, MD.

#105 **Immunosuppression and ethnicity influence keratinocyte differentiation in kidney transplant recipients**. Jodi L Johnson, Kathleen J Green, John J. Friedewald and June Robinson. Chicago, IL.

#583 **Clinicopathological features of Bowen's disease resistance to methyl aminolevulinate photodynamic therapy.** Yolanda Gilaberte, Tamara Gracia-Cazana, Jesus Vera-Alvarez, Angeles Juarranz, Ievgenia Pastushenko, Nerea Salazar, Salvador Gonzalez.

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 3**

CONCURRENT MINI-SYMPOSIUM 6
CLINICAL RESEARCH (OBSERVATIONS, PATHOPHYSIOLOGY & OUTCOMES)

Friday, May 8, 2015 **2:00 pm – 5:00 pm** **Salon D, Hilton Atlanta**

Presiders: Sewon Kang, Md And Stephen Tyring, Md/Phd

1. **Emollient therapy alters skin barrier and microbes in infants at risk for developing atopic dermatitis.** Martin Glatz, Eric C. Polley, Eric L. Simpson and Heidi H. Kong. Bethesda, MD and Portland, OR. *2:00 pm, Poster #180*

2. **Early pediatric atopic dermatitis shows only a CLA+ Th2/Th1 imbalance, while adults acquire CLA+ Th22 activation.** Hitokazu Esaki, Tali Czarnowicki, Juana Gonzalez, Dana Malajian Sreya Talasila, Adam Berry, Jayla Gray, Shinji Noda, James Krueger, Amy S. Paller and Emma Guttman-Yassky. New York, NY and Chicago, IL. *2:12 pm, Poster #165*

3. **Throat infections can cause substantial aggravation of chronic plaque psoriasis.** Ragna H. Thorleifsdottir, Jenna H. Eysteinsdottir, John H. Olafsson, M I. Sigurdsson, Andrew Johnston, Helgi Valdimarsson and Baldur Sigurgeirsson. Uppsala, Sweden; Reykjavik, Iceland and Ann Arbor, MI. *2:24 pm, Poster #175*

4. **Psoriasis area severity index score positively associates with vascular inflammation by FDG PET/CT.** Haley B. Naik, Balaji Natarajan, Taufiq Salahuddin, Qimin Ng, Julia Doveikis, Martin Playford, Benjamin Lockshin, Mariana Kaplan, Joel Gelfand and Nehal N. Mehta. Bethesda, MD; Silver Spring, MD and Philadelphia, PA. *2:36 pm, Poster #203*

5. **The association between aspirin and NSAIDs with the risk of psoriasis in a population-based cohort**. Brandon Cohen, Kathryn J. Martires and Roger Ho. New York, NY. *2:48 pm, Poster #211*

6. **Shared inflammatory signatures between atherosclerotic plaques and psoriasis skin.** William R. Swindell, Andrew Johnston, Santhi Ganesh, Katherine Gallagher, Nicole L. Ward, Xianying Xing, Mrinal K. Sarkar, Rajan P. Nair, James T. Elder and Johann E. Gudjonsson. Ann Arbor, MI and Cleveland, OH. *3:00 pm, Poster #263*

7. **Decreased IL-21 expression in skin and blood contributes to progression of mycosis fungoides.** Miyoko Kabasawa, Makoto Sugaya, Tomonori Oka, Naomi Takahashi, Makiko Kawaguchi, Hiraku Suga, Tomomitsu Miyagaki, HIdeki Fujita, Yoshihide Asano, Yayoi Tada, Takafumi Kadono and Shinichi Sato. Tokyo, Japan. *3:12 pm, Poster #177*

8. **Characterizing subsequent malignancies after mycosis fungoides.** Kathryn J. Martires, Roger Ho and Jo-Ann Latkowski. New York, NY. *3:24 pm, Poster #237*

9. **Detection of IFN-α response induced by infiltrated plasmacytoid dendritic cells and keratinocytes via LL37 in the lesional skin of DIHS/DRESS.** Pawinee Rerknimitr, Saeko Nakajima, Akihiko Kitoh, Yoshiki Miyachi and Kenji Kabashima. Kyoto, Japan and Bangkok, Thailand. *3:36 pm, Poster #206*

10. **Comparisons between ultraviolet B radiation and oral vitamin D supplementation for the treatment of vitamin D deficiency.** Dong Joo Kim, Jaehwan Kim, Jamie L. Harden, Mary Sullivan-Whalen, Patricia Gilleaudeau, Joel M. Corrêa da Rosa, Mayte Suarez-Farinas, Jan Breslow, James Krueger, Michelle Lowes and Manish Ponda. New York, NY; Stony Brook, NY and Bronx, NY. *3:48 pm, Poster #190*

11. **Identification of two salivary proteins associated with early-stage oral chronic graft-versus-host disease.** Richard Presland, Wedad Alshehri, Melody Missaghi, Mark Schubert and Michele Lloid. Seattle, WA. *4:00 pm, Poster #173*

12. **Assessment of the genetic basis of rosacea by genome-wide association study.** Anne Lynn S. Chang, Inbar Raber, Jin Xu, Rui Li, Robert Spitale, Julia Chen, Amy Kiefer, Chao Tian, Nicholas Eriksson, David Hinds and Joyce Tung. Redwood City, CA; Irvine, CA and Mountainview, CA. *4:12 pm, Poster #244*

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 3**

CONCURRENT MINI-SYMPOSIUM 7
EPIDERMAL STRUCTURE & BARRIER FUNCTION

Friday, May 8, 2015 **2:00 pm – 5:00 pm** **Salon C, Hilton Atlanta**

Presiders: Maria I. Morasso, PhD and Terry Lechler, PhD

1. **Novel insights in the mechanisms of epidermal maintenance by *in vivo* imaging.** Panteleimon Rompolas and Valentina Greco. New Haven, CT. *2:00 pm, Poster #404*

2. **Regulation and disruption of the site-specific skin gene KRT9.** Dongwon Kim, M. Zulfiquer Hossain, Ashley Nieves, Lihong Gu, Nicole Yang, Seung Mi Oh, Seunghyun Han, Ji Qi, Janis M. Taube, Sewon Kang and Luis A. Garza. Baltimore, MD. *2:12 pm, Poster #365*

3. **Network analysis identifies MPZL3 as an essential regulator of epidermal differentiation that binds FDXR to induce reactive oxygen species.** Aparna Bhaduri, Alexander Ungewickell and Paul Khavari. Stanford, CA. *2:24 pm, Poster #341*

4. **Calmodulin-like 5 interacts with 14-3-3-σ/stratifin to regulate late epidermal differentiation.** Bryan Sun, Julia Ransohoff, Kun Qu, Vanessa Lopez-Pajares, Lisa D. Boxer and Paul Khavari. Stanford, CA. *2:36 pm, Poster #391*

5. **Regulation of protein synthesis during keratinocyte differentiation.** Annie E. Collier, Ronald C. Wek and Dan F. Spandau. Indianapolis, IN. *2:48 pm, Poster #398*

6. **A reinnervated skin model: A new tool to study link between innervation and aging.** Christine Jeanmaire, Carine Tedeschi, Manasi Chavan, Laurent Misery and Nicolas Lebonvallet. Essey les Nancy, France and Brest, France. *3:00 pm, Poster #336*

7. **Tight junction barrier dysfunction induced by epidermis-specific claudin-1 ablation is sufficient to cause dermatitis in mice.** Akiharu Kubo, Takashige Hirano, Mariko Yokouchi, Hiroshi Kawasaki, Toru Atsugi and Masayuki Amagai. Tokyo, Japan and Kyoto, Japan. *3:12 pm, Poster #352*

8. **Histamine impairs keratinocyte barrier function.** Anna De Benedetto, Takeshi Yoshida, Sade Fridy, Joo-Eun S. Park and Lisa A. Beck. Rochester, NY. *3:24 pm, Poster #346*

9. **Epidermal SIRT1 loss disrupts skin barrier integrity and sensitizes mice to epicutaneous allergen challenge.** Mei Ming, Baozhong Zhao, Christopher R. Shea, Shah Palak, Lei Qiang, Steven R. White, Diane Sims and Yu-Ying He. *Chicago, IL. 3:36 pm, Poster #347*

10. **The role of TGF-β signaling-mediated miR-486-3p on the inhibition of keratin 17 in the pathogenesis of psoriasis.** Man Jiang, Zhongbin Sun, Lin Gao and Gang Wang. Xi'an, China and Urumuqi, China. *3:48 pm, Poster #383*

11. **Topoisomerase 2β impacts gene-length bias in psoriasis through altered epidermal differentiation.** Mrinal K. Sarkar, Andrew Johnston, William R. Swindell, Xianying Xing, Ariel Finkielsztein, Spiro Getsios and Johann E. Gudjonsson. Ann Arbor, MI and Chicago, IL. *4:00 pm, Poster #399*

12. **X-ray crystal structure of the keratin 1–keratin 10 heterodimer reveals a molecular basis for associated keratinopathies.** Christopher G. Bunick. New Haven, CT. *4:12 pm, Poster #349*

ASSOCIATE MEETINGS

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 3**

CONCURRENT MINI-SYMPOSIUM 8
GENETIC DISEASE & GENE REGULATION

Friday, May 8, 2015 **2:00 pm – 5:00 pm** **Room 204-207, Hilton Atlanta**

Presiders: Amy Paller, MD/MS and Eli Sprecher, MD/PhD

1. **DDX6 orchestrates human epidermal progenitor function through the mRNA degradation and translation pathways.** George Sen, Ying Wang and Yifang Chen. La Jolla, CA. *2:00 pm, Poster #430*

2. **Gasdermin A3 targets mitochondria to mediate keratinocyte necrosis and skin inflammation.** Pei-Husan Lin, Hsien-Yi Lin, Shu-Hui Wu, Cheng-Chin Kuo and Liang-Tung Yang. Zhunan, Taiwan and Taichung, Taiwan. *2:12 pm, Poster #437*

3. **The BAF/SWI/SNF complex controls genome accessibility to p63 during epidermal differentiation.** Xiaomin Bao, Adam Rubin, Kun Qu, Jiajing Zhang, Paul Giresi, Howard Chang and Paul Khavari. Stanford, CA and Palo Alto, CA. *2:24 pm, Poster #451*

4. **Functional genomics of the ULBP6 locus reveals a critical role for CTCF-mediated long-range interactions in alopecia areata.** Gina M. DeStefano, Lynn Petukhova, Esther Drill, Zhenpeng Dai, Li Bian, Raphael Clynes and Angela Christiano. New York, NY. *2:36 pm, Poster #448*

5. **Somatic activating *RAS* mutations cause vascular tumors including pyogenic granuloma.** Young H. Lim, Stephanie Douglas, Christine J. Ko, Richard Antaya, Jennifer McNiff, Jing Zhou, Richard P. Lifton, Deepak Narayan and Keith A. Choate. New Haven, CT. *2:48 pm, Poster #436*

6. **Analysis of long non-coding RNAs highlights tissue-specific expression patterns and epigenetic profiles in normal and psoriatic skin.** James T. Elder, Lam C. Tsoi, Matthew K. Iyer, Philip E. Stuart, William R. Swindell, Johann E. Gudjonsson, Trilokraj Tejasvi, Mrinal K. Sarkar, Bingshan Li, Jun Ding, John J. Voorhees, Hyun M. Kang, Rajan P. Nair, Arul M. Chinnaiyan and Goncalo Abecasis. Ann Arbor, MI; Nashville, TN and Bethesda, MD. *3:00 pm, Poster #440*

7. **MCP-1 is overexpressed by Tsc2-null skin fibroblasts in a mouse model of tuberous sclerosis with targeted disruption of *Tsc2*.** Shaowei Li, Peter Klover, Rajesh L. Thangapazham, Ji-an Wang, Joel Moss and Thomas N. Darling. Bethesda, MD. *3:12 pm, Poster #441*

8. **Dominant de novo GJA1 mutations cause erythrokeratodermia variabilis.** Lynn Boyden, Brittany Craiglow, Jing Zhou, Ronghua Hu, Erin Loring, Kimberly Morel, Christine Lauren, Richard Lifton, Amy Paller and Keith Choate. New Haven, CT; New York, NY and Chicago, IL. *3:24 pm, Poster #444*

9. **Onychodystrophy, Palmoplantar keratoderma, and Amelogenesis imperfecta (OPA) syndrome caused by a homozygous mutation in CNBD2.** YC Metzger, O. Sarig, R. Bochner, D. Vodo, N Malchin, O. Isakov, N. Erez, A. Gat, I. Goldberg, N. Shomron, M. Schwartz, WHI Mclean, FJD Smith, FB Rihani and E. Sprecher. Tel Aviv, Israel; Dundee, United Kingdom; Salt Lake City, UT and Irbid, Jordan. *3:36 pm, Poster #450*

10. **The lncRNA FLJ46906 alters expression of aging-associated proteins through binding to AP-1 and NF-κB.** Kazuyuki Yo and Thomas M. Ruenger. Providence, RI and Yokohama, Japan. *3:48 pm, Poster #434*

11. **Novel regulatory variants identified in adult atopic dermatitis by targeted deep sequencing alter enhancer function.** Ashley Quiggle, Twinkal Marfatia, Kara J. Gulewicz, Avner Shemer, Zane Goodwin, Wendell Jones, Emma Guttman-Yassky and Cristina de Guzman Strong. St. Louis, MO; Tel-Aviv, Israel and New York, NY. *4:00 pm, Poster #452*

12. **Trans-ethnic genome-wide meta-analysis identifies multiple novel associations and reveals ethnic heterogeneity of psoriasis susceptibility.** Xianyong Yin, Hui QI Low, Mark Seielstad, Wilson Liao, Mona Ståhle, Andre Franke, Xuejun Zhang and Jianjun Liu. Singapore, Singapore; San Francisco, CA; Stockholm, Sweden; Kiel, Germany and Hefei, China. *4:12 pm, Poster #431*

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 3**

CONCURRENT MINI-SYMPOSIUM 9

INNATE IMMUNITY, INFLAMMATION & MICROBIOLOGY

Friday, May 8, 2015 **2:00 pm – 5:00 pm** **Salon E, Hilton Atlanta**

Presiders: Lloyd Miller, MD/PhD and Anna Di Nardo, MD/PhD

1. **Spatial expression of RGD-binding integrins on keratinocytes control homeostatic and UV-induced Langerhans cell migration by activating latent TGFβ.** Javed Mohammed, Aleh Bobr, Brian Astry, Alina G. Bridges and Daniel Kaplan. Minneapolis, MN and Rochester, MN. *2:00 pm, Poster #557*

2. **Dermal adipocytes protect against invasive Staphylococcus aureus skin infection**. Lingjuan Zhang, Christian F. Guerrero-Juarez, Tissa Hata, Raul Ramos, Maksim Plikus and Richard L. Gallo. San Diego, CA and Irvine, CA. *2:12 pm, Poster #522*

3. **Dysbiotic microbiota drives atopic inflammation in Adam17$^{fl/fl}$Sox9-Cre mice.** Tetsuro Kobayashi, Martin Glatz, Keisuke Horiuchi, Thomas Doebel, Daniel Kaplan, Heidi H. Kong, Masayuki Amagai and Keisuke Nagao. Tokyo, Japan; Bethesda, MD and Minneapolis, MN. *2:24 pm, Poster #508*

4. **Nociceptive sensory fibers drive IL-23 from CD301b+ dermal DC and provide protection from cutaneous C. albicans infection.** Sakeen W. Kashem and Daniel Kaplan. Minneapolis, MN. *2:36 pm, Poster #521*

5. **TLR4 acts as a death receptor for ultraviolet radiation (UVR) in antigen presenting cells.** Hua Zhou, Erin Harberts, Rita Fishelevich, Stefanie Vogel and Anthony Gaspari. Baltimore, MD. *2:48 pm, Poster #524*

6. **Cell-specific inflammatory response to short-chain fatty acids produced by P. acnes.** James A. Sanford and Richard L. Gallo. San Diego, CA. *3:00 pm, Poster #543*

7. **IL-1β-independent neutrophil recruitment induces long-term protection against a Staphylococcus aureus skin reinfection.** Carly Page, Da Lee, Yu Wang, Jonathan Shahbazian, Alyssa Ashbaugh and Lloyd Miller. Baltimore, MD. *3:12 pm, Poster #509*

8. **The human skin virome and its interactions with the host microbiome.** Geoffrey D. Hannigan, Jacquelyn Meisel, Amanda Tyldsley, Qi Zheng, Brendan P. Hodkinson, Adam J. SanMiguel, Samuel Minot, Frederic D. Bushman and Elizabeth A. Grice. Philadelphia, PA. *3:24 pm, Poster #553*

9. **IL-1 and IL-36 are the dominant cytokines in generalized pustular psoriasis.** Andrew Johnston, Xianying Xing, Liza Wolterink, Drew H. Barnes, William R. Swindell, Mrinal K. Sarkar, J M. Kahlenberg, Paul W. Harms and Johann E. Gudjonsson. Ann Arbor, MI. *3:36 pm, Poster #552*

10. **Angiogenic peptide-30 (AG-30) activates primary human keratinocytes to produce cytokines/chemokines via MrgX receptors.** Chanisa Kiatsurayanon, Francois Niyonsaba, Hiroko Ushio, Shigaku Ikeda, Ko Okumura and Hideoki Ogawa. Tokyo, Japan. *3:48 pm, Poster #526*

11. **PD-1 regulates imiquimod-induced psoriasiform dermatitis through inhibition of innate IL-17A expression by γδ low T Cells.** Yasutomo Imai, Xuesong Wu, Natarajan Ayithan, Li Wang and Sam Hwang. Milwaukee, WI. *4:00 pm, Poster #544*

12. **LTA from commensal bacteria modulates keratinocyte SCF production to maintain mast cells in the skin.** Zhenping Wang, Xiaojun Sun and Anna Di Nardo. La Jolla, CA. *4:12 pm, Poster #560*

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12:00 pm – 1:45 pm
Salon A/B, Hilton Atlanta

Women's Dermatologic Society (WDS) Luncheon
12:00 pm – 1:45 pm
Crystal Ballroom, Hilton Atlanta

North American Hair Research Society (NAHRS)-Scientific Session and Annual Business Meeting
6:00 pm – 9:30 pm
Grand Ballroom, Hilton Atlanta

National Psoriasis Foundation (NPF) Scientific Advisory Board Meeting
6:00 pm – 9:30 pm
Room 203, Hilton Atlanta

National Alopecia Areata Foundation (NAAF) Reception
6:00 pm – 9:30 pm
Room 206-207, Hilton Atlanta

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 3**

CONCURRENT MINI-SYMPOSIUM 10
PIGMENTATION & MELANOMA

Friday, May 8, 2015 **2:00 pm – 5:00 pm** **Salon A/B, Hilton Atlanta**

Presiders: Brian Pollack, MD/PhD and Andrej T. Slominski, MD/PhD

1. **Deregulation of chemotactic signals, leukocyte recruitment, and immunity in segmental vitiligo.** Moetaz El-Domyati, Wael Hosam El-Din, Ahmed Fawzy Rezk, Jouni Uitto, Olga Igoucheva and Vitali Alexeev. Minia, Egypt and Philadelphia, PA. *2:00 pm, Poster #652*

2. **CD4, IL-17, and COX-2 are associated with inflammation in melisma.** Adriana Rodríguez-Arámbula, Juan P. Castanedo-Cázares, Diego Cortés-García, Bertha Torres-Álvarez and Karla I. Martínez-Rosales. San Luis Potosi, Mexico. *2:12 pm, Poster #615*

3. **Delayed cyclobutane pyrimidine dimers induced by chemiexcited melanin derivatives long after UV exposure.** Sanjay Premi, Silvia Wallisch, Camila Mano, Adam Weiner, Antonella Bacchiocchi, Kazumasa Wakamatsu, Etelvino Bechara, Ruth Halaban, Thierry Douki and Douglas E. Brash. New Haven, CT; Sao Paulo, Brazil; Toyoake, Japan and Grenoble, France. *2:24 pm, Poster #635*

4. **Y chromosome encoded TSPY proto-oncogene drives increased melanoma cell aggressiveness.** Zhi-ming Huang, Yunmin Li, Tatsuo Kido, Iwei Yeh, Kavari Korgavkar, Adi Nosrati, John Livingstone, Jillian W. Wong, Glynis Scott, Chris Lau and Maria L. Wei. San Francisco, CA and Rochester, NY. *2:36 pm, Poster #622*

5. **Sex steroids regulate human pigmentation through non-classical receptors.** Christopher Natale and Todd W. Ridky. Philadelphia, PA. *2:48 pm, Poster #637*

6. **MSX1-induced neural crest-like reprograming promotes melanoma progression.** Mizuho Fukunaga-Kalabis, Markus Heppt, Joshua Wang, Denitsa Hristova, Zhi Wei, Martin Irmler, Carola Berking, Robert Besch, Johannes Beckers, Frank J. Rauscher, David E. Fisher and Meenhard Herlyn. Philadelphia, PA; Munich, Germany; Newark, NJ; Neuherberg, Germany and Boston, MA. *3:00 pm, Poster #646*

7. **Multigene epigenetic signature is a prognostic marker in melanoma.** Goran Micevic, Viswanathan Muthusamy, Richard Scolyer and Marcus Bosenberg. New Haven, CT and Sydney, Australia. *3:12 pm, Poster #634*

8. **Oncogene starvation via selective CDK7 inhibition: A novel approach for targeting traditionally undruggable oncogenic molecules in melanoma.** Philip Eliades, David M. Miller, Michael Taylor, Raj Kumar, Nicholas Kwiatkowski, Tinghu Zhang, Richard A. Young, Nathanael S. Gray and Hensin Tsao. Boston, MA and Cambridge, MA. *3:24 pm, Poster #636*

9. **IL-23 prevents melanoma development through multiple mechanisms.** Tahseen H. Nasti, Mohammad Athar, Laura Timares and Craig Elmets. Birmingham, AL. *3:36 pm, Poster #651*

10. **CDK1 enhances tumor initiation and stemness by interacting with stem cell genes in human cancers.** Yuchun Luo, John J. Arcaroli, Nicholas Nguyen, Sucai Liu, Lekha Kutty, Stacey Bagby, Steven Robinson, William Robinson, David Norris, Wells Messersmith and Mayumi Fujita. Aurora, CO and Denver, CO. *3:48 pm, Poster #624*

11. **MT19c resensitizes metastatic melanoma cells to vemurafenib, decreases tumor growth, and increases survival in a vemurafenib-resistant metastatic melanoma model.** Alex Han, Michael Vezeridis, Rakesh Singh, Leslie Robinson-Bostom, Martin Weinstock and Richard Moore. Providence, RI. *4:00 pm, Poster #617*

12. **Inhibition of histone deacetylase 3 overcomes BRAF-inhibitor resistance.** Xiao-Qi Wang, Antonio Velez, Chelsea St. Claire and Amy S. Paller. Chicago, IL. *4:12 pm, Poster #644*

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 3**

CONCURRENT MINI-SYMPOSIUM 11

INTERDISCIPLINARY SPOTLIGHT: SKIN CANCER

Friday, May 8, 2015 2:00 pm – 5:00 pm Grand Ballroom, Hilton Atlanta

Presiders: Paul Khavari, MD/PhD and Andrew South, PhD

1. **The role of dermal wnt activation in hair follicle development and carcinogenesis.** Peggy Myung, Thomas Yang, Panteleimon Rompolas and Valentina Greco. New Haven, CT. *2:00 pm, Poster #674*

2. **Drinking green tea inhibits photocarcinogenesis in mice by upregulating the levels of miRNA-29 and subsequently inhibition of DNA hypermethylation in tumors.** Santosh K. Katiyar, Tripti Singh and Ram Prasad. Birmingham, AL. *2:12 pm, Poster #579*

3. **miR-30 is downregulated in human squamous cell carcinoma and UVB exposed keratinocytes.** Deeba N. Syed, Rahul K. Lall, Nosheen Akhtar, Jack Longley and Hasan Mukhtar. Madison, WI. *2:24 pm, Poster #598*

4. **Fibulin-4 is down-regulated in malignant head and neck SCC.** Kathleen P. McGuinn, Takako Sasaki, Mon Li Chu and My G. Mahoney. Philadelphia, PA and Oita, Japan. *2:36 pm, Poster #502*

5. **Differential requirement for HB-EGF vs. amphiregulin for survival of malignant vs. normal epithelial cells.** Stefan W. Stoll and James T. Elder. Ann Arbor, MI. *2:48 pm, Poster #489*

6. **Rolling the genetic dice: Neutral and deleterious SMO mutations in drug-resistant basal cell carcinoma.** Scott Atwood, Kavita Sarin, Jiang Li, Catherine Yao, Nicole M. Urman, Anne Lynn S. Chang, Jean Y. Tang and Anthony Oro. Stanford, CA. *3:00 pm, Poster #120*

7. **Basal cell carcinoma originates from multiple stem cell lineages within hair follicle and mechanosensory touch dome epithelia.** Shelby C. Peterson, Andrzej Dlugosz and Sunny Wong. Ann Arbor, MI. *3:12 pm, Poster #111*

8. **Genomic drivers of cutaneous squamous cell carcinoma development.** Vida Chitsazzadeh, C. Coarfa, T. Nguyen, A. K. Joseph, P. Gunaratne, X. Su, D. A. Wheeler, E. R. Flores and Kenneth Tsai. Houston, TX and Pasadena, TX. *3:24 pm, Poster #110*

9. **Alcohol consumption and risk of cutaneous basal cell carcinoma in women and men.** Shaowei Wu, Wen-Qing Li, Abrar A. Qureshi and Eunyoung Cho. Providence, RI. *3:36 pm, Poster #323*

10. **The risk of cancer in patients with psoriasis: A population-based cohort study in the United Kingdom.** Zelma C. Chiesa, Daniel B. Shin, Junko Takeshita, Alexis Ogdie and Joel Gelfand. Philadelphia, PA. *3:48 pm, Poster #302*

11. **Intrinsic resistance to smoothened inhibitors in sporadic basal cell carcinoma.** Prajakta Jaju, Melika Rezaee, Alexander Lee, Jean Y. Tang and Kavita Sarin. Stanford, CA. *4:00 pm, Poster #425*

12. **Non-melanoma skin cancers are associated with blood expansion of DC-HIL^{+} myeloid-derived suppressor cells (MDSC).** Andrew P. Word, Jin-Sung Chung, Travis Vandergriff, David B. Harker, Kiyoshi Ariizumi and Ponciano D. Cruz. Dallas, TX. *4:12 pm, Poster #199*

ASSOCIATE MEETINGS

FRIDAY, MAY 8, 2015

Pediatric Dermatology Research Alliance/ Society for Pediatric Dermatology Session
7:00 am – 8:00 am
Room 204-207, Hilton Atlanta

NIAID Symposium
12:00 pm – 1:45 pm
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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 0**

MINI-SYMPOSIA MIXERS

Friday, May 8, 2015 5:00 pm – 6:00 pm Individual Concurrent Meeting Rooms
Hilton Atlanta

Immediately following the afternoon Concurrent Minisymposia Sessions (Thursday and Friday only), a 45-minute mixer will be held. Presenters, moderators and attendees will be able to interact as they enjoy light refreshments and snacks. These mixers are designed to encourage informal discussion, mingling and networking among SID meeting attendees.

NOTES

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 0**

NORTH AMERICAN HAIR RESEARCH SOCIETY SCIENTIFIC MEETING

Friday, May 8, 2015 6:00 pm – 9:30 pm Grand Ballroom, Hilton Atlanta

6:00 pm Poster Viewing & Reception

1. **Subcutaneous abatacept in the treatment of moderate to severe alopecia areata.** Julian Mackay-Wiggan, Nhan M. Nguyen, Charlotte Clark, Ali Jabbari, Grace Ulerio, Megan Furniss, Raphael Clynes, Angela Christiano. *Poster #238*

2. **Characterization of gene expression biomarker signatures in cross-sectional and longitudinal studies for use as an Alopecia Areata Disease Activity Index (ALADIN).** Jane E. Cerise, Ali Jabbari, Madeleine Duvic, Maria Hordinsky, David Norris, Vera H. Price, Julian Mackay-Wiggan, Raphael Clynes, Angela Christiano. *Poster #264*

3. **Lymphatic vessel endothelial hyaluronan receptor-1 (LYVE-1) expression is similar in normal human parietal and occipital scalp.** Brooke Hanson, Melissa Weber-Sanders, James Hodges, Heather Bemmels, Maria Hordinsky, Marna Ericson. *Poster #277*

4. **Multiple facial vellus hair cysts, ear pits, lipomas, macrocephaly, joint laxity and cardiac defects: A novel genodermatosis?** Marisa Grace G. Ponzo, Margot Van Allen, Magdalena Martinka, Jan P. Dutz. *Poster #449*

5. **Low-level laser treatment of chemotherapy-induced alopecia: A preclinical study in rats.** Assuan Lens, Keyvan Nouri, Joaquin Jimenez, Tongyu C. Wikramanayake. *Poster #610*

6. **Knockdown of Sulf2 causes hair loss in obese mice fed a fast food diet.** Jeannette M. Olazagasti, Catherine D. Moser, Tae H. Kim, Anuradha Krishnan, Lewis R. Roberts. *Poster #658*

7. **Alterations of vitamin A metabolism and signaling in central, centrifugal, cicatricial alopecia patients.** Liye Suo, Wilma F. Bergfeld, Natasha Mesinkovska, Helen B. Everts. *Poster #665*

8. **Preventing radiation-induced hair loss by augmenting spontaneous anagen repair through modulating wnt signaling**. Wen-Yen Huang, Hsien-Yi Chiu, Chih-Chieh Chan, Sung-Jan Lin. *Poster #670*

9. **Novel diagnostic test predicts mean change in hair counts in female androgenetic alopecia patients treated with topical minoxidil.** John McCoy, Andy Goren, Janet Roberts, Nisha Desai. *Poster #672*

10. **Enhancing hair follicle regeneration by microthermal injury.** Yueh-Feng Wu, Sabrina Mai-Yi Fan, Sung-Jan Lin. *Poster #676*

11. **Apoptotic signals increase during catagen-like changes in hair follicles confirming follicle organ culture's exciting new potential as a human in vitro catagen model.** Heero N. Rahman, Nilofer Farjo, Bessam Farjo, Valerie Randall. *Poster #677*

12. **Prostaglandin D2 (PGD2) enhances testosterone metabolism in primary human keratinocytes possibly via upregulation of aldo-keto reductase 1C3 (AKR1C3) expression.** Alon Mantel, Alice P. Pentland, Meena Katdare. *Poster #684*

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Continued

North American Hair Research Society Scientific Meeting

6:45 pm **Keynote Speaker**

Wnt/beta-catenin signaling regulates proliferation but not survival of hair follicle progenitor cells
Sarah E. Millar, PhD
Professor, Departments of Dermatology and Cell & Developmental Biology,
Director of Research,
Department of Dermatology, University of Pennsylvania

7:15 pm **Keynote Speaker**

Genetics and Immunology of Alopecia Areata
Angela M. Christiano, PhD
Professor of Dermatology and Genetics & Development, Columbia University

7:45 pm **Oral Presentations**
12 minutes for presentation + 3 minutes for Q&A and change of speaker

1. **7:45 pm**
Oral ruxolitinib induces hair regrowth in moderate to severe alopecia areata. Julian Mackay-Wiggan, Nhan M. Nguyen, Charlotte Clark, Ali Jabbari, Grace Ulerio, Megan Furniss, Raphael Clynes, Angela Christiano. *Poster #272*

2. **8:00 pm**
IFN-γ pathway blockade prevents the onset of alopecia areata. Raphael Clynes, Zhenpeng Dai, Luzhou Xing, Ali Jabbari, Angela Christiano. *Poster #090*

3. **8:15 pm**
Expression of a novel immunoglobulin protein in the skin and other epithelia. Hunter Mitchell, Tongyu C. Wikramanayake. *Poster #370*

4. **8:30 pm**
Human hair follicle epithelial stem cells undergo epithelial-mesenchymal transition (EMT) in primary cicatricial alopecia: Lessons from lichen planopilaris. Hisayoshi Imanishi, David Ansell, Matthew Harries, Norbert Sepp, Tamas Biro, Daisuke Tsuruta, Christopher M. Ward, Ralf Paus. *Poster #666*

8:45pm **NAHRS Updates and Announcements**

NOTES

TICKETED EVENT; PRE-REGISTRATION IS REQUIRED **CME CREDIT: 0**

TRAINEE DINNER

Friday, May 8, 2015 **7:00 pm – 9:00 pm** **Crystal Ballroom, Hilton Atlanta**

TICKETED EVENT; PRE-REGISTRATION IS REQUIRED

Throughout the years, the SID has encouraged meetings between Residents and Post-Doc Fellows. To continue its promotion of collegiality, the SID presents a Trainee Dinner – small group meetings in which senior and junior scientists and a group of four to six residents and post-doc fellows – discuss issues over dinner. These sessions provide an opportunity to talk informally about subject matter of interest including research opportunities in dermatology, life in academia or how to combine clinical work with research.

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Saturday Sessions


SOCIETY FOR INVESTIGATIVE DERMATOLOGY
Education • Advocacy • Exchange
Foundations for Future Discovery
Established 1937

Meeting-At-A-Glance

SATURDAY, MAY 9, 2015

SID Board of Directors Meeting **7:00 am – 7:45 am**
Crystal Ballroom, Hilton Atlanta

Registration **7:30 am – 12:00 pm**
Convention Registration Area, First Floor, Hilton Atlanta

Plenary Session III **8:00 am – 9:00 am**
Grand Ballroom, Hilton Atlanta

William Montagna Lecture **9:00 am – 9:30 am**
Therapeutic Target Practice in Melanoma
Hensin Tsao, MD/PhD
Grand Ballroom, Hilton Atlanta

Julius Stone Lecture **9:30 am – 10:00 am**
The Multifaceted Immunoregulatory Functions of the PD-1 pathway
Arlene H. Sharpe, MD/PhD
Grand Ballroom, Hilton Atlanta

Poster Session III **10:00 am – 12:00 pm**
Poster #'s 247-489 Odd & #'s 492-736 Even
Galleria Exhibit Hall, Hilton Atlanta

Clinical Scholars Program Session II **10:15 am – 12:15 pm**
Grand Ballroom, Hilton Atlanta

Concurrent Mini-symposia **12:30 pm – 3:30 pm**

Adaptive Immunity & Vaccination
Salon D, Hilton Atlanta

Growth Factors, Cell Adhesion & Matrix Biology
Salon A/B, Hilton Atlanta

Photobiology
Salon C, Hilton Atlanta

Tissue Regeneration & Wound Healing
Salon E, Hilton Atlanta

International Societies for Investigative Dermatology (ISID) Informational Meeting **2:00 pm – 3:30 pm**
Crystal Ballroom, Hilton Atlanta

ASSOCIATE MEETINGS

SATURDAY, MAY 9, 2015

International Societies for Investigative Dermatology (ISID) Informational Meeting
2:00 pm – 3:30 pm
Crystal Ballroom, Hilton Atlanta

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: .5**

PLENARY SESSION III

Presiders: Sam Hwang, MD/PhD and Sarah Millar, PhD

Saturday, May 9, 2015 8:00 am - 9:00 am Grand Ballroom, Hilton Atlanta

1. **Psoriasis drug development and GWAS interpretation through in silico analysis of transcription factor binding sites.** William R. Swindell, Mrinal K. Sarkar, Philip E. Stuart, John J. Voorhees, James T. Elder, Andrew Johnston and Johann E. Gudjonsson. Ann Arbor, MI. *8:00 am, Poster #446*

2. **Narrow band UVB treatment of human vitiligo is associated with induction of stem cell genes for melanocyte repopulation in the hair follicle and epidermis.** Nathaniel B. Goldstein, Maranke I. Koster, Laura Hoaglin, Bifeng Gao, Kenneth Jones, Dennis R. Roop, David Norris and Stanca A. Birlea. Aurora, CO. *8:12 am, Poster #641*

3. **IL-17C, TNFα and IL-36 compensate for loss of IL-6 and identify novel signals facilitating the transition between uninvolved and involved psoriasis skin.** Philip Klenotic, Andrew Johnston, Thomas McCormick and Nicole L. Ward. Cleveland, OH and Ann Arbor, MI. *8:24 am, Poster #530*

4. **Integrin αv is necessary for skin tissue generation and SCC tumor invasion, but is dispensable for epidermal maintenance.** Elizabeth K. Duperret and Todd W. Ridky. Philadelphia, PA. *8:36 am, Poster #474*

5. **Characterization of lipoprotein composition and function in pediatric psoriasis reveals a more atherogenic profile.** Wynnis Tom, Lawrence F. Eichenfield, Martin Playford, Shehla Admani, Balaji Natarajan and Nehal N. Mehta. San Diego, CA and Bethesda, MD. *8:48 am, Poster #219*

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: .5**

William Montagna Lecture

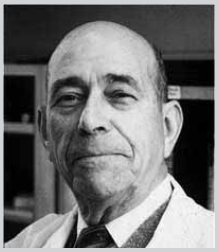
Therapeutic Target Practice in Melanoma

Saturday, May 9, 2015 9:00 am – 9:30 am Grand Ballroom, Hilton Atlanta

Introduction by: Anthony Gaspari, MD

Hensin Tsao, MD/PhD
Massachusetts General Hospital
Boston, MA

Dr. Hensin Tsao is Professor of Dermatology at Harvard Medical School and serves as the Director of both the MGH Melanoma and Pigmented Lesion Center and the MGH Melanoma Genetics Program. He is also the Head of the Skin Cancer Genetics Laboratory in the Wellman Center for Photomedicine at MGH where he oversees a research program in melanoma genetics and therapeutics. Dr. Tsao graduated Magna Cum Laude and Phi Beta Kappa from Brown University with a degree in Biochemistry and English. In 1993, he graduated Alpha Omega Alpha from the Columbia University College of Physicians and Surgeons with an MD degree and Columbia University Graduate School of Arts of Sciences with a PhD degree in Biophysics/Biochemistry.



LECTURESHIP HISTORY

The William Montagna Lecture is given annually at the Society's Annual Meeting. This award is intended to honor and reward young active investigators. Primary emphasis is given to researchers in skin biology.

ASSOCIATE MEETINGS

SATURDAY, MAY 9, 2015

International Societies for Investigative Dermatology (ISID) Informational Meeting
2:00 pm – 3:30 pm
Crystal Ballroom, Hilton Atlanta

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 1**

Julius Stone Lecture

The Multifaceted Immunoregulatory Functions of the PD-1 pathway

Saturday, May 9, 2015 9:30 am – 10:00 am Grand Ballroom, Hilton Atlanta

Introduction by: My Mahoney, PhD

Arlene H. Sharpe, MD/PhD
Harvard Medical School
Boston, MA

Dr. Sharpe is the George Fabyan Professor of Comparative Pathology, Department of Microbiology and Immunobiology, Harvard Medical School. Her research is focused on understanding the role of costimulatory molecules in T cell activation in vivo.

LECTURESHIP HISTORY

The Julius Stone Lectureship is intended to promote the advancement of knowledge in immunology as it relates to the skin and skin disease. The Lectureship is intended to honor Dr. Julius Stone, whose great commitment to the application of new principles of immunology to the benefit of patients with skin disorders is recognized by this award.

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: .5**

CLINICAL SCHOLARS PROGRAM – SESSION II

Saturday, May 9, 2015 10:15 am – 12:15 pm Grand Ballroom, Hilton Atlanta

Topic: "Infectious Skin Diseases"

10:15 am **"Combinatorial targeting of Akt1 and SMO synergistically suppresses the growth of UV-induced BCCs in a murine model of basal cell nevus syndrome."**

Arianna L. Kim, Yucui Zhu, Nathan P. Yardley, Mohammad Athar, David R. Bickers.
Poster #150, **Presented by Arianna L. Kim, PhD**

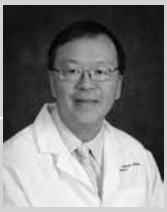
10:30 am **Q&A**

10:45 am **Plenary Presentation**
Edward Cowen, MD/MHSc
"New Primary Immunodeficiencies"

Edward W. Cowen, MD, MHSc is Senior Clinician and Head of the Dermatology Consultation Service in the Dermatology Branch, Center for Cancer Research, National Institutes of Health. His research interests include primary immunodeficiency, autoinflammatory skin disease, and chronic graft-versus-host disease.

11:00 am **Q&A**

11:15 am **Plenary Presentation**
Donald Leung, MD/PhD
"Staphylococcal Infections in Atopic Dermatitis"



Dr. Leung has been the principal investigator on over 30 NIH research grants and federal contracts involving studies on immune mechanisms and treatment of atopic dermatitis over the past 25 years. He has been particularly interested in the role of S. aureus skin infections and their virulence factors in the pathobiology of atopic dermatitis. He has over 600 publications, many of them dealing with the immunology, causes and infectious complications of skin diseases, particularly atopic dermatitis.

11:30 am **Q&A**

11:45 am **Open Discussion**

ASSOCIATE MEETINGS

SATURDAY, MAY 9, 2015

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2:00 pm – 3:30 pm
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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 3**

CONCURRENT MINI-SYMPOSIUM 12
ADAPTIVE IMMUNITY & VACCINATION

Saturday, May 9, 2015 **12:30 pm – 3:30 pm** **Salon D, Hilton Atlanta**

Presiders: John Harris, MD/PhD and Michael Rosenblum, MD/PhD

1. **Individual naïve T cells give rise to both T_{RM} and T_{CM} during immune responses *in vivo*.** Olivier Gaide, Ryan O. Emerson, Xiaodong Jiang, Rachael Clark and Thomas S. Kupper. Boston, MA and Seattle, WA. *12:30 pm, Poster #039*

2. **Contributions of skin resident and recirculating memory T cells to depigmentation in vitiligo.** Jillian Richmond, Mehdi Rashighi, Priti Agarwal and John E. Harris. Worcester, MA. *12:42 pm, Poster #013*

3. **Vitiligo T cell receptor SILv44 imparts a Tc17 profile and anti-tumor reactivity on host T cells.** Jonathan Eby, Jared Klarquist, Mingli Li, Derek Wainwright, Stephanie Watkins, Wiete Westerhof, Cheryl Paulos, Shikhar Mehrotra, Elizabeth Garrett-Mayer, Rosalie Luiten, Michael Nishimura and Caroline Le Poole. Maywood, IL; Amsterdam, Netherlands and Charleston, SC. *12:54 pm, Poster #047*

4. **Human skin is protected by four functionally and phenotypically discrete populations of resident and recirculating memory T cells.** Rei Watanabe, Ahmed Gehad, Chao Yang, Laura Campbell, Jessica E. Teague, Victor Huang, Tiago R. Matos, Thomas S. Kupper and Rachael Clark. Boston, MA. *1:06 pm, Poster #026*

5. **Regulatory T cells facilitate cutaneous wound healing.** Audrey Nosbaum, Monika Ettinger, Hong-An Truong, Mariela L. Pauli, Sofia V. Gearty, Abul K. Abbas and Michael D. Rosenblum. San Francisco, CA. *1:18 pm, Poster #016*

6. **GILT-mediated processing of a self and melanoma antigen in thymic epithelial cells promotes deletion and regulatory T cells.** Matthew Rausch, Todd C. Metzger, Michael Waterfield, Jessica Cortez, Mark S. Anderson and Karen T. Hastings. Phoenix, AZ and San Francisco, CA. *1:30 pm, Poster #028*

7. **Identifying Merkel polyomavirus-specific CD4+ and CD8+ T-cells in Merkel cell carcinoma patients' tumor-infiltrating lymphocytes.** Dafina Ibrani, Jayasri G. Iyer, Natalie Vandeven, Natalie Miller, Olga Afanasiev, David Koelle and Paul Nghiem. Seattle, WA. *1:42 pm, Poster #015*

8. **Next generation T cell receptor sequencing reveals complex T cell dynamics in Alopecia Areata.** Annemieke de Jong, Luzhou Xing, Ali Jabbari, Zhenpeng Dai, Vera H. Price, Madeleine Duvic, David Norris, Maria Hordinsky, Julian Mackay-Wiggan, Raphael Clynes and Angela Christiano. New York, NY; San Francisco, CA; Houston, TX; Denver, CO and Minneapolis, MN. *1:54 pm, Poster #019*

9. **Shared VH1-46 antibody gene usage in pemphigus vulgaris predicts antibody cross-reactivity to desmoglein 3 and rotavirus VP6.** Michael Jeffrey T. Cho, Christoph Ellebrecht, Christoph M. Hammers, Gopal Sapparapu, James Crowe and Aimee Payne. Philadelphia, PA and Nashville, TN. *2:06 pm, Poster #018*

10. **CCL17 attenuates tumor immunity by increasing regulatory T cells and Th2 cells while decreasing myeloid-derived suppressor cells in tumor microenvironment.** Sohshi Morimura, Makoto Sugaya, Tomonori Oka, Hiraku Suga, Tomomitsu Miyagaki, Yuichiro Tsunemi, Yoshihide Asano, Yayoi Tada, Takafumi Kadono and Shinichi Sato. Tokyo, Japan. *2:18 pm, Poster #009*

11. **Elevated thymic stromal lymphopoietin expression in the skin blocks breast carcinogenesis.** Shadmehr Demehri, Trevor J. Cunningham, Sindhu Manivasagam, Melissa Meyer, David Denardo, Raphael Kopan and Wayne Yokoyama. St. Louis, MO and Cincinnati, OH. *2:30 pm, Poster #021*

12. **Blockade for CD155-TIGIT interaction is an effective therapy for melanoma.** Takashi Inozume, Tomonori Yaguchi, Yutaka Kawakami and Shinji Shimada. Yamanashi, Japan and Tokyo, Japan. *2:42 pm, Poster #002*

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 3**

CONCURRENT MINI-SYMPOSIUM 13

GROWTH FACTORS, CELL ADHESION & MATRIX BIOLOGY

Saturday, May 9, 2015 12:30 pm – 3:30 pm Salon A/B, Hilton Atlanta

Presiders: C. Michael DiPersio, PhD and James K. Wahl, III, PhD

1. **TGFβ release by fibroblasts requires regulated secretion via autophagosomes.** Julian Nuechel, Katrin Blumbach, Katrin Schoenborn, Jan-Niklas Schulz, Alexandra Zuk, Gerhard Sengle, Georg Brunner, Thomas Krieg, Markus Plomann and Beate Eckes. Cologne, Germany and Muenster, Germany. *12:30 pm, Poster #484*

2. **EphA2 negatively regulates EGFR to promote keratinocyte differentiation.** Bethany E. Perez White, Paul Thomas, Joshua Rappoport and Spiro Getsios. Chicago, IL. *12:42 pm, Poster #473*

3. **Exclusion of insulin and IGF-1 receptors from caveolar domains by ganglioside GM3 mediates insulin resistance.** Duncan Hieu M. Dam, June J. Park, Betty Kong, Xiao-Qi Wang and Amy S. Paller. Chicago, IL. *12:54 pm, Poster #480*

4. **Role of integrin-linked kinase in keratinocyte survival.** Lina Dagnino and Michelle Im. London, ON, Canada. *1:06 pm, Poster #496*

5. **RDEB fibroblast-derived periostin promotes the invasion of squamous cell carcinoma.** Xinyi Wang, Yingping Hou, Jon Cogan, Olivia Lai, Weihuang Ning, David T. Woodley and Mei Chen. Los Angeles, CA. *1:18 pm, Poster #490*

6. **Lysyl hydroxylase 3 localizes to epidermal basement membrane and is reduced in patients with recessive dystrophic epidermolysis bullosa.** Stephen Watt, Jasbani Dayal, Sheila Wright, Celine Pourreyron, James McMillan, Megan Riddle, Irwin McLean, Irene Leigh, John McGrath, Julio Salas-Alanis, Jakub Tolar and Andrew P. South. Dundee, United Kingdom; London, United Kingdom; Minneapolis, MN; Monterrey, Mexico and Philadelphia, PA. *1:30 pm, Poster #486*

7. **The role of the hemidesmosomal protein BP180 in granulopoiesis.** Lin Lin, Bin-Jin Hwang, Ning Li, Luis A. Diaz and Zhi Liu. Chapel Hill, NC. *1:42 pm, Poster #494*

8. **Rapamycin modulates the glucocorticoid receptor functions, blocks atrophogene REDD1 expression, and protects skin against steroid-induced atrophy.** Ekaterina Lesovaya, Elena Vinokour, Gleb Baida, Pankaj Bhalla, Kirill Kirsanov, Marianna Yakubovskaya, Leonidas Platanias, Ben Readhead, Joel Dudley and Irina Budunova. Chicago, IL; Moscow, Russian Federation and New York, NY. *1:54 pm, Poster #491*

9. **Oxidative stress reduces collagen production through eIF2α-dependent down-regulation of transforming growth factor-beta signaling pathway in human dermal fibroblasts.** Tianyuan He, Taihao Quan, John J. Voorhees and Gary J. Fisher. Ann Arbor, MI. *2:06 pm, Poster #493*

10. **Palmitoylation of the desmosomal cadherins is important for protein stability and assembly dynamics.** Brett J. Roberts, Robert Svoboda, Keith Johnson and James K. Wahl. Lincoln, NE. *2:18 pm, Poster #488*

11. **Desmosomal mediated mechanotransduction regulates cell adhesion and signaling.** Joshua A. Broussard and Kathleen J. Green. Chicago, IL. *2:30 pm, Poster #475*

12. **Altered desmosome organization, endocytosis and desmosome splitting in pemphigus vulgaris epidermis as revealed by super-resolution microscopy.** Sara N. Stahley, Maxine Warren, Ron J. Feldman, Robert Swerlick, Alexa Mattheyses and Andrew Kowalczyk. Atlanta, GA. *2:42 pm, Poster #479*

ASSOCIATE MEETINGS

SATURDAY, MAY 9, 2015

International Societies for Investigative Dermatology (ISID) Informational Meeting
2:00 pm – 3:30 pm
Crystal Ballroom, Hilton Atlanta

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OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 3**

CONCURRENT MINI-SYMPOSIUM 14
PHOTOBIOLOGY

Saturday, May 9, 2015 **12:30 pm – 3:30 pm** **Salon C, Hilton Atlanta**

Presiders: Santosh Katiyar, PhD and Jeffrey Travers, MD/PhD

1. **Platelet-activating factor receptor agonists generated by radiation therapy thwart host anti-tumor immunity.** Ravi Sahu, Raymond L. Konger and Jeffrey B. Travers. Indianapolis, IN. *12:30 pm, Poster #593*

2. **The tumor suppressor $p27^{KIP1}$ in keratinocytes is regulated via an autocrine mechanism involving the aryl hydrocarbon receptor (AHR).** Marius Pollet, Jean Krutmann and Thomas Haarmann-Stemmann. Düsseldorf, Germany. *12:42 pm, Poster #589*

3. **Lipid oxidation patterns and kinetics in keratinocytes undergoing senescence-promoting stress or replicative senescence.** Marie S. Narzt, Ionela M. Nagelreiter, Susanne Karner, Johannes Grillari, Katarzyna Figlak, Manuel Filzwieser, Valery Bochkov, Erwin Tschachler and Florian Gruber. Vienna, Austria and Steiermark, Austria. *12:54 pm, Poster #594*

4. **Alternative keratin 17 expression variation is induced by different doses of narrow-band ultraviolet B in keratinocytes via Erk1/2-dependent mechanism.** Chang-xu Han, Liang Jin, Er-Le Dang and Gang Wang. Xi'an, China. *1:06 pm, Poster #587*

5. **Circadian rhythm and skin inflammation.** Amanda K. Suggs, Jacqueline Selph, Minh Lam and Elma D. Baron. Cleveland, OH. *1:18 pm, Poster #584*

6. **UVA and UVB induce different sets of long non-coding RNAs.** Thomas M. Ruenger and Kazuyuki Yo. Providence, RI and Yokohama, Japan. *1:30 pm, Poster #595*

7. **Distinctive molecular and cellular responses to UVB in keratinoctyes and melanocytes.** Masashi Nakatani, Arianna Kim and Liang Liu. New York, NY. *1:42 pm, Poster #597*

8. **UVB induces mast cell dermal recruitment and activation trough S1P production from human keratinocyte.** Matthieu Vanderberghe, Zhenping Wang and Anna Di Nardo. La Jolla, CA. *1:54 pm, Poster #608*

9. **Identification of glycolysis-derived α-dicarbonyl metabolites as the smallest known endogenous UVA-photosensitizers in human skin cells and reconstructed epidermis.** Rebecca Justiniano, Shuxi Qiao, Joshua D. Williams and Georg T. Wondrak. Tucson, AZ. *2:06 pm, Poster #609*

10. **Visible light-induced hyperpigmentation in human skin *in vivo* occurs in dark, but not in light skin, and is associated with differential induction of CCL18 and tyrosinase genes.** Barbara Rainer, Ji Qi, Jo Martin, Aleksandra Ogurtsova, C. Conover Talbot, Sherry Leung, Luis Garza, Anna L. Chien and Sewon Kang. Baltimore, MD. *2:18 pm, Poster #599*

11. **Ultraviolet radiation, both UVA and UVB, influences the composition of the skin microbiome.** Erin M. Burns, Abdullah Shaheen, Anum Muzaffar, Camli Al-Sadek, Thompson Foy, Mohammad Abdelgawwad, Sumeira Huda, Prescilia N. Isedeh, Ranjit Kumar, Travis Ptacek, Henry W. Lim, Iltefat H. Hamzavi, Casey D. Morrow, Craig A. Elmets and Nabiha Yusuf. Birmingham, AL and Detroit, MI. *2:30 pm, Poster #582*

12. **A meta-analysis of microRNAs expression profile in UV-radiation induced skin tumors.** Ram Prasad, Tripti Singh, Mudit Vaid and Santosh K. Katiyar. Birmingham, AL. *2:42 pm, Poster #578*

OPEN TO ALL MEETING ATTENDEES **CME CREDIT: 3**

CONCURRENT MINI-SYMPOSIUM 15

TISSUE REGENERATION & WOUND HEALING

Saturday, May 9, 2015 **12:30 pm – 3:30 pm** **Salon E, Hilton Atlanta**

Presiders: Vladimir Botchkarev, MD/PhD and Marie Tuttle, MD

1. **Epigenetic regulation of the wound healing: the role of Polycomb Cbx4 gene in the epithelial regeneration.** Andrei Mardaryev, Ahmar Aziz, Krzysztof Poterlowicz, Tatyana Y. Sharova, Guoliang Xu, Vladimir A. Botchkarev and Andrey Sharov. Bradford, United Kingdom; Boston, MA and Shanghai, China. *12:30 pm, Poster #709*

2. **Reconstitution of three-dimensional skin composed of keratinocytes, fibroblasts and melanocytes induced from Muse human pluripotent stem cell.** Takeshi Yamauchi, Kenshi Yamasaki, Kenichiro Tsuchiyama, Saaya Koike, Mai Inoue and Setsuya Aiba. Sendai, Japan. *12:42 pm, Poster #700*

3. **Cadherin endocytosis, adhesion, and cytoskeletal linkage cooperatively regulate collective cell migration.** Chantel Cadwell, Benjamin A. Nanes, Daniel Conway and Andrew Kowalczyk. Atlanta, GA and Richmond, VA. *12:54 pm, Poster #704*

4. **IRF1 protein levels depend on microRNA miR-31 and reduced levels of IRF1 inhibit keratinocyte migration.** Chase Taylor, Claudia D. Andl and Thomas Andl. Nashville, TN. *1:06 pm, Poster #711*

5. **Ephrin-A ligand loss enhances keratinocyte migration via ligand-independent EphA2 action.** Nihal Kaplan, Bethany E. Perez White, Ji Zheng, Paul Hoover, Rosa Ventrella, William R. Swindell, Johann E. Gudjonsson, Bingcheng Wang and Spiro Getsios. Chicago, IL; Cleveland, OH and Ann Arbor, MI. *1:18 pm, Poster #723*

6. **Collagen XVII regulates actin dynamics and traction forces in motile keratinocytes.** Sho Hiroyasu, Zachary Colburn and Jonathan Jones. Pullman, WA. *1:30 pm, Poster #703*

7. **Repair versus regeneration: *Msx2* is required for epidermal competency during wound induced follicular neogenesis.** Michael W. Hughes, Ting-Xin Jiang, Gary Lai, Christopher Schafer, Robert Maxson, Randal Widelitz and Cheng-Ming Chuong. Los Angeles, CA and Tainan, Taiwan. *1:42 pm, Poster #717*

8. **Paracrine regulation of wound angiogenesis through cooperation of epidermal integrins.** Whitney M. Longmate, Scott P. Lyons, Sridar V. Chittur, Livingston Van De Water and C. M. DiPersio. Albany, NY and Rensselaer, NY. *1:54 pm, Poster #706*

9. **Topically delivered allogeneic mesenchymal stems cells accelerate healing.** Michael Lichtman, Sarah Kam, Tatyana Y. Sharova, Xiaofeng Lin, Tatyana Yufit, David Fiore, Polly Carson and Vincent Falanga. Boston, MA. *2:06 pm, Poster #731*

10. **Inhibition of Apoptosis signal-regulating kinase 1 alters differentiation of the wound epithelium to enhance tissue regeneration.** Theresa A. Freeman, Natalie Chernets, Deepa Kurpad and My G. Mahoney. Philadelphia, PA. *2:18 pm, Poster #721*

11. **CAGE sequencing reveals MAFB as an early VEGF-C induced transcription factor that mediates cutaneous lymphatic vessel differentiation and development.** Lothar Dieterich, Sarah Klein, Anthony Mathelier, Young-Kwon Hong, Wyeth Wasserman and Michael Detmar. Zurich, Switzerland; Vancouver, BC, Canada and Los Angeles, CA. *2:30 pm, Poster #734*

12. **Estrogen receptor alpha-mediated control of growth factor production from nipple fibroblasts.** Hsin-Jung Wu, Dan F. Spandau, Sunil S. Tholpady and John G. Foley. Bloomington, IN and Indianapolis, IN. *2:42 pm, Poster #736*

ASSOCIATE MEETINGS

SATURDAY, MAY 9, 2015

International Societies for Investigative Dermatology (ISID) Informational Meeting
2:00 pm – 3:30 pm
Crystal Ballroom, Hilton Atlanta

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Abstracts


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Abstract Presentation Information

ORAL PRESENTATIONS

Oral presentations and lectures will take place at the Hilton Atlanta. Minisymposium and Plenary oral presentations are scheduled at the rate of five (5) per hour. This allows ten (10) minutes for presentation and two (2) minutes for discussion. In order to coordinate sessions, the time limit will be strictly adhered to, and you will be asked to terminate your presentation by the session moderators. LCD projectors will be available in each lecture hall. There will be resources to display only with IBM-compatible PowerPoint MS Office 2013 or earlier versions. 35mm projectors will not be available. Computer technicians will be able to download ZIP and CD files. All oral presentations must also be presented in poster format. All presentations must be uploaded to a common storage device at least six (6) hours prior to your presentation. Uploads may be completed in the Speaker Ready Room (Room 201, Hilton Atlanta).

POSTER PRESENTATIONS

All posters will be displayed until Saturday, May 9th at 12:00 pm in the Galleria Exhibit Hall. Posters will be viewed in three sessions as outlined below. Presenters should be at their posters for the entire discussion session. Posters may not be removed early. The SID is not responsible for posters left unclaimed as of 1:00 pm on Saturday, May 9. Unclaimed posters will not be returned.

INSTALL ALL POSTERS

Wednesday, May 6, 2015 8:00 am – 4:00 pm

POSTER SESSION I

Odd Poster numbers 001-245 &
Even Poster numbers 246-490
Thursday May 7, 2015 10:00 am – 12:00 pm

POSTER SESSION II

Even Poster numbers 002-244 &
Odd Poster numbers 491-735
Friday, May 8, 2015 11:15 am – 1:15 pm

POSTER SESSION III

Odd Poster numbers 247-489 &
Even Poster numbers 492-736
Saturday, May 9, 2015 10:00 am – 12:00 pm

DISMANTLE ALL POSTERS

Saturday, May 9, 2015 12:15 pm – 1:00 pm

CONFLICT OF INTEREST

Due to CME Guidelines, ALL oral presentations must include a disclosure slide at the beginning of your presentation. If there is a real or perceived conflict of interest pertaining to your work, an announcement must be made prior to your oral presentation and also displayed on your poster.

SPEAKER READY ROOM

Room 201, Hilton Atlanta will be available to all presenters during the following hours.

Wednesday, May 6, 2015	7:00 am – 8:00 pm
Thursday, May 7, 2015	7:00 am – 5:00 pm
Friday, May 8, 2015	7:00 am – 5:00 pm
Saturday, May 9, 2015	7:00 am – 3:00 pm

2015 Abstract Categories And Definitions

ADAPTIVE IMMUNITY & VACCINATION
Studies of adaptive immune responses in both skin and lymphoid tissues during homeostasis, inflammation, and infection involving T and B lymphocytes, antigen presenting cells, dendritic cells, and the mechanisms and factors that control these processes.

AUTO-IMMUNITY
Studies of clinical disease states involving autoimmunity.

CARCINOGENESIS & CANCER GENETICS
Studies on the development, maintenance and metastasis of cancer as well as the genetic basis of skin cancer.

CLINICAL RESEARCH (OBSERVATIONS, PATHOPHYSIOLOGY & OUTCOMES)
Studies involving human subjects and not preclinical animal model studies. This session will focus on pathophysiologic studies, observations of patients with skin diseases, as well as outcome studies. Experimental studies submitted to this category that do not involve human subjects will be moved to a more appropriate category by Abstract Reviewers.

EPIDEMIOLOGY
Studies, typically observational, involving the evaluation of health or disease with respect to the skin in populations.

EPIDERMAL STRUCTURE & BARRIER FUNCTION
Research on the components or regulation of keratinocyte proliferation, terminal differentiation, and/or epidermal barrier function.

GENE THERAPY & CLINICAL THERAPEUTICS
Studies involving human subjects that include gene therapy, small or large molecules or other therapeutic approaches.

GENETIC DISEASE & GENE REGULATION
Studies on cutaneous gene expression and genetically-based diseases. Cancer-related genetic studies are more appropriate for "Carcinogenesis and Cancer Genetics."

GROWTH FACTORS, CELL ADHESION, & MATRIX BIOLOGY
Studies on growth factors and the interactions of cells with their local cellular and extracellular environment that affect signaling, adhesion, migration and development.

INNATE IMMUNITY, INFLAMMATION & MICROBIOLOGY
Studies of innate immunity, including cells, receptors and effector molecules of the innate immune response. Studies of innate responses to skin microbes and infectious processes of the skin.

PHOTOBIOLOGY
Studies on biological, biochemical, and molecular responses to ultraviolet radiation in cultured cells or animals.

PIGMENTATION & MELANOMA
Studies on all aspects of cutaneous or extracutaneous pigmentation; and molecular, cellular, and biological facets of melanoma. Genetic studies on melanoma should be considered for the category "carcinogens and Cancer Genetics".

SKIN & HAIR DEVELOPMENTAL BIOLOGY
Studies on the hair follicle, sebaceous gland, and other skin appendages; developmental biology of skin and hair, including studies of the role of stem cells in normal development and postnatal growth.

TISSUE REGENERATION & WOUND HEALING
Wound healing and regeneration studies and studies that involve processes/signaling that affect vascular development and angiogenesis.

Adaptive Immunity & Vaccination

All orals [designated with an asterisk (*)] listed below are presented in the Adaptive Immunity & Vaccination Minisymposium on Saturday, May 9, 2015, from 12:30-3:30 pm in Salon D, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

001 **RON2315: A novel human biologic for the topical treatment of psoriasis.** Thomas Gadek. Portola Valley, CA.

002* **Blockade for CD155-TIGIT interaction is an effective therapy for melanoma.** Takashi Inozume, Tomonori Yaguchi, Yutaka Kawakami and Shinji Shimada. Chuo, Japan and Shinjyuku, Japan.

003 **Migratory DC temper subcutaneous immunity through key tolerance pathways.** Niroshana Anandasabapathy, Christopher Nirschl, Yong Liu, Shamim Mollah, Rachel E. Feder, Pinru Wu, Peter Sage and Arlene H Sharpe. Boston, MA and New York, NY.

004 **Rationale and design of a novel dendritic cell targeted vaccine for basal cell carcinoma.** Karyn Haitz, Steven R Barthel, Yong Liu, Christopher Nirschl, Ervin Epstein and Niroshana Anandasabapathy. Boston, MA and Oakland, CA.

005 **An *ex vivo* skin model that combines topical skin penetration and Th17 stimulation.** Mary Bedard, Steven Cook, Leandro Santos, Jessica Neil, Carlos Eduardo Peredo, Susan H Smith, Javier Cote-Sierra and Jon Lenn. Research Triangle Park, NC.

006 **Immunomodulatory effects of AM1030, a topical 5-HT_{2B} receptor antagonist in development for atopic dermatitis.** Niklas Palmqvist, Max Siller, Anders Sjödin, Helena Arozenius, Christina Wenglén, Anna-Carin Ryde, Lars Pettersson, Cecilia Klint, Anna Pramhed, Anna Löfdahl and Gunilla Ekström. Lund, Sweden.

007 **Phenotypic analysis of dendritic cells infiltrating a spontaneous model of basal cell carcinoma.** Christopher Nirschl, Yong Liu, Pinru Wu, Karyn Haitz and Niroshana Anandasabapathy. Boston, MA.

008 **Potential mechanisms for loss of hair follicle immune privilege in patients with alopecia areata following hepatitis B vaccination.** Christopher Richardson, Elaine Gilmore and Brian Poligone. Rochester, NY.

009* **CCL17 attenuates tumor immunity by increasing regulatory T cells and Th2 cells while decreasing myeloid-derived suppressor cells in tumor microenvironment.** Makoto Sugaya, Sohshi Morimura, Tomonori Oka, Hiraku Suga, Tomomitsu Miyagaki, Yuichiro Tsunemi, Yoshihide Asano, Yayoi Tada, Takafumi Kadono and Shinichi Sato. Tokyo, Japan.

010 **Distinctive downmodulation of plasmacytoid dendritic cell by vitamin D3 analogue in its interferon-α production and chemotactic activity.** Takahiro Suzuki, Yoshiki Tokura. Hamamatsu, Japan.

011** **A wave of regulatory T cells into neonatal skin mediates tolerance to commensal microbes .** Tiffany C Scharschmidt, Kimberly S Vasquez, Hong-An Truong, Sofia V. Gearty, Mariela L Pauli, Audrey Nosbaum, Michael Otto, James J Moon, Abul K. Abbas, Michael A Fischbach and Michael David Rosenblum. San Francisco, CA; Bethesda, MD and Charlestown, MA.

012 **Keratin 17 enhances the chemotaxis of neutrophils through regulating chemokine CXCL1 secretion in keratinocytes via PI3k/AKT/NF-κB pathway.** Er-Le Dang, Liang Jin, Chang-xu Han, Bing Li, Man Jiang and Gang Wang. Xi'an, China.

013* **Contributions of skin resident and recirculating memory T cells to depigmentation in vitiligo.** Jillian Richmond, Mehdi Rashighi, Priti Agarwal and John E Harris. Worcester, MA.

014 **Acne vaccines targeting secretory CAMP factor of Propionibacterium acnes.** Chun-Ming Huang. San Diego, CA.

015* **Identifying Merkel polyomavirus-specific CD4+ and CD8+ T-cells in Merkel cell carcinoma patients' tumor-infiltrating lymphocytes.** Dafina Ibrani, Jayasri G Iyer, Natalie Vandeven, Natalie Miller, Olga Afanasiev, David Koelle and Paul Nghiem. Seattle, WA.

016* **Regulatory T cells facilitate cutaneous wound healing.** Audrey Nosbaum, Monika Ettinger, Hong-An Truong, Mariela L Pauli, Sofia V. Gearty, Abul K. Abbas and Michael David Rosenblum. San Francisco, CA.

017 **Quantification of $CD69^+CD103^+$ skin T_{RM} cells in chronic atopic dermatitis.** SeoHyeong KIM, Chang Ook Park, Jung U Shin, Ji Yeon Noh, Shan Jin, Hemin Lee, Jungsoo Lee, Thomas S. Kupper and Kwang Hoon Lee. Seoul, Korea (the Republic of) and Boston, MA.

018* **Shared *VH1-46* antibody gene usage in pemphigus vulgaris predicts antibody cross-reactivity to desmoglein 3 and rotavirus VP6.** Michael Jeffrey Tejada Cho, Christoph Ellebrecht, Christoph Matthias Hammers, Gopal Sapparapu, James Crowe and Aimee S Payne. Philadelphia, PA and Nashville, TN.

019* **Next generation T cell receptor sequencing reveals complex T cell dynamics in Alopecia Areata .** Annemieke de Jong, Luzhou Xing, Ali Jabbari, Zhenpeng Dai, Vera H Price, Madeleine Duvic, David Norris, Maria Hordinsky, Julian Mackay-Wiggan, Raphael Clynes and Angela Christiano. New York, NY; San Francisco, CA; Houston, TX; Denver, CO and Minneapolis, MN.

020 **Calcitonin gene-related peptide (CGRP) induces endothelial cells (EC) to bias Langerhans cell (LC) antigen presentation towards a Th17 response through induction of soluble mediators.** Wanhong Ding, Lori L Stohl, John A Wagner, Linghui Xu and Richard David Granstein. New York, NY.

021* **Elevated thymic stromal lymphopoietin expression in the skin blocks breast carcinogenesis.** Shadmehr Demehri, Trevor J Cunningham, Sindhu Manivasagam, Melissa Meyer, David Denardo, Raphael Kopan and Wayne Yokoyama. St. Louis, MO and Cincinnati, OH.

022 **Topical application of eupatilin ameliorates atopic dermatitis-like skin lesions of NC/Nga mice.** Young Min Park, Ji Hyun Lee, Ye Jin Lee and Jun young Lee. Seoul, Korea (the Republic of).

023 **$CD8\alpha\alpha^+$ T cells contribute to lichen planus independence of LAMP1-meditated degranulation.** Bing Li, Xiuwen Sun and Gang Wang. Xi'an, China.

024 **Immunomodulatory effects of nanoparticles on the contact hypersensitivity response in C57BL/6 hairless mice.** Samreen Jatana, Brian C Palmer and Lisa A DeLouise. Rochester, NY.

025 **Capturing functional conservation between human skin and mouse DC systems for generating better vaccines.** Eynav Klechevsky. Saint Louis, MO.

026* **Human skin is protected by four functionally and phenotypically discrete populations of resident and recirculating memory T cells.** Rei Watanabe, Ahmed Gehad, Chao Yang, Laura Campbell, Jessica Emberley Teague, Victor Huang, Tiago R Matos, Thomas S. Kupper and Rachael Clark. Boston, MA.

027 **Novel STAT3 inhibitor LLL12 significantly reduces IL-17, IL-22, and IFN-gamma mRNA expression in psoriatic PBMCs.** Justin G Hastings, Xiaoli Zhang, Jiayuh Lin, Chenglong Li and Henry K Wong. Columbus, OH.

028* **GILT-mediated processing of a self and melanoma antigen in thymic epithelial cells promotes deletion and regulatory T cells.** Karen Taraszka Hastings, Matthew Rausch, Todd C. Metzger, Michael Waterfield, Jessica Cortez and Mark S. Anderson. Phoenix, AZ and San Francisco, CA.

Notes:

029 **Dissecting the role of the CD27-CD70 pathway in Treg function in the skin.** Kelly A. Remedios, Hong-An Truong, Sofia V. Gearty, Mariela L Pauli, Abul K. Abbas and Michael David Rosenblum. San Francisco, CA.

030 **Autocrine neurokinin-1 receptor agonists induce T cell survival and promote potent cutaneous immunity.** Adriana T Larregina, Darling Rojas-Canales, Tina L. Sumpter, William Shufesky, Olga Tkacheva and Adrian Morelli. Pittsburgh, PA.

031 **Calcium signaling for monitoring antigen-specific T cell stimulation.** Nour Kibbi, Enping Hong, Douglas Hanlon, Richard Edelson, Tarek Fahmy and Robert E Tigelaar. New Haven, CT.

032 **Cutaneous genetic vaccination targeting dermal DC subsets for enhanced antitumor immunity.** Zhaoyang You, Yi Zhang and Louis D. Falo. Pittsburgh, PA.

033 **CCR2 presence is nonessential for acute and chronic psoriasisform skin inflammation .** Yumeng Li, Yi Fritz, Jackelyn B Golden, Doina Diaconu, Maya Camhi, Thomas McCormick and Nicole L Ward. Cleveland, OH.

034 **Regulatory T-cells suppress innate lymphoid cells in skin.** Anubhav Narain Mathur, Hong-An Truong, Abul K. Abbas and Michael David Rosenblum. San Francisco, CA.

035 **Induction of skin resident and systemic T-cell immunity by cutaneous immunization using dissolvable microneedle arrays.** Blake Elizabeth Friedman, Cara Carey and Louis D. Falo. Pittsburgh, PA.

036 **Pediatric atopic dermatitis is characterized by increased T-cell activation with aberrant T-cell development.** Tali Czarnowicki, Hitokazu Esaki, Juana Gonzalez, Dana Malajian, Sreya Talasila, Adam Berry, Jayla Gray, Shinji Noda, James G Krueger, Emma Guttman-Yassky and Amy S. Paller. New York, NY and Chicago, IL.

037 **Skin-mediated promotion of thrombosis is abrogated following IL-23/IL-17 inhibition or IL-6 deletion in mouse models of psoriasis.** Nicole L Ward, Jackelyn B Golden, Yi Fritz, Yumeng Li, Yunmei Wang, Daniel I Simon and Thomas McCormick. Cleveland, OH.

038 **Effect of enteric viral infection on graft-versus-host disease severity.** Kyle Eash, Matthew Cooper, Timothy Nice and John F DiPersio. Saint Louis, MO.

039* **Individual naïve T cells give rise to both T_{RM} and T_{CM} during immune responses *in vivo.*** Olivier Gaide, Ryan O Emerson, Xiaodong Jiang, Rachael Clark and Thomas S. Kupper. Boston, MA and Seattle, WA.

040 **ENTPD1 and PD-1/PD-1 ligands are highly expressed by skin-resident immune cells in subsets of human SCC .** Amanda S MacLeod, Christina McCray, Jonathan Cook, Robert Streilein, Simone Degan, Wendy Havran and Jennifer Y Zhang. Durham, NC.

041 **Two populations of skin CD4 memory T cells with distinct migratory properties after C. albicans infection.** Chang Ook Park, Rachael Clark, Robert C. Fuhlbrigge, Xiaodong Jiang, Tian Tian, Charles Lin, Xiujun Fu, Rei Watanabe and Thomas S. Kupper. Boston, MA.

042 **Dust mite is a strong activator of IL-17 pathway genes and is distinct from the atopic dermatitis skin phenotype.** Sandra Garcet, Benjamin Ungar, Avner Shemer, James G Krueger and Emma Guttman-Yassky. New York, NY and Tel-Aviv, Israel.

043 **Global screening for skin homing program genes in $CD8^+$ T cells after live viral immunization.** Youdong Pan, Tian Tian, Chang Ook Park, Serena Lofftus, Sherrie J. Divito, Robert C. Fuhlbrigge and Thomas S. Kupper. Boston, MA.

044 **The proteasome inhibitor Bortezomib inhibits the function of peripheral dendritic cells and induces apoptosis.** Zhongbin Lai, Thomas M. Ruenger. Providence, RI.

045 **Topical application of an epidermal growth factor receptor kinase inhibitor enhances the response to influenza vaccination.** Brian Paul Pollack, Ioanna Skountzou, Joanna A. Pulit-Penaloza, Richard W. Compans, Bishu Sapkota and E. Stein Esser. Decatur, GA and Atlanta, GA.

046 **Responses to influenza vaccine after rituximab therapy in patients with autoimmune blistering diseases.** Alice Cho, Bridget Bradley, Lalita Priyamvada, Yevgeniy Kovalenkov, Ron J Feldman and Jens Wrammert. Atlanta, GA.

047* **Vitiligo T cell receptor SILv44 imparts a Tc17 profile and anti-tumor reactivity on host T cells.** Caroline Le Poole, Jonathan Eby, Jared Klarquist, Mingli Li, Derek Wainwright, Stephanie Watkins, Wiete Westerhof, Cheryl Paulos, Shikhar Mehrotra, Elizabeth Garrett-Mayer, Rosalie Luiten and Michael Nishimura. Maywood, IL; Amsterdam, Netherlands and Charleston, SC.

048 **Tissue basophilia in Stat6VT mice, a T cell-dependent model of atopic dermatitis.** Anita Thyagarajan-Sahu, Leroy J Seymour, Valerie N Nemeth, Mark H Kaplan and Matthew J Turner. Indianapolis, IN.

Auto-Immunity

All orals [designated with an asterisk (*)] listed below are presented in the Auto-immunity Minisymposium on Thursday, May 7, 2015, from 2:00-5:00 pm in Salon E, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

049 **The tryptophan metabolism enzyme, L-kynureninase, is a novel inflammatory factor in psoriasis and other inflammatory diseases.** Jamie Lynn Harden, Steven M Lewis, Samantha Lish, Mayte Suarez-Farinas, Daniel Gareau, Tim Lentini, Leanne Johnson-Huang, James G Krueger and Michelle Lowes. New York, NY and Bronx, NY.

050 **Predictors of skin disease outcome in rituximab-treated refractory dermatomyositis patients.** Jeannette M. Olazagasti, Cynthia S. Crowson, Molly S. Hein, Consuelo Lopez de Padilla, Rohit Aggarwal, Chester V. Oddis and Ann M. Reed. Rochester, MN; Pittsburgh, PA and Durham, NC.

051 **TNF-α antagonist induced cutaneous lupus.** Emily C Milam, Sarika Ramachandran and Andrew G Franks. New York, NY.

052 **Dermal vascular changes in the C3H/HeJ alopecia areata mouse model.** Lloyd E. King, Kathleen A Silva, Victoria E Kennedy, Timothy M Stearns and John Paul Sundberg. Nashville, TN and Bar Harbor, ME.

053 **Langerhans cells promote the development of imiquimod-induced psoriasis-like dermatitis by producing IL-23.** Shuhong Sun, Chunying Xiao and Wei Li. Xi'An, China.

054* **Essential requirement for IRF7 in the production of autoantibodies in murine lupus.** Fumi Miyagawa, Hideo Asada. Kashihara, Japan.

055* **Skin-homing and systemic T-cell subsets show higher activation in atopic dermatitis versus psoriasis.** Juana Gonzalez, Tali Czarnowicki, Avner Shemer, Mayte Suarez-Farinas, James G Krueger and Emma Guttman-Yassky. New York, NY and Tel Aviv, Israel.

056 **Ajulemic acid, a novel cannabinoid, suppresses the secretion of tumor necrosis factor alpha and interferon alpha from the peripheral blood mononuclear cells of dermatomyositis patients *in vitro.*** Elizabeth S Robinson, Muhammad Bashir, Paul Alves, Neelam Khan, Janice Tiao, Lauren Goldlust Okon, Joyce Okawa, Rui Feng and Victoria Werth. Philadelphia, PA and New York, NY.

Notes:

057 **Peripheral blood gene expression identifies systemic pathways and processes in chronic cutaneous lupus erythematosus (CCLE) .** Animesh A. Sinha, Rama Dey-Rao. Buffalo, NY.

058 **Serum levels of soluble PD-1 and PD-L2 correlate with disease severity in systemic sclerosis.** Ayumi Yoshizaki, Shinichi Sato. Tokyo, Japan.

059** **Desmoglein 3 chimeric autoantibody receptor T cells: A novel strategy for immunotherapy of pemphigus vulgaris.** Christoph Ellebrecht, Michael Jeffrey Tejada Cho, Xuming Mao, Vijay G Bhoj, Ching-Yi Tsai, Selene Nunez-Cruz, Michael C Milone and Aimee Sue Payne. Philadelphia, PA.

060 **Comparison of anti-desmoglein B cell repertoire and anti-desmoglein antibody repertoire in pemphigus patients.** Jing Chen, Qi Zheng, Christoph Ellebrecht, Christoph Matthias Hammers, Hsin Yao Tang, Chenyan Lin, Lars Komorowski and John R Stanley. Philadelphia, PA; Lübeck, Germany and Luebeck, Germany.

061 **B-cell profiling to predict clinical response following Rituximab therapy in patients with autoimmune blistering diseases.** Sarah Booker, Bridget Bradley, Bridget Neary, Chungwen Wei, Ignacio Sanz and Ron J Feldman. Atlanta, GA.

062 **Protective role of mast cells in development of lupus erythematosus-like skin lesions in MRL-lpr/lpr mice.** Yutaka Inaba, Takashi Yoshimasu, Nobuo Kanazawa and Fukumi Furukawa. Wakayama, Japan.

063 ***In vitro* skin irritation and potential efficacy of a novel compound for localized treatment of psoriasis.** Meera Gujjar, Jack Leonard Arbiser, Rick Coulon and Ajay K Banga. Atlanta, GA and Cumming, GA.

064 **Activity of interferons beta and gamma in dermatomyositis skin is correlated with characteristic pathologic features.** Hayley Wheeler, Kerri Rieger, Chung Lorinda, Kavita Sarin and David F Fiorentino. Redwood City, CA and Stanford, CA.

065 **Treg expression and function in pemphigus.** Ana Maria Roselino, Celina Albuquerque, Diego Luis Costa, Aline Turatti and Joao Santana Silva. Ribeirao Preto, Brazil.

066* **Delineation of ST18 role in the pathogenesis of pemphigus vulgaris.** D. Vodo, S Geller, E Ben-Asher, T Olender, I Goldberg, J Nosgorodsky, A Alkelai, P Tatarsky, T Zeeli, S Baum, A Barzilai, I Saleh, D Zillikens, D Lancet, O Sarig and Eli Sprecher. Tel Aviv, Israel; Rehovot, Israel and Luebeck, Germany.

067 **Atorvastatin attenuates cholesterol loading induced neutrophil extracellular traps.** Minglin Liu, Muhammad Bashir, Kevin Jon Williams and Victoria Werth. Philadelphia, PA.

068 **Anti-thyroid peroxidase antibodies induce similar effects on keratinocyte cell signaling as antibodies directed against desmoglein 3.** Thomas Sajda, Kristina Seiffert-Sinha and Animesh A. Sinha. Buffalo, NY.

069* **IL-13 receptor alpha 1 downregulation as a protective mechanism and therapeutic target in pemphigus.** Kristina Seiffert-Sinha, Elizabeth Zoe Welch, Rama Dey-Rao and Animesh A. Sinha. Buffalo, NY.

070 **Comparative genomic analysis in autoimmune clusters with PV.** Priya Sasankan, Sahar Y Naseer, Kristina Seiffert-Sinha and Animesh A. Sinha. Buffalo, NY.

071 **Lineage tracing of isotype-specific autoantibody repertoires in pemphigus vulgaris.** Eric Milan Mukherjee, Christoph Ellebrecht, Qi Zheng, Eun Jung Choi and Aimee Sue Payne. Philadelphia, PA.

072* **A pathogenic role for IL-9 in psoriasis: IL-9 producing T cells are frequent in human psoriasis and IL-9 enhances dermatitis in two IL-17 dependent mouse models of psoriasiform dermatitis.** Ahmed Gehad, Christoph Schlapbach, Tiago R Matos, Jessica Emberley Teague, Victor Huang, Elizabeth Lowry, Thomas S. Kupper and Rachael Clark. Boston, MA and Bern, Switzerland.

073 **Unmet need for mental health care in cutaneous lupus erythematosus and dermatomyositis.** Jordan C Achtman, Joyce Okawa and Victoria Werth. Philadelphia, PA.

074 **Epigenetic studies of oral lichen planus as a model for inflammation-mediated cancer development via malignant reprogramming.** Nasim Fazel, Clifford G. Tepper, Yoshihiro Izumiya, William Murphy and Parastoo Davari. Sacramento, CA.

075 **Oxidative stress-induced calreticulin/gC1qR complex production may prevent cells from apoptosis: a new insight into the destruction of melanocytes.** Ling Liu, Pu Song, Yajun Zhang, Chunying Li and Tianwen Gao. Xi'an, China.

076 **Plumbagin was a potential therapeutic medicine for psoriasis by inhibiting the proliferation and secretion of inflammation cytokines of keratinocyte .** Yuan Zhang, Gang Wang. Xi'an, China.

077 **Defective complement inhibitory function of CD46 predisposes to bullous pemphigoid.** Pei Qiao, Gang Wang. Xi'an, China.

078 **Increased expression of NLRP3 inflammasome in peripheral blood mononuclear cells in patients with bullous pemphigoid.** Hui Fang, Gang Wang. Xi'an, China.

079* **Alopecia areata skin transcriptome correlates with disease severity and response to treatment.** Ali Jabbari, Jane E Cerise, Julian Mackay-Wiggan, Madeleine Duvic, Maria Hordinsky, Vera H Price, David Norris, Raphael Clynes and Angela Christiano. New York, NY; Houston, TX; Minneapolis, MN; San Francisco, CA and Denver, CO.

080 **Status of classification criteria for amyopathic dermatomyositis .** Neelam Khan, Victoria Werth. Philadelphia, PA and Washington, DC.

081 **Eruptive papules in a patient with connective tissue disease.** Naomi Dolly, Sarika Ramachandran. New York, NY.

082* **Expanded αβ T cell clones are present in the healed lesions of psoriasis and likely represent the autoreactive T cells of origin.** Tiago R Matos, John Thomas O'Malley, Ahmed Gehad, Jessica Emberley Teague, Elizabeth Lowry, Harlan Robins, Thomas S. Kupper, James G Krueger and Rachael Clark. Boston, MA; Seattle, WA and New York, NY.

083 **Bullous pemphigoid autoantibodies and complement are required for eosinophil localization to the dermal-epidermal junction.** Kelly Messingham, Jeffery W Wang, Heather M Holahan, Rupasree Srikantha, Samantha Aust and Janet A Fairley. Iowa City, IA.

084* **Collagen XVII autoantibodies are present in Parkinson's Disease patients and co-localize with tyrosine hydroxylase in the substantia nigra.** Janet A Fairley, Kelly Messingham, Nandakumar Narayanan, Samantha Aust, Joseph Helfenberger, Martin Cassell and Stephanie Alberico. Iowa City, IA.

085 **The Asian atopic dermatitis phenotype combines features of atopic dermatitis and psoriasis with increased Th17 polarization.** Shinji Noda, Mayte Suarez-Farinas, Kwang Hoon Lee, Kenji Kabashima, James G Krueger and Emma Guttman-Yassky. New York, NY; Seoul, Korea (the Democratic People's Republic of) and Kyoto, Japan.

086 **Differing polarization of γδ T cells following topical imiquimod associated with psoriasiform or lupus-like disease in mice.** Mehran Ghoreishi, Misha Zarbafian and Jan Peter Dutz. Vancouver, Canada.

087 **Visualizing *in vivo* cuticular (eponychial) hemosiderin-containing deposits in patients with autoimmune connective tissue diseases via Prussian blue and dermoscopy.** Jeffrey Don McBride, Richard Sontheimer and Tracy Frech. Oklahoma City, OK and Salt Lake City, UT.

088 **Epigenetic downregulation of SFRP4 contributes to epidermal hyperplasia in psoriasis.** Honglin Wang, Jing Bai. Shanghai, China.

089* **IL-7 blockade prevents the onset of alopecia areata .** Zhenpeng Dai, Luzhou Xing, Ali Jabbari, Raphael Clynes and Angela Christiano. New York, NY.

Notes:

090 **IFN-γ pathway blockade prevents the onset of alopecia areata .** Raphael Clynes, Zhenpeng Dai, Luzhou Xing, Ali Jabbari and Angela Christiano. New York, NY.

091* **Anti-BP180 IgG4 autoantibodies are inhibitory in BP in BP180 humanized mouse model.** Zhi Liu, Yagang Zuo, Flor Evangelista, Antonio Guilabert, Ning Li and Luis A. Diaz. Chapel Hill, NC and Barcelona, Spain.

092* **Pemphigus foliaceus patients have IgG4 antibodies that recognize Amb a 1, a component from short ragweed pollen allergen.** Ye Qian, Joseph S-Y Jeong and Luis A. Diaz. Chapel Hill, NC.

093* **T-bet-deficient mice are protected from imiquimod-induced psoriasis-like dermatitis due to the protective IL-4 producing NKT cells.** Qing-Sheng Mi, Dinghong Wu, Ling Han, Jingwen Deng, Li Zhou and Chuanjian Lu. Guangzhou, China and Detroit, MI.

094 **A novel pathway regulating tolerance of peripheral B lymphocytes .** Neda Nikbakht, Timothy Manser. Philadelphia, PA.

095 **Immunologic signatures in Tregs and Teffectors in psoriasis.** Catherine MaiKhanh Nguyen, Melissa Danesh, Kourosh Beroukhim, Margaret Lowe, Keyon Taravati, Wilson Liao and Michael David Rosenblum. San Francisco, CA; Irvine, CA and Los Angeles, CA.

Carcinogenesis & Cancer Genetics

All orals [designated with an asterisk (*)] listed below are presented in the Carcinogenesis & Cancer Genetics Minisymposium on Thursday, May 7, 2015, from 2:00-5:00 pm in the Grand Ballroom, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

096 **Lessons from melanoma applied to other cancers: DC-HIL is a potential biomarker and treatment target for breast and colon cancer.** David B Harker, Jake E Turrentine, Jin-Sung Chung, Ponciano D Cruz and Kiyoshi Ariizumi. Dallas, TX.

097 **DLX3-dependent p53 signaling network controls keratinocyte cell cycle and squamous tumor growth.** Meghan D Kellett, Elisabetta Palazzo, Christophe Cataisson, Anna Gormley, Paul Bible, Valentina Pietroni, Nadezda Radoja, Joonsung Hwang, Miroslav Blumenberg, Stuart H Yuspa and Maria Morasso. Bethesda, MD and New York City, NY.

098* **Periostin is a key niche component for melanoma wound metastasis.** Keitaro Fukuda, Eiji Sugihara, Shoichiro Ohta, Kenji Izuhara, Takeru Funakoshi, Masayuki Amagai and Hideyuki Saya. Tokyo, Japan and Saga, Japan.

099 **A zebrafish model for investigating the role of SOX10 in invasive melanoma .** Andrea L Suarez. New York, NY.

100 **Receptor tyrosine kinase inhibitor, Dasatinib, inhibits activity of endogenous EphB2 receptor and promotes apoptosis of cutaneous squamous carcinoma cells.** Mehdi Farshchian, Liisa Nissinen, Reidar Grénman and Veli-Matti Kähäri. Turku, Finland.

101 **Circulating cell-free DNA is increased in sera of Sézary syndrome patients.** Zuolin Ying, Timothy Langridge, Madeleine Duvic and Xiao Ni. Houston, TX.

102 **Sphingosine-1-phosphate stimulating CAMP overexpression accelerates development of cutaneous SCC.** Yoshikazu Uchida, Kyungho Park, Young Il Kim, Anna Nielsen-Scott, Kyong-Oh Shin, Yong-Moon Lee, Walter M. Holleran, Sarah Arron, Theodora Mauro and Peter M Elias. San Francisco and Cheongju, Korea (the Republic of).

103 **STAT3-dependent VEGF production from keratinocytes abrogates dendritic cell activation and migration by arsenic: a plausible regional mechanism of immunosuppression in arsenical cancers.** Chien-Hui Hong, Chih-Hung Lee, Gwo-Shing Chen, Kee-Lung Chang and Hsin-Su Yu. Kaohsiung, Taiwan; Taipei, Taiwan and Zhunan, Taiwan.

104 **Plexin-B1 and semaphorin 4D cooperate to promote cutaneous squamous cell carcinoma cell proliferation, apoptosis, migration and invasion.** Chen Zhang, Wei Li. Xi'an, China.

105 **Immunosuppression and ethnicity influence keratinocyte differentiation in kidney transplant recipients.** Jodi L Johnson, Kathleen J Green, John J. Friedewald and June Robinson. Chicago, IL.

106* **Identification of a pre-programmed metastasis-associated homozygous deletion in Chr2q37.3 in human melanoma.** Kasey L Couts, Ichiro Nakachi, Yuchun Luo, Hieu Van, Akihiro Fujisawa, Steven Robinson, William Robinson, Mark Geraci and Mayumi Fujita. Aurora, CO and Denver, CO.

107 **Sestrin2 positively regulates AKT signaling and survival in human squamous cell carcinoma and melanoma cells.** Palak Shah, Baozhong Zhao, Andrey Budanov, Lei Qiang, Mei Ming, Andrew Aplin, Diane Sims and Yu-Ying He. Chicago, IL; Richmond, VA and Philadelphia, PA.

108* **Neurofibroma development is dependent on the presence of peripheral neurons in the tumor microenvironment.** Chung-Ping Liao, Sanjay Pradhan, Zhiguo Chen, Amish J. Patel, Chiachi Liu, Reid C. Booker and Lu Q. Le. Dallas, TX.

109 **Insulin-like growth factor II mRNA-binding protein 3 expression predicts unfavorable prognosis in acral lentiginous melanoma.** Shiou-Hwa Jee, Yi-Shuan Sheen, Chih-Chun Yeh, Pin-Chun Chen, Min-Liang Kuo and Chia-Yu Chu. Taipei, Taiwan.

110* **Genomic drivers of cutaneous squamous cell carcinoma development .** Vida Chitsazzadeh, C Coarfa, T Nguyen, A K Joseph, P Gunaratne, X Su, D A Wheeler, E R Flores and Kenneth Tsai. Houston, TX and Pasadena, TX.

111* **Basal cell carcinoma originates from multiple stem cell lineages within hair follicle and mechanosensory touch dome epithelia.** Sunny Wong, Shelby C Peterson and Andrzej Dlugosz. Ann Arbor, MI.

112 **Premature menopause and hematologic neoplasms further characterize xeroderma pigmentosum as a disorder of accelerated aging.** John J DiGiovanna, Deborah Tamura, Melissa Merideth, Sikandar G. Khan, Divya Angra and Kenneth H Kraemer. Bethesda, MD.

113 **FRA1 plays an essential role in skin, head and neck cancer cell growth and migration .** Jennifer Y Zhang, Xiaoling Zhang, Joseph Wu and Terry Lechler. Durham, NC.

114** **Cutaneous neoplasms undergo a dynamic immunoediting process.** Bradley J Kubick, Dennis R Roop. Aurora, CO.

115* **Smoothened (SMO) resistance is driven by PI3K–Akt signaling in a subset of murine ASZ001 BCC cells displaying tumor-initiating cell (TIC)-like characteristics .** Guang C Jin, Yucui Zhu, Arianna Kim and David R Bickers. New York, NY.

116 **Haploinsufficiency of the Ptch1 gene predisposes mice to developing IR-induced BCCs.** Grace Ying Wang, Eileen Libove, Danielle Tucker and Ervin Epstein. Oakland, CA.

117 **Slow-cycling cells in cutaneous T-cell lymphoma: A dynamic subpopulation with reduced chemosensitivity and increased tumorigenic potential.** Stefan M Schieke, Wasakorn Ten Kittipongdaja and Xuesong Wu. Milwaukee, WI.

118* **Evidence for reciprocal interaction between bone marrow and cutaneous epithelial cells.** Rebecca Jane Morris, Kelly Johnson, Kelsey Boland, Nyssa Readio, Heuijoon Park, Derek Gordon and Douglas Londono. Austin, MN and Piscataway, NJ.

Notes:

119 **The role of perlecan in the path to malignancy.** Kathleen Cook Suozzi, Giovanni Zito, Christine J. Ko, Don X Nyugen and Valentina Greco. New Haven, CT.

120* **Rolling the genetic dice: Neutral and deleterious SMO mutations in drug-resistant basal cell carcinoma.** Scott Atwood, Kavita Sarin, Jiang Li, Catherine Yao, Nicole M Urman, Anne Lynn Su Chang, Jean Y Tang and Anthony Oro. Stanford, CA.

121 **Identification of a role for CSL and PDCD4 interaction in control of fibroblast cell senescence and cancer-associated fibroblast activation.** Seunghee Jo, Yang Sui Brooks and Gian Paolo Dotto. Charlestown, MA.

122 **Loss of the autophagy repressor p8 in human dermal fibroblasts causes senescence and CAF activation.** Sandro Goruppi Goruppi, Gian Paolo Dotto. Charlestown, MA and Lausanne, Switzerland.

123* **Tumor-intrinsic PD-1 signaling promotes Merkel cell carcinoma growth.** Sonja Kleffel, Christian Posch, Stephen Fucaloro, Margot C Joubert, Manisha Thakuria, Thomas S. Kupper and Tobias Schatton. Boston, MA.

124* **Upregulation of pro-oncogenic Fbxw7 substrates in Merkel cell carcinoma** Monique Elise Verhaegen, Doris Mangelberger, Ehab Nazzal, Kristin Rybski, Jack Weick, Tracy Vozheiko, Dawn Wilbert and Andrzej Dlugosz. Ann Arbor, MI.

125 **Increased mutant p53 keratinocyte clonal expansion and intraepidermal levels of IL-22 and NOS2 in the presence of LC in chronically ultraviolet B (UVB) irradiated skin.** Christina Bürgler, Julia Lewis and Michael Girardi. New Haven, CT.

126 **Rapamycin alters the metabolic phenotype in human cutaneous T-cell lymphoma.** Wasakorn Ten Kittipongdaja, Xuesong Wu, Sam Hwang and Stefan M Schieke. Milwaukee, WI.

127 **Complement C5a regulates squamous carcinogenesis.** Terry R Medler, Alexandra M. Forsyth and Lisa M. Coussens. Portland, OR.

128* **A counter-intuitive role for caspase 3 in promoting genetic instability and skin carcinogenesis.** Xinjian Liu. Durham, NC.

129 **Downregulation of miR-215 enhances cancer cell migration and invasion in cutaneous squamous cell carcinoma.** Zelmira Lazarova, Edit B Olasz, Basia M Michalski, Nathan Duncan, Ashley M Schock, Jozef Lazar and Marcy Neuburg. Milwaukee, WI.

130 **Serum exosomes from metastatic basal cell carcinoma patients confer increased metabolic activity in cultured primary human fibroblasts.** Gefei Zhu, Travis Antes, Robert Spitale and Anne Lynn Su Chang. Redwood City, CA; Mountainview, CA and Irvine, CA.

131 **Mitochondrial DNA damage in Asian patients with non-melanoma skin cancer.** Byungho Oh, Zhenlong Zheng, Jimyung Seo and Keeyang Chung. Seoul, Korea (the Republic of).

132 **A new functional validation assay to measure resistance drivers in patient BCCs.** Ramon Whitson, Scott Atwood, Kavita Sarin, Jiang Li, Geurim Kim, Melika Rezaee, Mina Sarah Ally, Catherine Yao, Anne Lynn Su Chang, Jean Y Tang and Anthony Oro. Irvine, CA and Stanford, CA.

133 **NOTCH1 inhibition disrupts formation of stratified epithelium in organotypic cell culture models of the skin.** Lionel Brooks, Homayoun Moslehi, Lauren Alyssa Ing and Sarah Arron. San Francisco, CA.

134* **Mutation burden is associated with gender and survival in metastatic melanoma.** Sameer Gupta, Mykyta Artomov, William Goggins, Mark Daly and Hensin Tsao. Boston, MA and Shatin, Hong Kong.

135* **Lack of resistant SMO mutations and decreased mutational load of Gorlin-associated basal cell cancers explain marked response to smoothened inhibitors.** Kavita Sarin, Melika Rezaee, Prajakta Jaju, Anne Lynn Su Chang, Anthony Oro, Ervin Epstein and Jean Y Tang. Stanford, CA and Oakland, CA.

136 **Genome-stabilization by STAT1-induced cancer cell senescence.** Martin Röcken, Ellen Brenner, Heidi Braumüller, Thomas Wieder, Diana Gransheier and Jürgen Bauer. Tübingen, Germany.

137 **Rapamycin is a chemopreventive and chemotherapeutic agent for RAS-driven epidermal squamous cell carcinoma: Evidence from mouse models.** Christophe Cataisson, Hiroshi Kitagawa, Christine Hollander, Phillip A Dennis and Stuart H Yuspa. Bethesda, MD and Baltimore, MD.

138 **Whole genome sequencing reveals oncogenic mutations in mycosis fungoides .** Laura Young McGirt, Peilin Jia, Devin Baerenwald, Robert J Duszynski, John A Zic, Jeffrey Zwerner, Zhongming Zhao and Christine M Eischen. Charlotte, NC and Nashville, TN.

139 **Down-regulation of receptor type protein tyrosine phosphatase-kappa promotes squamous cell carcinoma.** Yiru Xu, Hanjun Yang, Yang Xu, Jin Zhou, Kristin Rybski, John J Voorhees and Gary J Fisher. Ann Arbor, MI.

140 **Cytokine-induced senescence in human cancer cells critically involves Ago2.** Martin Röcken, Heidi Braumüller, Jana Pahl, Thomas Wieder and Ellen Brenner. Tübingen, Germany.

141 **Planar cell polarity effector gene *INTU* mediates the formation of basal cell carcinoma through orchestrating ciliogenesis and Hedgehog signaling** Ning Yang, Chengbao Liu, Li Li, James E Fitzpatrick, Evan C Jones, David Norris, Aimin Liu, Richard August Clark, Dennis R Roop, Kenneth R Shroyer and Jiang Chen. Stony Brook, NY; Beijing, China; Aurora, CO and University Park, PA.

142 **Bmi-1 differentially regulates $p16^{ink4a}$ and $p19^{arf}$ in p63-overexpressing keratinocytes.** Wendy C Weinberg, Roshini Manel Ponnamperuma, Linan Ha, Devin Reilly and Steve Jay. Silver Spring, MD and Bethesda, MD.

143 **A subpopulation of epidermal squamous cell carcinoma stem cells drives formation of rapidly-growing and highly-vascularized aggressive tumors.** Richard Eckert, Gautam Adhikary, Dan Grun and Wen Xu. Baltimore, MD.

144 **Keratin-dependent regulation of autoimmune regulator (Aire) and gene expression in skin tumor keratinocytes.** Ryan Hobbs, Daryle DePianto, Justin Jacob, Minerva Han, Byung-Min Chung, Adriana Batazzi, SuFey Ong, Wenxin Zheng, Janis Marie Taube, Daniela Čiháková, Fengyi Wan and Pierre Coulombe. Baltimore, MD.

145* **Identification of the KNSTRN proteome by APEX2 targeting.** Carolyn Lee, Angela Mah, Christie Nguyen and Paul Khavari. Stanford, CA and Palo Alto, CA.

146 **Deficiency of soluble adenylyl cyclase facilitates carcinogenesis.** Jonathan Hale Zippin, Lavo Ramos, Ana Diaz, Charlée Audrey Nardin, Fiona M Shaw, Taha Merghoub, Jedd Wolchok, Costas Lyssiotis, Lewis C Cantley, Lonny Levin and Jochen Buck. New York, NY.

147 **Non-migratory Candida albicans-specific CD4 T_{RM} that produce abundant IL-17 are generated after cutaneous C. albicans infection.** Thomas S. Kupper, Chang Ook Park, Ryan O Emerson, Xiaodong Jiang, Tian Tian, John Thomas OMalley, Rachael Clark and Robert C. Fuhlbrigge. Boston, MA and Seattle, WA.

148 **Dysregulation of soluble adenylyl cycase leads to melanocyte transformation.** Charlée Audrey Nardin, Michelle Park, Antonella Bacchiocchi, Ruth Halaban and Jonathan Hale Zippin. Besançon, France; New York, NY and New Haven, CT.

149 **Triazole antifungal agents promote UV-DNA damage by increasing oxidative stress.** Michael Gober, Hasan Bashir, Andrew Huang, JiLon Li, C Marshall, Vivian Lee, Todd William Ridky and John Seykora. Philadelphia, PA.

Notes:

150 **Combinatorial targeting of Akt1 and SMO synergistically suppresses the growth of UV-induced BCCs in a murine model of basal cell nevus syndrome.** Arianna Kim, Yucui Zhu, Nathan P Yardley, Mohammad Athar and David R Bickers. New York, NY and Birmingham, AL.

151 **Response to MAL-based PDT in primary fibroblasts isolated from Xeroderma Pigmentosum (XP) and Gorlin Syndrome (GS) patients.** Angeles Juarranz, Alicia Zamarrón, Silvia Lucena, Salvador Gonzalez, Yolanda Gilaberte, Marcela Del Rio and Fernando Larcher. Madrid, Spain and Huesca, Spain.

152 **The role of the hemidesmosomal protein BP180 in melanoma progression *in vivo*.** Bin-Jin Hwang, Zhen Liu, Jaime Brozowski, Lin Lin, Ning Li, Maureen Su, Nancy E Thomas, Luis A. Diaz and Zhi Liu. Chapel Hill, NC.

153 **Comparative evaluation of gene expression induced by RAS oncogenic alleles in mouse and human keratinocytes.** Luowei Li, Christophe Cataisson, Brttany Flowers, Aleksandra Michalowski and Stuart H Yuspa. Bethesda, MD.

154 **Inhibition of the IGF-1R sensitizes human skin to UVB-induced alterations consistent with actinic keratosis.** Dan F Spandau, Sunil S. Tholpady, Jonathan Weyerbacher, David H. Southern, Mathew Loesch and Jeffrey B. Travers. Indianapolis, IN.

155* **Epidermal differentiation protects against Hedgehog pathway-driven tumorigenesis.** M Grachtchouk, KL Harms, A Ermilov, K Pais, A Photenhauer, D Wilbert, D Metzger, P Chambon and Andrzej Dlugosz. Ann Arbor, MI and Illkirch, France.

156 **Epigenomic dysregulation leads to the aberrant expression program of cellular senescence .** Brian C Capell, Adam Drake, Greg Donahue, Jean Dorsey, Parisha P Shah, Zhixun Dou, Jiajun Zhu, Jeffery Pawlikowski, Taranjit Singh Rai, Christopher Natale, Todd William Ridky, Peter D Adams and Shelley L Berger. Philadelphia, PA and Glasgow, United Kingdom.

157 **Srcasm null mice develop UV-induced precancerous lesions.** John Seykora, X Yang, S Shankar, K Tsukamoto, Michael Gober, C Marshall, L Wang and T Dentchev. Philadelphia, PA.

Clinical Research (Observations, Pathophysiology & Outcomes)

All orals [designated with an asterisk (*)] listed below are presented in the Clinical Research (Observations, Pathophysiology & Outcomes) Minisymposium on Friday, May 8, 2015, from 2:00-5:00 pm in Salon D, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

158 **Sun protection education delivered by tablet personal computers: Effective with kidney transplant recipients with inadequate health literacy.** June K Robinson, Mary Kwasny, John Friedewald, Amishi Desai and Elisa J. Gordon. Chicago, IL.

159 **Living with atopic dermatitis: Patient priorities and needs expressed in social media fora.** Korey L. Capozza. Salt Lake City, UT.

160 **Photoaging in African-American skin: A reliable photonumeric scale reveals age, male gender, and sun exposure as contributory factors.** Anna L. Chien, Ji Qi, Radhika Grandhi, Tamia Harris-Tryon, Diane M Kuhn, Min Soo Jang, Noori Kim, Sherry Leung, Jessica Esandrio, Barbara Rainer, Flora Poon, Nancy Cheng, Ginette A Hinds and Sewon Kang. Baltimore, MD.

161 **Interferon-gamma treatment for children with recurrent eczema herpeticum: a retrospective review.** Kavita Darji, Elaine Siegfried. St. Louis, MO.

162 **Levamisole-laced cocaine induced vasculitis.** Rachel Kapelow. Coolidge, Antigua and Barbuda.

163 **Different effect of oral cyclosporin therapy and oral anti-histaminergic therapy to serum high sensitivity-C reactive protein level and thymus and activation regulated chemokine level in patients with adulthood atopic dermatitis.** Tsutomu Ohtsuka. Nasushiobara, Japan.

164 **Retrospective study comparing outcomes among patients receiving rituximab vs conventional adjuvant therapy for pemphigus vulgaris.** Ashwin Agarwal, Russell P Hall and Adela Cardones. Durham, NC.

165* **Early pediatric atopic dermatitis shows only a CLA^+ Th2/Th1 imbalance, while adults acquire CLA^+ Th22 activation.** Hitokazu Esaki, Tali Czarnowicki, Juana Gonzalez, Dana Malajian, Sreya Talasila, Adam Berry, Jayla Gray, Shinji Noda, James G Krueger, Amy S. Paller and Emma Guttman-Yassky. New York, NY and Chicago, IL.

166 **Immune function in children with severe inflammatory skin disease: A retrospective analysis.** Stephanie Frisch, Elaine Siegfried. Peoria, IL and Saint Louis, MO.

167 **Validating the burden of disease in atopic eczema (BODE) tool as an instrument for measuring patient-reported quality of life in atopic dermatitis.** Annie Wang, Julia Ding and Abrar A. Qureshi. Providence, RI.

168 **Oral sirolimus improves tuberous sclerosis complex skin tumors without evidence of resistance.** Neera Nathan, Ji-an Wang, Shaowei Li, Edward West Cowen, Mary Haughey, Joel Moss and Thomas N Darling. Bethesda, MD.

169 **Dupilumab suppression of Th2 biomarkers correlates with reduction in transepidermal water loss (TEWL) and clinical improvements in adults with moderate-to-severe atopic dermatitis (AD).** Jennifer Hamilton, Sara Hamon, Usman Chaudhry, Eric L Simpson, Brian Swanson, Ming Liu, Haobo Ren, Neil Graham, Gianluca Pirozzi and Marius Ardeleanu. Tarrytown, NY; Portland, OR; Bridgewater, NJ and Basking Ridge, NJ.

170 **Time-resolved laser induced fluorescence spectroscopy for the diagnosis of oral lichen planus.** Parastoo Davari, Dimitris Gorpas, Julien Bec, Dinglong Ma, Gregory Farwell, Laura Marcu and Nasim Fazel. Davis, CA and Sacramento, CA.

171 **Characteristics of patients with pseudocellulitis admitted to the hospital.** Adam Raff, Qing Yu Weng, Priyanka Vedak, Daniela Kroshinsky and Arash Mostaghimi. Boston, MA.

172 **Intravenous immunoglobulin for treatment of dermatomyositis-associated calcinosis.** Fabrizio Galimberti, Anthony P Fernandez. Cleveland, OH.

173* **Identification of two salivary proteins associated with early-stage oral chronic graft-versus-host disease.** Richard Presland, Wedad Alshehri, Melody Missaghi, Mark Schubert and Michele Lloid. Seattle, WA.

174 **Combined treatment with arsenic trioxide and itraconazole inhibits the hedgehog pathway in patients with refractory metastatic basal cell carcinoma: results from a pilot trial.** Katherine J. Ransohoff, Mina Sarah Ally, Kavita Sarin, Scott Atwood, Melika Rezaee, Irene Bailey, Phillip Beachy, Anne Lynn Su Chang, Anthony Oro, Dimitrios Colevas and Jean Y Tang. Stanford, CA.

175* **Throat infections can cause substantial aggravation of chronic plaque psoriasis.** Ragna Hlin Thorleifsdottir, Jenna Huld Eysteinsdottir, John H Olafsson, M I Sigurdsson, Andrew Johnston, Helgi Valdimarsson and Baldur Sigurgeirsson. Uppsala, Sweden; Reykjavik, Iceland and Ann Arbor, MI.

Notes:

176 **Angiogenesis in lupus vulgaris and tuberculosis verrucosa cutis lesions of cutaneous tuberculosis .** Jack Leonard Arbiser, Sulochana Bhandarkar, Padmavathy Lanka, Lakshmana Rao Lanka, Michael Bonner and Jamie Mackelfresh. Atlanta, GA and Karaikal, India.

177* **Decreased IL-21 expression in skin and blood contributes to progression of mycosis fungoides.** Miyoko Kabasawa, Makoto Sugaya, Tomonori Oka, Naomi Takahashi, Makiko Kawaguchi, Hiraku Suga, Tomomitsu Miyagaki, HIdeki Fujita, Yoshihide Asano, Yayoi Tada, Takafumi Kadono and Shinichi Sato. Tokyo, Japan.

178 **History of severe sunburns on different body sites and risk of skin cancers in women and men: Two prospective cohort studies.** Shaowei Wu, Eunyoung Cho, Wen-Qing Li, Martin A Weinstock and Abrar A. Qureshi. Providence, RI.

179 **CD4+ histiocytosis in patients on statins for dyslipidemia mimics early mycosis fungoides.** Chee Won Oh, Carlos Torre-Cabala and Madeleine Duvic. Houston, TX.

180* **Emollient therapy alters skin barrier and microbes in infants at risk for developing atopic dermatitis.** Heidi H Kong, Martin Glatz, Eric C Polley and Eric L Simpson. Bethesda, MD and Portland, OR.

181 **Skin mapping for classification of morphea.** Heidi Jacobe, Noelle Teske. Dallas, TX.

182 **A 6-year retrospective analysis of treatment patterns and outcomes of epidermal superficial non melanoma skin cancer at an academic dermatologic surgery center.** Ben Drew, Pritesh Karia, Ariana Mora, Christine Liang and Chrys Schmults. Boston, MA.

183 **Non-invasive imaging technologies for the delineation of basal cell carcinomas.** Syril Keena Que. Farmington, CT.

184 **Disease manifestations in patients with subacute cutaneous lupus erythematosus who meet criteria for systemic lupus.** Janice Tiao, Victoria Werth. Philadelphia, PA.

185 **Topical application of RTA 408 lotion activates Nrf2 in human skin and is well-tolerated by healthy human volunteers.** Scott A Reisman, Chun-Yue I. Lee, Colin J Meyer, Joel Proksch and Keith Ward. Irving, TX.

186 **Quality of life in discoid lupus patients.** Noelle Teske, Zachary E Cardon, Xilong Li, Beverley Huet-Adams and Benjamin Franklin Chong. Dallas, TX.

187 **The cerebral mechanism of scratching and its pleasurability in chronic itch.** Hideki Mochizuki, Alexandru D.P. Papoiu, Leigh A Nattkemper, Andrew Lin, Robert Kraft, Robert Coghill and Gil Yosipovitch. Philadelphia, PA and Winston-Salem, NC.

188 **VEGF-A and PlGF are involved in progression of cutaneous T-cell lymphoma.** Tomomitsu Miyagaki, Makoto Sugaya, Tomonori Oka, Naomi Takahashi, Makiko Kawaguchi, Hiraku Suga, HIdeki Fujita and Shinichi Sato. Tokyo, Japan.

189 **Clinical and microbiological healing of onychomycosis after three sessions of 40% urea plus methyl-aminolevulinate-photodynamic therapy (PDT) versus 40% urea plus placebo-PDT: A multicenter, randomized, controlled, phase 3 clinical trial.** Yolanda Gilaberte, Pilar Robres, Carmen Aspiroz, Maria Pilar Frias, Jesus Vera-Alvarez, Ignacio Garcia-Doval and Antonio Rezusta. Huesca, Spain; Zaragoza, Spain and Madrid, Spain.

190* **Comparisons between ultraviolet B radiation and oral vitamin D supplementation for the treatment of vitamin D deficiency.** Dong Joo Kim, Jaehwan Kim, Jamie Lynn Harden, Mary Sullivan-Whalen, Patricia Gilleaudeau, Joel M Corrêa da Rosa, Mayte Suarez-Farinas, Jan Breslow, James G Krueger, Michelle Lowes and Manish Ponda. New York, NY; Stony Brook, NY and Bronx, NY.

191 **Granuloma annulare in patients with cutaneous B-cell lymphoma .** Jessica Makanalani Donigan, Joi B. Carter. Boston, MA.

192 **High-throughput sequencing of T cell receptors (TCRs) in human skin shows a polyclonal T cell response to diphencyprone (DPCP).** Nicholas Gulati, David Hamm, Jamie Lynn Harden and James G Krueger. New York, NY and Seattle, WA.

193** **The microbiome of patients with atopic dermatitis has deficient antimicrobial function.** Teruaki Nakatsuji, Tissa Hata, Aimee Two, Kimberly Chun, Paul Kotol, Amina Bouslimani, Haythem Latif, Alexandre Lockhart, Keli Artis, Gloria David, Patricia Taylor, Joanne Strieb, Peter Dorrestein, Karsten Zengler, Donald Leung and Richard L Gallo. San Diego, CA; Chapel Hill, NC and Denver, CO.

194 **Pembrolizumab treatment: Cutaneous adverse events and correlation with disease progression .** Igor Vujic, Martina Sanlorenzo, Marin Vujic, Adil Daud, Alain Algazi, Matthew Gubens, Sara Alcantara Luna, Kevin Lin, Pietro Quaglino, Klemens Rappersberger and Susana Ortiz-Urda. San Francisco, CA; Vienna, Austria and Turin, Italy.

195 **Skin histopathology from patients with X-linked recessive ichthyosis and autosomal recessive congenital ichthyosis with transglutaminase 1 mutation.** Catherine Yang, Hyemin Pomerantz, Jessica Corwin, Martin A Weinstock, Philip Fleckman, John J DiGiovanna and Leslie Robinson-Bostom. Providence, RI; Vacaville, CA; Seattle, WA and Bethesda, MD.

196 **Improved survival among Merkel cell carcinoma patients with either an unknown primary lesion or viral oncoprotein antibodies.** Christopher Wallace Lewis, Natalie Vandeven, Kelly G Paulson and Paul Nghiem. Seattle, WA.

197 **Specific quality of life questionnaires for the evaluation of cosmetic products: an essential tool.** Caroline Baudouin, Clarence de Belilovsky, Nadège Lachmann and Bernard Chadoutaud. Paris, France; Epernon, France and Toulouse, France.

198 **Ethnic comparison study to understand spreading mechanism of psoriasis.** Jaehwan Kim, Chil-Hwan Oh, Jiehyun Jeon, Yoosang Baek, Jaewoo Ahn, Dong Joo Kim, Joel M Corrêa da Rosa, Mayte Suarez-Farinas, Michelle Lowes and James G Krueger. New York, NY; Seoul, Korea (the Republic of); Stony Brook, NY and Bronx, NY.

199* **Non-melanoma skin cancers are associated with blood expansion of DC-HIL^{+} myeloid-derived suppressor cells (MDSC).** Andrew P Word, Jin-Sung Chung, Travis Vandergriff, David B Harker, Kiyoshi Ariizumi and Ponciano D Cruz. Dallas, TX.

200 **Epidermolysis bullosa acquisita (EBA) mimicking dystrophic epidermolysis bullosa (EB): Importance of interrogation of potential splice site.** Evelyn Lilly, Keith A. Choate and Mary Tomayko. New Haven, CT.

201 **Improved survival in metastatic melanoma is associated with immune genes expressed at the site of disease.** Ricardo Dante Lardone, Seema B Plaisier, Peter A Sieling and Delphine J Lee. Santa Monica, CA.

202 **The incidence of herpes zoster in cutaneous lupus erythematosus (CLE), dermatomyositis (DM), pemphigus vulgaris (PV) and bullous pemphigoid (BP) .** Elizabeth S Robinson, Aimee Sue Payne, Lisa Pappas-Taffer, Rui Feng, Joyce Okawa and Victoria Werth. Phila, PA.

203* **Psoriasis area severity index score positively associates with vascular inflammation by FDG PET/CT.** Haley B Naik, Balaji Natarajan, Taufiq Salahuddin, Qimin Ng, Julia Doveikis, Martin Playford, Benjamin Lockshin, Mariana Kaplan, Joel Gelfand and Nehal N. Mehta. Bethesda, MD; Silver Spring, MD and Philadelphia, PA.

204 **DERMO; An ontology for the description of dermatologic disease.** John Paul Sundberg, Hannah M Fisher, Robert Hoehndorf, Soheil S Dadras, Lloyd E King, Georgios V Gkoutos and Paul N Schofield. Cambridge, United Kingdom; Thuwal, Saudi Arabia; Farmington, CT; Nashville, TN; Aberyswyth, United Kingdom and Bar Harbor, ME.

Notes:

205 **Augmented cowhage-induced itch and altered papillary dermal peptidgeric innervation in uremic pruritus.** Tiankai Du, Jasvinder Bhatia and Deon Wolpowitz. Boston, MA.

206* **Detection of IFN-α response induced by infiltrated plasmacytoid dendritic cells and keratinocytes via LL37 in the lesional skin of DIHS/DRESS.** Pawinee Rerknimitr, Saeko Nakajima, Akihiko Kitoh, Yoshiki Miyachi and Kenji Kabashima. Kyoto, Japan and Bangkok, Thailand.

207 **Improving pediatric acne management: A prospective multicenter study of case-based guideline education.** Stephanie Feldstein, Maryam Afshar, Andrew Krakowski and Lawrence F. Eichenfield. San Diego, CA.

208 **Circulating central memory T cells might be precursor of tissue resident memory T cells (T_{RM}) in psoriasis.** Emi Nishida, Saori Kasuya, Shinnosuke Muramatsu and Akimichi Morita. Nagoya, Japan.

209 **Two dimensional imaging of basal cell carcinoma using desorption electrospray ionization mass spectrometry (DESI-MS).** Albert S Chiou, Livia S Eberlin, Ivette Planell-Mendez, Katherine J. Ransohoff, Jean Y Tang, Sumaira Z Aasi and Richard N Zare. Stanford, CA.

210 **Photodynamic therapy using a white-light LED source is as effective and well-tolerated as daylight photodynamic therapy for the treatment of actinic keratoses, a randomised, single-blinded, prospective study.** Susan M O'Gorman, Julianne Clowry, MIchael Manley, Jackie McCavana, Linda Gray, Ann Kavanagh, Aoife Lally and Paul Collins. Dublin, Ireland.

211* **The association between aspirin and NSAIDs with the risk of psoriasis in a population-based cohort.** Brandon Cohen, Kathryn J. Martires and Roger Ho. New York, NY.

212 **The effects of antibiotic use on *Staphylococcus aureus* carriage rates and resistance patterns in patients with acne vulgaris in a dermatology setting.** Maria Ermenia Delost, Gregory Raymond Delost, James A Armile, Nancy Carty, Christopher C Keller and Jenifer Rae Lloyd. Youngstown, OH; Erie, PA and Cleveland, OH.

213 **Bleach baths significantly reduce itch and severity of atopic dermatitis with no significant change in *S. aureus* colonization and only modest effects on skin barrier function.** Nelissa Perez-Nazario, Takeshi Yoshida, Sade Fridy, Anna De Benedetto and Lisa A Beck. Rochester, NY.

214 **Does nutrition affect psoriasis severity?** Sarah Churton, Hope Barkoukis, Sarah Debanne, Thomas McCormick, Kevin D Cooper and Neil Korman. Cleveland, OH.

215 **Disease–specific changes in skin bacteriome and mycobiome in Atopic Dermatitis (AD) patients.** Pranab K Mukherjee, Jyotsna Chandra, Margaret Hammond, Mauricio Retuerto, Mahmoud Ghannoum and Susan Nedorost. Cleveland, OH.

216 **Serum interleukin-6 levels in response to biologic treatment in patients with psoriasis.** Shinnosuke Muramatsu, Emi Nishida, Ryoji Kubo, Yoichi Shintani and Akimichi Morita. Nagoya, Japan.

217 **Beneficial effects of blood group antigen synthesis-increasing molecules on skin moisture and recovery of transepidermal water loss .** Sung Soo Kim, Seon-PIL Jin, Jang-Hee Oh, Min Kyeong Shin, Se-Rah Lee, Dong Hun Lee, Mira Choi, Soyun Cho and Jin-Ho Chung. Seoul, Korea (the Republic of).

218 **Anti-desmocollin IgG reactivity appears early in pemphigus vulgaris and is associated with milder disease.** S Geller, T Schmidt, R Eming, T Zeeli, O Sarig, M Hertl and Eli Sprecher. Tel Aviv, Israel and Marburg, Germany.

219** **Characterization of lipoprotein composition and function in pediatric psoriasis reveals a more atherogenic profile.** Wynnis Tom, Lawrence F. Eichenfield, Martin Playford, Shehla Admani, Balaji Natarajan and Nehal N. Mehta. San Diego, CA and Bethesda, MD.

220 **The change in serum concentration of S100A7 correlated to the change in PASI score during the treatment with adalimumab.** Akimasa Adachi, Mayumi Komine, Nobuki Maki, Masaru Karakawa, Satoru Murata and Mamitaro Ohtsuki. Shimotsuke, Japan.

221 **Predominance of inflammatory and immune regulatory proteins in lesional skin – Insights into hidradenitis suppurativa pathology.** Matt Devalaraja, Hitesh Sanganee, Sally Price, Sanna Eketjall, Chris Morehouse, Chris Ward, Lorraine Webber, Susanna Korolevich, Brandon Higgs, Kim Lehmann, Zsofia Berke and Errol Prens. Alderley Park, United Kingdom; Gaithersburg, MD and Rotterdam, Netherlands.

222 **Utility of T-cell receptor Vβ chain restriction and consideration for changes in B_1 staging in the assessment of blood involvement in CTCL.** Juliet F Gibson, Jing Huang, Kristina Liu, Kacie Carlson, Jaehyuk Choi, Richard Edelson and Michael Girardi. New Haven, CT.

223 **Photodynamic therapy for benign neurofibromas.** Edit B Olasz, Ashley M Schock, Nathan Duncan, Zelmira Lazarova, Suresh Kumar, Brendan Quirk and Harry Whelan. Milwaukee, WI.

224 **Relationship of the sun protection factor and the active ingredients in commercial sunscreens.** Manuel Gutiérrez, Elsa Arenas, Nayeli Vázquez, Benjamin Moncada, Guillermo Toriz and Javier González. San Luis Potosí, Mexico and Guadalajara, Mexico.

225 **TCR sequencing provides superior diagnosis, staging and clinical assessment of patients with cutaneous T cell lymphoma.** John Thomas OMalley, Ilan Kirsch, Rei Watanabe, David Williamson, Laura Campbell, Chris Elco, Jessica Emberley Teague, Ahmed Gehad, Elizabeth Lowry, James G Krueger, Harlan Robins, Thomas S. Kupper and Rachael Clark. Boston, MA; New York, NY and Seattle, WA.

226 **Evaluation of diagnostic agreement among United States board-certified dermatologists viewing images transmitted from Tanzania using a smartphone-based store-and-forward teledermatology service.** Richard David Granstein, Sarah Jane Coates. New York, NY.

227 **Neutrophil and lymphocyte-mediated skin disease despite profound leukopenia.** Sherrie J. Divito, George A. Romar, Leigh A. Compton and Thomas S. Kupper. Boston, MA.

228 **Validation of the Epidermolysis Bullosa Disease Activity and Scarring Index: Characterising disease severity and responsiveness to clinical change in epidermolysis bullosa.** Swaranjali Vijaya Jain, Adam G Harris, Clement CH Loh, Jaehwan Kim, John S Su, David Orchard, Lachlan J Warren, Hamish McManus and Dedee F Murrell. Sydney, Australia; Melbourne, Australia and Adelaide, Australia.

229 **A cost-effective combinational and antioxidant therapy in veteran psoriasis patients.** Chen Ning Young, Gregory Messenger, Chelsea Duggan, Tazeen Abbas, Wasim Nasir, Christofer Hatzis and Leonard Savoy. Detroit, MI.

230 **Laboratory work up for primary thrombophilia should be extensive.** Benjamin Moncada, Guillermo J Ruiz-Arguelles, Camilo Martinez and Elsa Arenas. Puebla, Mexico and San Luis Potosi, Mexico.

231 **Chronologic aging in African-American skin: A reliable photonumeric scale reveals age and body mass index as contributory factors.** Tamia Harris-Tryon, Anna L. Chien, Ji Qi, Radhika Grandhi, Diane M Kuhn, Min Soo Jang, Noori Kim, Omolara Olowoyeye, Sherry Leung, Jessica Esandrio, Barbara Rainer, Flora Poon, Nancy Cheng, Ginette A Hinds and Sewon Kang. Baltimore, MD.

232 **Identifying risk factors for digital ulcers in patients with systemic sclerosis: A retrospective, case-control study in a tertiary care academic medical center.** Sarah Kam, Justin Besen, Christina Lam and Michael Lichtman. Boston, MA.

Notes:

233 **The utility of laser thermometry in the evaluation of plaque psoriasis.** Vanessa Pascoe, Jessica Makanalani Donigan and Alexa B. Kimball. Boston, MA.

234 **Geographically adjusted tool to estimate self-reported cumulative ultraviolet exposure and associated skin cancer risk.** Inbar Raber, Gefei Zhu, Shufeng Li, Sukolsak Sakshuwong, Angela Li, Caroline Z Tan and Anne Lynn Su Chang. Redwood City, CA.

235 **Clinical characteristics, disease associations, and treatment of subacute cutaneous lupus erythematosus.** Albert Gutierrez, David A. Wetter. Scottsdale, AZ and Rochester, MN.

236 **The efficacy of meditation for treatment of chronic pruritus: A pilot trial.** Mamta Jhaveri, Suephy C. Chen. Atlanta, GA.

237* **Characterizing subsequent malignancies after mycosis fungoides.** Kathryn J Martires, Roger Ho and Jo-Ann Latkowski. New York, NY.

238 **Subcutaneous abatacept in the treatment of moderate to severe alopecia areata.** Nhan M Nguyen, Julian Mackay-Wiggan, Charlotte Clark, Ali Jabbari, Grace Ulerio, Megan Furniss, Raphael Clynes and Angela Christiano. New York, NY.

239 **Treatment of angiolymphoid hyperplasia with eosinophilia: A systematic review.** Brandon Adler, Aimee Krausz, Jonathan Silverberg and Hadar Lev-Tov. Bronx, NY and Chicago, IL.

240 **Patients with sorafenib induced drug eruptions can be successfully re-challenged.** Dominique Pichard, Adela Cardones, Emily Chu and Heidi H Kong. Bethesda, MD; Durham, NC and Philadelphia, PA.

241 **Blood levels of neuron specific enolase, chromogranin A, and circulating tumor cells as Merkel cell carcinoma biomarkers.** Isaac Brownell, Maria R Gaiser and Kenneth Daily. Bethesda, MD and Heidelberg, Germany.

242 **Progressive necrobiosis lipoidica of the bilateral breasts successfully treated with systemic corticosteroids, methotrexate, and pentoxifylline.** Mital Patel, Natalie Ann Wright, Daniel R Mazori, Vinod Easwaran Nambudiri, Alisa Nicole Femia and Ruth Ann Vleugels. Boston, MA and New York, NY.

243 **Should granuloma faciale and erythema elevatum diutinum be classified in the IgG4-related disease spectrum? Histopathologic and immunophenotypic appraisal of 32 cases.** Sima Kavand, Julia Lehman and Lawrence Gibson. Evanston, IL and Rochester, MN.

244* **Assessment of the genetic basis of rosacea by genome-wide association study.** Anne Lynn Su Chang, Inbar Raber, Jin Xu, Rui Li, Robert Spitale, Julia Chen, Amy Kiefer, Chao Tian, Nicholas Eriksson, David Hinds and Joyce Tung. Redwood City, CA; Irvine, CA and Mountainview, CA.

245 **Characteristics of ocular melanoma at University Hospitals Case Medical Center: 1996-2013.** Ritva Vyas, Erica Gotow, Adam Gerstenblith, Kord Honda, Kevin D Cooper and Meg Rebecca Gerstenblith. Hagerstown, MD; Cleveland Heights, OH and Cleveland, OH.

246 **Quality of life is equivalent between atopic dermatitis patients managed through a direct-access online model compared to in-office care: A randomized controlled trial.** April W. Armstrong, Mary Ann Johnson, Steven Lin, Caitlin Clark, Aleksandra G. Florek and Fu-Tong Liu. Aurora, CO and Sacramento, CA.

247 **Ultraviolet light (UVB) alteration of epidermal nerve fibers (ENFs) and neuropeptides: A possible mechanism for the efficacy of light therapy in pruritic patients.** Aaron Tyler Follansbee, Ioanna G. Panoutsopoulou, Gwen Wendelschafer-Crabb, William R. Kennedy, Elisabeth Hurliman, Maria Hordinsky, George L. Wilcox and Elhabib Benlhabib. Minneapolis, MN.

248 ***TRAF3IP2* D10N limits IL-17-induced expression of *TNFAIP3* and *NFKBIZ* in psoriasis: Regulating the regulators?** Sylviane Lambert, Stefan W Stoll, Lam C. Tsoi, Rajan P Nair and James T Elder. Ann Arbor, MI.

249 **Thermal transport characteristics of human skin measured *in vivo* using ultrathin conformal arrays of thermal sensors and actuators.** R. Chad Webb, Rafal Pielak, Philippe Bastien, juha Nittynen, Jonas Kurniawan, Megan Manco, Athena Lin, Nam Heon Cho, Viktor Malyrchuk, Guive Balooch and John Rogers. Urbana, IL; San Francisco, CA; Aulnay sous Bois, France; Tampere, Finland and Clark, NJ.

250 **Likelihood of undergoing routine skin checks and use of skin cancer information are influenced by family history of skin cancer but not other risk factors for skin cancer.** Diane M Kuhn, Sabrina Alessi Cesar, Radhika Grandhi, Timothy Wang, Sewon Kang and Anna L. Chien. Baltimore, MD.

251 **Novel imaging techniques for quantifying cutaneous sclerosis.** Adela Cardones, Seung Yun Lee, Joanna Hooten, Lionel Banez, Ashwin Agarwal, Russell P Hall, Keith Sullivan and Mark Palmeri. Durham, NC.

252 **Identifying the allergic march related proteins in post-adolescent allergic march patients using proteomic analysis.** Jung U Shin, Ji Yeon Noh, SeoHyeong KIM, Shan Jin, Hemin Lee, Jungsoo Lee, Chang Ook Park, Howard Chu, Ju Hee Lee and Kwang Hoon Lee. Seoul, Korea (the Republic of).

253 **The percentage of dermal elastin protein correlates with age and Fitzpatrick skin type rather than skin elasticity.** Tiffany C. Florence, Hanh Pham, Barry Reece, David Gan, Geetha Kalahasti and Michelle D Hines. Dallas, TX and Irving, TX.

254 **Disruption and disorganization of type I collagen fibrils in early striae gravidarum.** Frank Wang, Ken Calderone, Timothy RB Johnson, Gary J Fisher and John J Voorhees. Ann Arbor, MI.

255 **Epicutaneous sensitization to peanuts and other food allergens by patch testing promotes Th2 polarization with increased IL-33.** Benjamin Ungar, Tali Czarnowicki, Joel M Corrêa da Rosa, James G Krueger and Emma Guttman-Yassky. New York, NY.

256 **Detection of the Merkel cell polyomavirus in human Merkel cell carcinomas and the clinical implications of tumor viral status.** Ryan Doumani, Ata S Moshiri, Lola Yelistratova, Oliver Chang, Martha Delaney, Meei-Li Huang, Susan McArdle, Paul Nghiem and Astrid Blom. Seattle, WA.

257 **Unique cutaneous reaction to second- and third-generation tyrosine kinase inhibitors for chronic myeloid leukemia.** Anisha Patel, Alvin Solomon, Michael Mauro and Benjamin D Ehst. Houston, TX; Portland, OR and New York, NY.

258 **Ustekinumab treatment of psoriatics infected with hepatitis B and/or hepatitis C virus.** Benjamin D Ehst, Sarah Siegel, Scott Naugler and Kevin Winthrop. Portland, OR.

259 **Clinical features of PRP from patient and provider perspectives: An epidemiologic cross-sectional study of 100 PRP cases.** Nicholas A Ross, Hye Jin Chung, Matthew S Keller, J. Andrews, Q. Li and Jouni Uitto. Philadelphia, PA.

260 **Hashimoto's thyroiditis associated with psoriasis: A cross-sectional study .** Alba Posligua, Tinatin Kiguradze, Finola Bruins, Tanya Bhattacharya, Alfred Rademaker, Ahmad S Amin, Anne Elizabeth Laumann, Steven M Belknap, Dennis P West and Beatrice Nardone. Chicago, IL.

261 **Forward-looking infrared imaging predicts ultimate burn depth in a porcine vertical injury progression model.** Joseph Anthony Miccio, Shruti Parikh, Xavier Marinaro, Atulya Prasad, Cheng Qian, Steven McClain, Adam Singer and Richard August Clark. Stony Brook, NY and Ithaca, NY.

262 **Host T cells survive conditioning in skin and are present during acute GVHD.** Sherrie J. Divito, Chris Elco, Thomas S. Kupper and Zihao Yan. Boston, MA.

Notes:

263* **Shared inflammatory signatures between atherosclerotic plaques and psoriasis skin.** Johann Eli Gudjonsson, William R Swindell, Andrew Johnston, Santhi Ganesh, Katherine Gallagher, Nicole L Ward, Xianying Xing, Mrinal Kumar Sarkar, Rajan P Nair and James T Elder. Ann Arbor, MI and Cleveland, OH.

264 **Characterization of gene expression biomarker signatures in cross-sectional and longitudinal studies for use as an Alopecia Areata Disease Activity Index (ALADIN).** Jane E Cerise, Ali Jabbari, Madeleine Duvic, Maria Hordinsky, David Norris, Vera H Price, Julian Mackay-Wiggan, Raphael Clynes and Angela Christiano. New York, NY; Houston, TX; Minneapolis, MN; Denver, CO and San Francisco, CA.

265 **Hyaluronan synthase 2 antisense transcript level associates with human skin youthfulness as identified by transcriptome sequencing.** Jin Xu, Ryan A Flynn, Robert Spitale, Eduardo Torre, Rui Li, Dale G Kern, Helen Knaggs, Howard Chang and Anne Lynn Su Chang. Stanford, CA; Irvine, CA and Provo, UT.

266 **Aberrant fibroblast differentiation towards cartilage and bone underlies human keloids.** Judilyn B Fuentes-Duculan, Kathleen M Bonifacio, Michael H Tirgan, Mayte Suarez-Farinas and James G Krueger. New York, NY.

267 **The impact of chocolate consumption on acne vulgaris .** Jenifer Rae Lloyd, Gregory Raymond Delost, Jacqueline Selph, Maria Ermenia Delost and Rachael J Pohle-Krauza. Cleveland, OH; Erie, PA and Youngstown, OH.

268 **Genital metastasis from a primary colorectal cancer: Case report.** Karla Imelda Martínez-Rosales, Benjamin Moncada. San Luis Potosi, Mexico.

269 **Neural contribution to augmented protease-dependent pruritus in seborrheic dermatitis scalp skin.** Deon Wolpowitz, Salma Goummih, Tiankai Du, Tara Conniff, Avner Bar-Hen, Jessica Langer, Odette Jammayrac, Roland Jourdain and Lionel Breton. Boston, MA; Paris, France; Clark, NJ and Aulnay sous Bois, France.

270 **University tort liability for allowing college debit card purchasing of indoor UV tanning.** Konstantin Grigoryan, Arthur Best and Robert Dellavalle. Cincinnati, OH and Denver, CO.

271 **Successful treatment of palmoplantar pustulosis with adalimumab.** Rudolf E. Schopf, Erato Beis. Mainz, Germany.

272 **Oral ruxolitinib induces hair regrowth in moderate to severe alopecia areata.** Julian Mackay-Wiggan, Nhan M Nguyen, Charlotte Clark, Ali Jabbari, Grace Ulerio, Megan Furniss, Raphael Clynes and Angela Christiano. New York, NY.

273 **A meta-analysis of laboratory monitoring during treatment with isotretinoin.** Thomas P. Scharnitz, Joslyn Kirby and Young S. Lee. Hershey, PA.

274 **Detection of PTCH1 in human vulvar basal cell carcinomas via *in-situ* hybridization: Implications for targeted molecular therapy.** Hoseong Steven Yang, Gunsik Cho, Sewon Kang and Janis Marie Taube. Baltimore, MD.

275 **Atopic dermatitis in children: Relationship with phosphocalcic metabolism, weight and lipids.** Yolanda Gilaberte, Pedro Agón, Rosalía Sanmartín, Angela Hernández-Martin, Roberto Alijarde, Carlos Pardos, Jose Puzo and Ana J García-Malinis. Jaca, Spain; Huesca, Spain; Madrid, Spain and Zaragoza, Spain.

276 **Underrepresented minorities (URMs) and perspectives on successful matching to dermatology residency.** Rebecca Vasquez, Sam Jeong and Amit Pandya. Dallas, TX.

277 **Lymphatic vessel endothelial hyaluronan receptor-1 (LYVE-1) expression is similar in normal human parietal and occipital scalp.** Brooke Hanson, Melissa Weber-Sanders, James Hodges, Heather Bemmels, Maria Hordinsky and Marna Ericson. Minneapolis, MN.

278 **Myeloid biomarkers and vascular PET-MRI during psoriasis treatments: Preliminary report.** Thomas McCormick, Jackelyn B Golden, Scott Santilli, Fuad Muakkassa, Prabhakar Rajiah, James K O'Donnell, Sarah G Groft, Fabrizio Galimberti, David C Soler, Neil Korman and Kevin D Cooper. Cleveland, OH.

279 **Adult-onset linear morphea is associated with significant morbidity and methotrexate may reduce risk of disease reactivation.** Natalie Ann Wright, Daniel R Mazori, Mital Patel, Sarika Ramachandran, Andrew G Franks, Ruth Ann Vleugels and Alisa Nicole Femia. New York, NY and Boston, MA.

280 **An integrated model of atopic dermatitis (AD) severity based on lesional, non lesional and systemic biomarkers.** Mayte Suarez-Farinas, James G Krueger, Sandra Garcet, Shinji Noda and Emma Guttman-Yassky. New York, NY.

281 **Approaching zero— long-term blockade of IL-17RA with brodalumab substantially abates psoriasis "residual disease expression" signature.** Chris B Russell, Jeannette Bigler, Keith Kerkof, Judilyn Fuentes Duculan, Xuguang Hu, Timour Marty, Michael Boedigheimer, Abraham Anderson, Greg Kricorian, Paul Klekotka, Ajay Nirula and James G Krueger. Seattle, WA; Thousand Oaks, CA and New York, NY.

282 **Using RNA-seq in the transcriptome analysis of the Koebner phenomenon in psoriasis.** Kimberly Chun, Stella Chen, Aimee Two, Tissa Hata and Richard L Gallo. La Jolla, CA.

Epidemiology

All orals [designated with an asterisk (*)] listed below are presented in the Epidemiology Minisymposium on Thursday, May 7, 2015, from 2:00-5:00 pm in Salon C, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

283 **Reliability and validity of outcome instruments for assessing cutaneous sarcoidosis among dermatologists and non-dermatologists.** Misha Rosenbach, Howa Yeung and Sara Farber. Atlanta, GA and Philadelphia, PA.

284* **Disparities in sunburns, photoprotection, indoor tanning, and skin cancer screening among U.S. men and women in same- and opposite-sex relationships.** Howa Yeung, Suephy C. Chen. Atlanta, GA.

285 **The early risk of an internal malignancy development in patients with dermatitis herpetiformis seems to be exaggerated.** Marian Dmochowski, Justyna Gornowicz-Porowska, Pawel Pietkiewicz and Monika Bowszyc-Dmochowska. Poznan, Poland.

286* **Ozone exposure and extrinsic skin aging: Results from the SALIA cohort.** Jean Krutmann, Anke Hüls, Tamara Schikowski, Ursula Krämer, Dorothee Sugiri, Sabine Stolz and Andrea Vierkoetter. Düsseldorf, Germany and Basel, Switzerland.

287* **Incidence of skin cancer in a cohort of 1278 patients with vitiligo, 2001-2013.** Liza Gill, Gordon Jacobsen, Richard Krajenta, Henry W. Lim, Iltefat H Hamzavi and Melody J. Eide. Detroit, MI and East Lansing, MI.

288 **Evidence that outdoor air pollutants including particulate matter (PM) as well as gases influence skin aging in a Chinese population.** Anke Hüls, Yajun Yang, Wenshan Gao, Andrea Vierkoetter, Tamara Schikowski, Anan Ding, Juan Zhang, Mary S Matsui, Haidong Kan, Li Jin, Sijia Wang and Jean Krutmann. Düsseldorf, Germany; Shanghai, China; Taizhou, China and Melville, NY.

Notes:

289* **Increased risk of pneumonia among patients with psoriasis: A population-based cohort study in the United Kingdom.** Junko Takeshita, Daniel B Shin, Alexis Ogdie and Joel Gelfand. Philadelphia, PA.

290 **Thyroid abnormalities are prevalent in primary Raynaud's phenomenon and thyroid-directed therapy may improve response to Raynaud's treatment.** Daniel R Mazori, Alisa Nicole Femia. New York, NY.

291* **Long-term efficacy of topical 5-fluorouracil 5% cream in treating actinic keratosis.** Hyemin Pomerantz, Daniel Hogan, David Eilers, Susan Swetter, Suephy C. Chen, Sharon Jacob, Erin M. Warshaw, George Stricklin, Robert Dellavalle, Navjeet Sidhu-Malik, Nellie Konnikov, Victoria Werth, Jonette Keri, Robert Lew and Martin A Weinstock. Providence, RI; Bay Pines, FL; Hines, IL; Palo Alto, CA; Atlanta, GA; San Diego, CA; Minneapolis, MN; Nashville, TN; Denver, CO; Durham, NC; Boston, MA; Philadelphia, PA and Miami, FL.

292 **Parotid-associated melanoma of unknown primary site: Clinicopathologic characteristics from a tertiary referral center .** Jeffrey F Scott, Ritva Vyas, Kord Honda, Chad Zender, Rod Rezaee, Pierre Lavertu, Henry Koon, Kevin D Cooper and Meg Rebecca Gerstenblith. Cleveland, OH.

293 **Phenotyping of extrinsic skin aging of German, Chinese and Japanese women.** Andrea Vierkoetter, Tamara Schikowski, Mohammad Vossoughi, Sabine Stolz, Anke Hüls, Mary S Matsui, Ai Yamamoto, Li Jin, Akimichi Morita, Sijia Wang, Zhiwen Li and Jean Krutmann. Nagoya, Japan; Beijing, China; Düsseldorf, Germany; Melville, NY and Shanghai, China.

294 **A retrospective analysis of the association of dioxin (agent orange) exposure and cutaneous t-cell lymphoma.** Ali Dana, Ravi Vinnakota, Yeun-Hee Park, Jessica Newman, Erik Langhoff and Larisa Geskin. Bronx, NY and New York, NY.

295 **The epidemiology of angiolymphoid hyperplasia with eosinophilia – A systematic review.** Hadar Lev-Tov, Aimee Krausz, Brandon Adler and Jonathan Silverberg. Bronx, NY and Chicago, IL.

296* **Duration of oral antibiotic therapy for the treatment of adult acne: A retrospective analysis investigating adherence to guideline recommendations and opportunities for cost-savings.** Joslyn Kirby, Chelsey S. Straight, Young S. Lee and Guodong S. Liu. Hershey, PA.

297 **Bundled payment models for actinic keratosis .** Joslyn Kirby, Jeffrey J Miller and Douglas S. Leslie. Hershey, PA.

298 **Evaluation of actinic keratosis clinical practice guidelines .** Joslyn Kirby, Thomas P. Scharnitz, Elizabeth S. Seiverling, Hadjh S. Ahrns and Sara S. Ferguson. Hershey, PA.

299 **Vitamin D intake and risk of basal cell carcinoma and squamous cell carcinoma in US women and men.** Eunyoung Cho, Sang Min Park, Shaowei Wu, Wen-Qing Li and Abrar A. Qureshi. Boston, MA and Providence, RI.

300 **Comparing cutaneous research funded by the National Institutes of Health with the United States skin disease burden.** Lindsay Nicole Boyers, Erika L Hagstrom, Shivani Patel, Chante Karimkhani, Cory Dunnick and Robert Dellavalle. New York, NY; Maywood, IL; Charleston, SC; Washington, DC; Aurora, CO and Denver, CO.

301 **Comparing students' behaviors, attitudes, and knowledge on sun protection.** Giselle Prado, Katherine Vandenberg, Emily Tongdee and Mercedes Florez-White. Miami, FL.

302* ** **The risk of cancer in patients with psoriasis: A population-based cohort study in the United Kingdom.** Zelma C. Chiesa, Daniel B Shin, Junko Takeshita, Alexis Ogdie and Joel Gelfand. Philadelphia, PA.

303 **Sex and psoriasis: An examination of sexual activities and psychometric properties of the sexual activity questionnaire (SAQ) among female psoriasis patients.** April W. Armstrong, Aleksandra G. Florek and Elizabeth A. Brezinski. San Francisco, CA and Aurora, CO.

304 **Vitiligo and associated pigmentation, sun exposure, and lifestyle factors in women.** Newsha Lajevardi, Shaowei Wu, Wen-Qing Li, Eunyoung Cho and Abrar A. Qureshi. Providence, RI.

305* **A large cohort study of lithium use and melanoma incidence and progression.** Maryam Mandana Asgari, Zheng Zhu, E. Margaret Warton, Charles Quesenberry, Bruce Fireman and Andy Chien. Oakland, CA and Seattle, WA.

306 **WITHDRAWN**

307 **Sustained reduction in skin biopsies after 5-FU treatment.** Joanna L Walker, Moniyka Sachar, Hyemin Pomerantz, Suephy C. Chen, Susan Swetter, Robert Dellavalle, George Stricklin and Martin A Weinstock. Providence, RI; Atlanta, GA; Palo Alto, CA; Denver, CO and Nashville, TN.

308 **Assessment of atopic dermatitis using self- and caregiver- report: A multicenter validation study.** Jonathan Silverberg, Neha Patel, Supriya Immaneni, Nanette B Silverberg, Reja Debashis, Natasha Fewkes and Eric L Simpson. Chicago, IL; New York, NY and Portland, OR.

309 **Increased utilization of high-cost care settings by patients with hidradenitis suppurativa: Investigation of disease-specific utilization .** Joslyn Kirby, Amrit S. Khalsa and Guodong S. Liu. Hershey, PA.

310 **The risk of Parkinson's disease in patients with psoriasis: A population-based cohort study.** Jina Chung, Junko Takeshita, Daniel B Shin, Kevin Haynes, Steven E Arnold and Joel Gelfand. Baltimore, MD and Philadelphia, PA.

311 **Pigmentary traits and indoor tanning bed use among women in the United States.** Wen-Qing Li, Eunyoung Cho, Shaowei Wu and Abrar A. Qureshi. Providence, RI.

312 **Misinformation is prevalent in psoriasis-related YouTube videos.** Ji Qi, Sarah Joo, Trinh Trang, Judy Doong, Sewon Kang and Anna L. Chien. Baltimore, MD.

313 **Bradford hill criteria support the surgeon general stating that indoor ultraviolet tanning causes skin cancer.** Chante Karimkhani, Lindsay Nicole Boyers, Lisa M Schilling and Robert Dellavalle. New York, NY; Washington, DC; Aurora, CO and Denver, CO.

314* **Young adults who frequently indoor tan report decreased sun-protective practices and low rates of total body skin examinations.** Alexander H Fischer, Timothy Wang, Sewon Kang and Anna L. Chien. Baltimore, MD.

315* **Childhood versus adulthood sun exposure and skin cancer risk in Caucasian post-menopausal women in the Women's Health Initiative.** Katherine J. Ransohoff, Mina Sarah Ally, Marcia Stefanick, Elizabeth Keiser, Katrina Spaunhurst, Kristopher Kapphahn, Sherry Pagoto, Catherine Messina, Haley Hedlin, JoAnn E Manson and Jean Y Tang. Redwood City, CA; Stanford, CA; San Diego, CA; Cleveland, OH; Boston, MA and Stony Brook, NY.

316 **Objective and subjective qualifiers of perceived skin aging process.** Ana Paula Azambuja, Mary Sanae Nakamura, Thiago F Pires, Andrea RVR Horimoto, Rafael Alvim, José Eduardo Krieger and Alexandre C Pereira. Cajamar, Brazil and São Paulo, Brazil.

317 **Heritability and correlation map of skin hydration measurements with environmental and life style factors of Brazilian population.** Thiago F Pires, Ana Paula Azambuja, Mary Sanae Nakamura, Andrea RVR Horimoto, Rafael Alvim, José Eduardo Krieger and Alexandre C Pereira. Cajamar, Brazil and São Paulo, Brazil.

Notes:

318 **Heritability and correlation map of skin viscoelastic measurements with environmental and life style factors of Brazilian population.** Mary Sanae Nakamura, Ana Paula Azambuja, Thiago F Pires, Andrea RVR Horimoto, Rafael Alvim, José Eduardo Krieger and Alexandre C Pereira. Cajamar, Brazil and São Paulo, Brazil.

319** **Functional characterization of *AHR* promoter polymorphism that contributes to reduced vitiligo risk.** Xiaowen Wang, Kai Li, Ling Liu, Zhe Jian, Gang Wang, Chunying Li and Tianwen Gao. Xi'an, China.

320 **Childhood eczema is associated with anemia in 18 US population-based studies.** Jonathan Silverberg, Kerry E Drury. Chicago, IL.

321 **Eczema is associated with increased preventive healthcare and health maintenance in US adults and children.** Mark A Strom, Jonathan Silverberg. Chicago, IL.

322* **Melanoma screening consequences.** Martin A Weinstock, Laura Ferris, Melissa Saul, Alan Geller, Patricia Risica, Francis Solano, John Lagnese and John Kirkwood. Providence, RI; Pittsburgh, PA and Boston, MA.

323*** **Alcohol consumption and risk of cutaneous basal cell carcinoma in women and men.** Abrar A. Qureshi, Shaowei Wu, Wen-Qing Li and Eunyoung Cho. Providence, RI.

324 **Natural hair color and pain among women in the United States.** Wen-Qing Li, Xiang Gao, Shelley Tworoger, Jiali Han and Abrar A. Qureshi. Providence, RI; University Park, PA; Boston, MA and Indianapolis, IN.

325 **Dietary intake of folate and vitamins B6 and B12 and risk of psoriasis.** Eunyoung Cho, Tricia Li, Wen-Qing Li, Shaowei Wu and Abrar A. Qureshi. Providence, RI and Boston, MA.

326 **Epidemiology of genitourinary melanoma: 1992-2011.** Benjamin Cohen, Ritva Vyas, Homayoun Zargar Shoshtari and Meg Rebecca Gerstenblith. Cleveland, OH.

327* **Air pollution is associated with increased eczema prevalence and severity.** Jonathan Silverberg, Parul Kathuria. Chicago, IL.

328 **Laboratory monitoring during isotretinoin therapy: A systematic review and meta-analysis .** Thomas P. Scharnitz, Young S. Lee and Joslyn Kirby. Hershey, PA.

329 **Association of keloids with systemic medical conditions: A retrospective analysis.** Donald A Glass, Prince Adotama. Dallas, TX.

330 **Varicella vaccination is associated with increased prevalence of eczema in the US.** Jonathan Silverberg, Jennifer C Li. Chicago, IL.

331 **Assessment of sun exposure while traveling to sunny destinations by Canadians during the winter season.** Sunil Kalia. Vancouver, Canada.

332 **Adolescent and young adult cutaneous lymphomas: Clinical spectrum and autoimmunity.** Gregory Raymond Delost, Jacqueline Selph, Ritva Vyas, Kord Honda and Kevin D Cooper. Erie, PA and Cleveland, OH.

333 **Advertisement of indoor tanning to minors through high school newspapers.** Alyssa Self, Chante Karimkhani, Konstantin Grigoryan, Jason Pelham Lott and Robert Dellavalle. Aurora, CO; New York, NY; Cincinnati, OH; New Haven, CT and Denver, CO.

334* **Incidence and survival of sebaceous carcinoma in the United States.** Raghav Tripathi, Zhengyi Chen, Li Li and Jeremy Bordeaux. Cleveland, OH.

Epidermal Structure & Barrier Function

All orals [designated with an asterisk (*)] listed below are presented in the Epidermal Structure & Barrier Function Minisymposium Friday, May 8, 2015, from 2:00-5:00 pm in Salon C, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

335 **A combination of keratinocyte activation with exposure to Th2 interleukins is required to alter barrier properties in a reconstructed human epidermis.** Yves Poumay, Évelyne De Vuyst, Séverine Giltaire, Aline Chrétien, Catherine Lambert de Rouvroit and Michel Salmon. Namur, Belgium and Les Isnes, Belgium.

336* **A reinnervated skin model: A new tool to study link between innervation and aging.** Manasi Chavan, Christine Jeanmaire, Carine Tedeschi, Laurent Misery and Nicolas Lebonvallet. Essey les Nancy, France and Brest, France.

337 **A parathyroid hormone family member TIP39 is expressed in the skin and regulates keratinocyte differentiation.** Emi Sato, Jun Muto, Lingjuan Zhang, Chris Adase, James Asbury Sanford, Robert A. Lee and Richard L Gallo. San Diego, CA and Aichi, Japan.

338 **Microneedle-mediated delivery of vismodegib across skin.** Hiep Xuan Nguyen, Ajay K Banga. Atlanta, GA.

339 **Ethnic differences in skin hydration and barrier function, as illustrated by facial mapping.** Rainer Voegeli, Anthony V Rawlings, Pierre Seroul and Beverley Summers. Northwich, United Kingdom; Kaiseraugst, Switzerland; Lyon, France and Medunsa, South Africa.

340 **Effects of H_1-antihistamines on expression of axon guidance molecules in normal human epidermal keratinocytes.** Yayoi Kamata, Azumi Sakaguchi, Yoshie Umehara, Mitsutoshi Tominaga, Hideoki Ogawa and Kenji Takamori. Urayasu, Japan.

341* **Network analysis identifies MPZL3 as an essential regulator of epidermal differentiation that binds FDXR to induce reactive oxygen species.** Aparna Bhaduri, Alexander Ungewickell and Paul Khavari. Stanford, CA.

342 **Development of an *ex vivo* human skin model to study skin barrier repair.** Joke Bouwstra, Tineke Berkers, Lolu Danso and Arnout Mieremet. Leiden, Netherlands.

343 **Lipid chain length reduction correlates with the skin barrier function in atopic eczema patients and inflammation plays a role in the altered epidermal lipid biosynthesis.** Joke Bouwstra, Jeroen Van Smeden, Lolu Danso, Michelle Janssens, Rob Vreeken, Abdoel El Ghalbzouri and Sjan Lavrijsen. Leiden, Netherlands.

344 **The interaction between bicyclic monoterpene diol and neuropeptides on keratinocyte cell proliferation and apoptosis.** Nicole Weiler, Catherine Ding, Kanwaljit Brar, S. A Glick and Wei-Li Lee. Brooklyn, NY.

345 **Detection of novel CYP11A1-derived secosteroids in the human epidermis and serum.** Andrzej T Slominski, Tae-Kang Kim, Wei Li, Arnold E Postlethwaite and Robert C Tuckey. Memphis, TN; Birmingham, AL and Crawley, Australia.

346* **Histamine impairs keratinocyte barrier function.** Anna De Benedetto, Takeshi Yoshida, Sade Fridy, Joo-Eun Sam Park and Lisa A Beck. Rochester, NY.

347* **Epidermal SIRT1 loss disrupts skin barrier integrity and sensitizes mice to epicutaneous allergen challenge.** Yu-Ying He, Mei Ming, Baozhong Zhao, Christopher R. Shea, Shah Palak, Lei Qiang, Steven R. White and Diane Sims. Chicago, IL.

Notes:

348 **An optimized inexpensive emollient mixture improves barrier repair in murine skin.** Peter M Elias, Mao-Qiang Man, George Man, Carolyn Cheung, Debra Crumrine, Melanie Hupe and Zelee Hill. San Francisco, CA and London, United Kingdom.

349* **X-ray crystal structure of the keratin 1–keratin 10 heterodimer reveals a molecular basis for associated keratinopathies.** Christopher G Bunick. New Haven, CT.

350 **Filaggrin mutations do not associate with *Staphylococcus aureus* skin colonization in European American atopic dermatitis subjects.** Takeshi Yoshida, Nicholas Rafael, Denise Babineau, Keli Artis, Alexandre Lockhart, Gloria David, Mark Boguniewicz, Peck Ong, Anna De Benedetto, Jon Hanifin, Eric L Simpson, Amy S Paller, Emma Guttman-Yassky, Lynda Schneider, Rasika Mathias, Kathleen Barnes, Donald Leung and Lisa A Beck. Rochester, NY; Baltimore, MD; Chapel Hill, NC; Denver, CO; Chicago, IL; New York, NY; Portland, OR; Los Angeles, CA and Boston, MA.

351 **Nanotopography facilitates *in vivo* transdermal delivery of high molecular weight therapeutics through an integrin-dependent mechanism.** Jubin Ryu, Laura Walsh, Suzanne Bock, Michael Koval, Theodora Mauro, Russell Ross and Tejal Desai. San Francisco, CA and Atlanta, GA.

352* **Tight junction barrier dysfunction induced by epidermis-specific claudin-1 ablation is sufficient to cause dermatitis in mice.** Akiharu Kubo, Takashige Hirano, Mariko Yokouchi, Hiroshi Kawasaki, Toru Atsugi and Masayuki Amagai. Tokyo, Japan and Kyoto, Japan.

353 **X-ray crystallographic analysis of the human profilaggrin N-terminus provides a mechanism for binding of interacting proteins.** Christopher G Bunick, Richard Presland. New Haven, CT and Seattle, WA.

354 **Stratifin implication in UVB stress response and dermal remodeling.** Catherine Gondran, Alexia Lebleu, Gilles Oberto, Yolene Ferreira, Karine Cucumel and Nouha Domloge. Sophia Antipolis, France.

355 **Reconstructed skin models with modulated expression of miR-203, a key microRNA in the epidermal differentiation, allowing the *in vitro* study of the predicted consequences, based on a bioinformatic network model of the differentiation process.** Jean Marie Botto, Catherine, Serre, Christophe Capallere, Christelle Plaza, Laurine Bergeron, Nicolas Esselin, Valère Busuttil and Nouha Domloge. Sophia Antipolis, France.

356 **Specific culture medium to improve keratinocytes proliferation and 3D epidermis reconstruction.** Christophe Capallere, Christelle Plaza, Marianne Arcioni, Imane Garcia, Eric Bauza, Jean Marie Botto and Nouha Domloge. Sophia Antipolis, France.

357 **Expression of long non-coding RNAs in the skin: Study in cultured human cells and reconstructed skin tissue.** Nouha Domloge, Jean Marie Botto, Catherine, Serre, Christelle Plaza, Laurine Bergeron, Valère Busuttil and Christophe Capallere. Sophia Antipolis, France.

358 **Impact of environmental particulate pollution on skin: effect of PM_{10}-like particles applied on human skin cultured cells and on 3D reconstructed epidermis, and study of miRNAs expression.** Valère Busuttil, Laurine Bergeron, Catherine, Serre, Christelle Plaza, Nicolas Esselin, Eric Bauza, Christophe Capallere, Jean Marie Botto and Nouha Domloge. Sophia Antipolis, France.

359 **Endocannabinoid modulators influence skin barrier repair, inflammation, proliferation and differentiation in mouse irritant contact dermatitis.** Ehrhardt Proksch, Michael Soeberdt, Claudia Neumann and Christoph Abels. Kiel, Germany and Bielefeld, Germany.

360 **Nitric oxide differentially regulates epidermal proliferation in normal and inflamed skin.** George Man, Mao-Qiang Man, Carolyn Cheung, Melanie Hupe and Peter M Elias. San Francisco, CA.

361 **Mitochondria move along keratin 14, with potential implications for epidermolysis bullosa simplex pathogenesis.** Asuka Suto, Riichiro Abe, Takumi Koshiba, Yoichiro Fujioka, Yusuke Ohba and Hiroshi Shimizu. Sapporo, Japan and Fukuoka, Japan.

362 **Sustained transdermal delivery of methotrexate using novel *in situ* forming hydrogel microneedles.** Arunprasad Sivaraman, Ajay K Banga. Atlanta, GA.

363 **Analysis of extracellular-matrix and cell-adhesion genes modulated by mechanical massage applied in combination with a cosmetic emulsion.** Carla Abdo Brohem, Bruna Bastos Swinka, Camila Miranda de Carvalho, Ana Cristina Weihermann, Desirée Cigaran Schuck, Nathaly Boldrini, Vanessa Vitoriano da Silva, Marco Antonio Trindade Costa, Adele Helena Ribeiro, Andre Fujita and Marcio Lorencini. Sao Jose dos Pinhais, Brazil; Curitiba, Brazil and Sao Paulo, Brazil.

364 **A novel inhibitor of plasmin and urokinase suppresses inflammation in keratinocytes *in-vitro*.** Remo Campiche, Stephan Doppler, Dominik Imfeld, Petra Lais, Peter Wikstroem, Anthony V Rawlings and Rainer Voegeli. Kaiseraugst, Switzerland and Northwich, United Kingdom.

365* **Regulation and disruption of the site-specific skin gene KRT9 .** Dongwon Kim, M. Zulfiquer Hossain, Ashley Nieves, Lihong Gu, Nicole Yang, Seung Mi Oh, Seunghyun Han, Ji Qi, Janis Marie Taube, Sewon Kang and Luis A Garza. Baltimore, MD.

366 **Loss of loricrin results in impaired incorporation of fillagrin into cornified cell envelopes.** Yosuke Ishitsuka, Neil Box, Robert H Rice and Dennis R Roop. Aurora, CO and Davis, CA.

367 **The LXR ligand VTP-38543 represents a new class of therapeutic agents for the treatment of atopic dermatitis.** Deepak Lala, Yi Zhao, Shi Meng, Paul B. Noto, Kerri K. Lipinski, Yuri E. Bukhtiyarov, Linghang Zhuang, Colin Tice, Wei Zhao, Chengguo Dong, Stephen Lotesta, Andrew Marcus, Katerina Leftheris, Yajun Zheng, Kristi Fan, Suresh B. Singh, David Claremon and Gerard M. McGeehan. Fort Washington, PA and San Diego, CA.

368 **Epidermis-specific mesotrypsin is involved in corneocyte desquamation and is regulated by an intrinsic inhibitor, serpin B12.** Miyai Masashi, Haruyo Yamanishi, Yuuko Matsumoto, Mami Yamamoto, Yuko Hachiya, Ryoji Tsuboi and Toshihiko Hibino. Yokohama, Japan and Tokyo, Japan.

369 **A natural cosmetic active ingredient dedicated to the needs of pregnant woman's skin.** Stephanie Bredif, Sophie Leclere-Bienfait and Caroline Baudouin. Epernon, France.

370 **Expression of a novel immunoglobulin protein in the skin and other epithelia.** Tongyu Cao Wikramanayake, Hunter Mitchell. Miami, FL.

371** **NuMA/microtubule interactions are critical for asymmetric cell divisions and epidermal morphogenesis.** Lindsey Seldin, Terry Lechler. Durham, NC.

372 **Biomarkers of skin health and barrier efficiency.** Nidhin Raj, Nicola Parisi, Anthony V Rawlings, Rainer Voegeli, Majella E Lane, Michael Munday and Simon Gibbons. London, United Kingdom and Wurmisweg, Switzerland.

373 **SCARA3 is required for topically delivered spherical oligonucleotide nanoconjugates to penetrate the epidermal barrier.** Quincy Song, Will Briley, Suguna Narayan, Xiao-Qi Wang, Chad Mirkin and Amy S. Paller. Chicago, IL and Evanston, IL.

374 **Nuclear IL-33 is involved in cell proliferation via formation of contractile ring in normal human epidermal keratinocytes.** Hidetoshi Tsuda, Mayumi Komine, Shin-ichi Tominaga and Mamitaro Ohtsuki. Shimotsuke-shi, Japan.

Notes:

375 **Involvement of the aryl hydrocarbon receptor (AhR) in the murine skin barrier function.** Katharina Haas, Susanne Grether-Beck, Wilhelm Bloch, Jean Krutmann and Charlotte Esser. Düsseldorf, Germany and Köln, Germany.

376 **Interpretation of dermatological drug penetration and drug effects using multiple imaging tools.** Gregory Hamm, Raphael Legouffe, David Bonnel, Alain Heron, Fabien Pamelard and Jonathan Stauber. Lille, France.

377 **Expression of Orai3 correlates with aging-related changes in stress-induced calcium signaling in keratinocytes.** Sumiko Denda, Junichi Kumamoto, Kentaro Takei, Makiko Goto, Masaharu Nagayama and Mitsuhiro Denda. Yokohama, Japan; Tokyo, Japan and Sapporo, Japan.

378 **SVEP1 plays a crucial role in normal epidermal function.** L Samuelov, Q. Li, R Bochner, N Najor, J Koetsier, N Malchin, T. Goldsmith, M Grafi-Cohen, D. Vodo, G Fainberg, E Warshauer, T Rogers, A Ishida-Yamamoto, N Erez, I Goldberg, A Irvine, L Shultz, Kathy Green, Jouni Uitto, Eli Sprecher and O Sarig. Philadelphia, PA; Tel Aviv, Israel; Chicago, IL; Asahikawa, Japan; Dublin, Ireland and Bar Harbor, ME.

379 **T-cell independent role for Langerhans cells in the epidermal stress-response.** Julia Lewis, Juliet F Gibson and Michael Girardi. New Haven, CT.

380 **Improvement of Lox expression in epidermis by *Cichorium intybus.*** Manasi Chavan, Corinne Reymermier, Veronique Degrave, Julie Saget, Stephane Grenier and Valerie Andre-Frei. Lyon, France.

381 **Tight junction response to impaired lipid barrier.** Theodora Mauro, Anna Celli, Richard Sun, Kyungho Park, Bishoy Goubran, Yoshikazu Uchida, Peter M Elias and Kenneth Feingold. San Francisco, CA.

382 **Desmocollin ectodomain shedding and cantharidin acantholysis .** Ning Li, Moonhee Park, Zhi Liu and Luis A. Diaz. Chapel Hill, NC.

383* **The role of TGF-β signaling-mediated miR-486-3p on the inhibition of keratin 17 in the pathogenesis of psoriasis.** Man Jiang, Zhongbin Sun, Lin Gao and Gang Wang. Xi'an, China and Urumuqi, China.

384 **IL-17A increases asymmetric stem cell divisions in imiquimod-induced psoriasis.** Giselle Vitcov, Samuel Sklar, Jeffrey North, Sarah Arron, Karen Horton, Alexandra Charruyer and Ruby Ghadially. San Francisco, CA.

385 **Discovery of natural products that provide multi-functional anti-aging skin benefits .** Bing C Mei, Cheng Hwang, Jolanta Idkowiak-Baldys, Daniel Thorn Leeson, Uma Santhanam and John Lyga. Suffern, NY.

386 **A cosmetic formulation containing ingredients that stimulate *in vitro* production of epidermal differentiation proteins improves *in vivo* barrier function.** Michelle D Hines, Geetha Kalahasti, Hanh Pham, David Gan and Tiffany C. Florence. Dallas, TX.

387 ***In vivo* imaging and identification of the dermal-epidermal junction.** Rachel E Watson, Victoria Newton, Michael J Sherratt, Robert Bradley, Anthony V Rawlings, Rainer Voegeli and Christopher E Griffiths. Manchester, United Kingdom; Northwich, United Kingdom and Kaiseraugst, Switzerland.

388 **Targeted deletion of suprabasal keratins K2 and K10 causes upregulation of K1 and K16.** Heinz Fischer, Lutz Langbein, Silke Praetzel-Wunder, Julia Reichelt, Erwin Tschachler and Leopold Eckhart. Vienna, Austria; Heidelberg, Germany and Newcastle upon Tyne, United Kingdom.

389 **Biochemical changes underlying a keratoderma-like phenotype in mice lacking suprabasal AP1 transcription factor function.** Ellen Rorke, Gautam Adhikary, Christie Young, Robert H Rice, Peter M Elias, Debra Crumrine, Miroslav Blumenberg and Richard Eckert. Baltimore, MD; Davis, CA; San Francisco, CA and New York, NY.

390 **Comparative genomics identifies filaggrin-deficient species of mammals.** Leopold Eckhart, Bettina Strasser, Veronika Mlitz, Heinz Fischer and Erwin Tschachler. Vienna, Austria.

391* **Calmodulin-like 5 interacts with 14-3-3-σ/stratifin to regulate late epidermal differentiation .** Bryan Sun, Julia Ransohoff, Kun Qu, Vanessa Lopez-Pajares, Lisa D Boxer and Paul Khavari. Stanford, CA.

392 **Histological stratification of thick and thin plaque psoriasis identifies distinct molecular and clinical phenotype.** Joel Mauricio Corrêa da Rosa, Prannay Nadella, Jaehwan Kim, James G Krueger and Mayte Suarez-Farinas. New York, NY.

393 **Temporal variations in sirtuin expression under normal and ultraviolet B-induced conditions and their correlation to energy levels in normal human epidermal keratinocytes .** Edward Pelle, Kelly Dong and Nadine Pernodet. Melville, NY and New York, NY.

394 **Major differences between human atopic dermatitis phenotype and mouse models as determined by global genomic profiling.** David Adrian Ewald, Shinji Noda, Saeko Nakajima, Thomas Litman, James G Krueger, Mayte Suarez-Farinas, Kenji Kabashima and Emma Guttman-Yassky. New York, NY; Copenhagen, Denmark and Kyoto, Japan.

395 **Analysis of *CARD14* polymorphisms in pityriasis rubra pilaris: Activation of NF-kB.** Joshua Kingman, Q. Li, Hye Jin Chung, N Ross, Matthew S Keller, J. Andrews, O Sarig, D Fuchs-Telem, Eli Sprecher and Jouni Uitto. Philadelphia, PA and Tel Aviv, Israel.

396 **Topical delivery of Hyaluronic acid in dermatomed human skin.** Pooja Bakshi, Ajay K Banga. Atlanta, GA.

397 **Exploring the metabolome effectively to advance skincare research.** Tracy Shafizadeh. Durham, NC.

398* **Regulation of protein synthesis during keratinocyte differentiation.** Annie E Collier, Ronald C. Wek and Dan F Spandau. Indianapolis, IN.

399* **Topoisomerase 2β impacts gene-length bias in psoriasis through altered epidermal differentiation.** Mrinal Kumar Sarkar, Andrew Johnston, William R Swindell, Xianying Xing, Ariel Finkielsztein, Spiro Getsios and Johann Eli Gudjonsson. Ann Arbor, MI and Chicago, IL.

400 **Ingredients and formulation that improve barrier function also enhance antimicrobial peptide production.** Richard Sun, Mao-Qiang Man, Melanie Hupe, Joan Wakefield and Peter M Elias. San Francisco, CA.

401 **Improved differentiation of keratinocytes from human induced pluripotent stem cells by manipulation of developmental signaling pathways.** Zongyou Guo, Chong Shen, Karl Gledhill, Abigail Coffman, Satoru Shinkuma, Noriko Umegaki-Arao, Hasan Erbil Abaci, Claire Higgins, Brian Gillette, Samuel K Sia and Angela Christiano. New York, NY.

402 **Psoriasis severity is increased by alcohol abuse: An animal model of alcohol abuse and psoriasis.** Rhonda M Brand, Melissa Paglia and Louis D. Falo. Pittsburgh, PA.

403 **Regulation of aquaporin-3 levels in epidermal keratinocytes through histone deacetylase inhibition.** Wendy B Bollag, Vivek Choudhary, Karen Kagha and Lawrence Olala. Augusta, GA.

404* **Novel insights in the mechanisms of epidermal maintenance by *in vivo* imaging.** Panteleimon Rompolas, Valentina Greco. New Haven, CT.

Notes:

Gene Therapy & Clinical Therapeutics

All orals [designated with an asterisk (*)] listed below are presented in the Gene Therapy & Clinical Therapeutics Minisymposium on Thursday, May 7, 2015, from 2:00-5:00 pm in Salon AB, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

405* **Autologous fibroblasts therapy for recessive dystrophic epidermolysis bullosa.** Joanna Jackow, Matthias Titeux, Soeli Charbonnier and Alain Hovnanian. Paris, France.

406 **Steady state pharmacokinetics, tolerability and safety of XP23829, a novel fumaric acid ester (FAE) for the treatment of moderate-to-severe plaque psoriasis.** Lee N Clark, Alice B Gottlieb, Richard Kim and Dmitri Lissin. Boston, MA and Santa Clara, CA.

407 **Pentobra: A novel antimicrobial compound with lytic activity against *Propionibacterium acnes.*** George W Agak, Nathan W Schmidt, Stephanie Deshayes, Yang Yu, Alyssa Blacker, Jackson Champer, Wujing Xian, Stephanie Kao, Andrea Kasko, Gerard C. L. Wong and Jenny Kim. Los Angeles, CA.

408* **Hematopoietic cell transplantation (HCT) for recessive dystrophic epidermolysis bullosa (RDEB): reduced intensity conditioning (RIC) has a better outcome than myeloablative conditioning (MAC).** Jakub Tolar, John McGrath, Mark J. Osborn, Douglas R Keene, Kristen Hook, Maria Hordinsky, David Timothy Woodley, Mei Chen, Alain Hovnanian, Katsuto Tamai, Bruce Blazar and John Wagner. Minneapolis, MN; London, United Kingdom; Portland, OR; Los Angeles, CA; Paris, France and Osaka, Japan.

409* **Novel long-non-coding RNA in melanoma: MIRAT a biomarker of small molecule inhibitor response.** Martina Sanlorenzo, Igor Vujic, Christian Posch, Kevin Lai, Kevin Lin, Deborah Stephanie Gho, Adrian Moy, Abhinay Gajjala and Susana Ortiz-Urda. San Francisco, CA.

410 **Drug repurposing for dermatomyositis using public expression datasets.** Hyunje Grace Cho, David F Fiorentino, Marina Sirota and Kavita Sarin. Stanford, CA.

411* **Allogeneic mesenchymal stromal cell therapy for children with recessive dystrophic epidermolysis bullosa: an open-label, phase 1, single-centre trial .** Gabriela Petrof, Su M Lwin, Magdalena Martinez-Quiepo, Alya Abdul-Wahab, Simon Tso, Jemima Mellerio, Ineke Slapen-Cortenbach, Jaap J Boelens, Jakub Tolar, Paul Veys, Tendai Kadiyirire, Mercy Ofuya, Janet L Peacock, Anna Martinez and John McGrath. London, United Kingdom; Utrecht, Netherlands and Minneapolis, MN.

412* **A novel therapeutic inhibits Rac1 mediated invasion and metastasis in a newly described *in vivo* model of human melanoma.** M. CG Winge, Joanna Kovalski, Ngon T Nguyen, Diane Wu, Ashley Zehnder, Paul Khavari and M. Peter Marinkovich. Stanford, CA.

413* **Topically delivered spherical nucleic acid nanoconjugates targeting TNF improve the psoriatic phenotype.** Katherine Lewandowski, Weston Daniel, Richard Kang, David Giljohann, Chad Mirkin and Amy S. Paller. Chicago, IL; Skokie, IL and Evanston, IL.

414 **Electrophilic nitro-fatty acids suppress allergic contact dermatitis in an experimental model.** Alicia R Mathers, Cara Carey, Meghan Killeen, Schopfer J Francisco, Bruce Freeman and Louis D. Falo. Pittsburgh, PA.

415 **Low dose irradiation kills malignant T cells, spares benign T cells and is a potentially curative therapy for mycosis fungoides.** Rachael Clark, Elizabeth Lowry, Tiago R Matos, Victor Huang, Rei Watanabe, Ahmed Gehad, Jessica Emberley Teague, Phillip Devlin and Thomas S. Kupper. Boston, MA.

416* **Regression of cutaneous squamous cell carcinomas induced by topical application of PI3K/mTOR inhibitors.** X Yang, C Marshall, T Dentchev, T Salah, S Shankar, F Stauffer, A Lerchner, F Seiler, F Kalthoff and John Seykora. Philadelphia, PA and Basel, Switzerland.

417 **Etanercept for toxic epidermal necrolysis: A confirm on efficacy and safety.** Biagio Didona, Andrea Paradisi, Dario Didona and Damiano Abeni. Rome, Italy.

418* **Phase I clinical trial for recessive dystrophic epidermolysis bullosa using genetically corrected autologous keratinocytes.** Zurab Siprashvili, Ngon T Nguyen, Emily Gorell, Kylie Loutit, Phuong Khuu, Louise Kimiko Furukawa, H Peter Lorenz, Thomas H Leung, Douglas R Keene, Paul Khavari, Alfred Lane, Jean Y Tang and M. Peter Marinkovich. Stanford, CA; Portland, OR and Palo Alto, CA.

419** **Site-specific genome editing using CRISPR/Cas9 and TALENs for correction of iPS cells derived from dominant dystrophic epidermolysis bullosa.** Satoru Shinkuma, Zongyou Guo and Angela Christiano. New York, NY.

420 **Cytokine-based immunotherapy induces senescence in human melanomas.** Martin Röcken, Thomas Wieder, Cristina Boss, Ellen Brenner, Heidi Braumüller, Claudia Schulz, Alexander Scheu, Claus Garbe, Tobias Feuchtinger and Alfred Königsrainer. Tübingen, Germany.

421 **Epigenetic changes in the GPi-linked biosynthetic pathway underlie down regulation of CD52 and resistance of CTCL patients to alemtuzumab.** Ga-Young Lee, Jessica Emberley Teague, Ahmed Gehad, Elizabeth Lowry, David C Fisher, Thomas S. Kupper and Rachael Clark. Boston, MA and Seoul, Korea (the Republic of).

422* **The effects of bisphosphonates on ectopic soft tissue mineralization caused by mutations in the *ABCC6* gene: Potential treatment of PXE.** Q. Li, John Paul Sundberg, Michael A Levine, Joshua Kingman and Jouni Uitto. Philadelphia, PA and Bar Harbor, ME.

423 **ONC201 induces apoptosis, inhibits proliferation, and affects cell cycle in cutaneous T-cell lymphoma cells.** Xiang Zhang, Xiao Ni, Timothy Langridge and Madeleine Duvic. Houston, TX.

424 **Autosomal dominant transgradient palmoplantar keratoderma (PPK) and hypotrichosis treated adequately with 13-cis retinoic acid and acitretin: a new phenotype of PPK with congenital alopecia and update on palmoplantar keratoderma-congenital alopecia syndrome.** Heather Irina Cohn, Neil Korman. Cleveland, OH.

425*** **Intrinsic resistance to smoothened inhibitors in sporadic basal cell carcinoma.** Prajakta Jaju, Melika Rezaee, Alexander Lee, Jean Y Tang and Kavita Sarin. Stanford, CA.

426* **Assessment of amlexanox, an antagonist of nonsense mediated mRNA decay (NMD), for the treatment of RDEB.** Velina Atanasova, Q. Jiang, Jouni Uitto and Andrew P South. Philadelphia, PA.

427* **Differentiating endothelial cells from human induced pluripotent stem cells.** Abigail Coffman, Zongyou Guo, Chong Shen, Karl Gledhill, Hasan Erbil Abaci, Satoru Shinkuma, Claire Higgins, Brian Gillette, Samuel K Sia and Angela Christiano. New York, NY.

428* **Investigation into the safety and efficacy of human ES/iPS-derived keratinocytes for therapeutic reprogramming .** Hanson Zhen, Elizaveta Bashkirova, Sandra Melo, Lingjie Li, Jessica Torkelson, Eric Liaw and Anthony Oro. Stanford, CA.

Notes:

Genetic Disease & Gene Regulation

All orals [designated with an asterisk (*)] listed below are presented in the Genetic Disease & Gene Regulation Minisymposium on Friday, May 8, 2015, from 2:00-5:00 pm in Room 204-207, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

429 **Assimilating transcriptional profiles from CCLE lesional skin and peripheral blood offers a comprehensive model of disease pathogenesis.** Rama Dey-Rao, Animesh A. Sinha. Buffalo, NY.

430* **DDX6 orchestrates human epidermal progenitor function through the mRNA degradation and translation pathways.** George Sen, Ying Wang and Yifang Chen. La Jolla, CA.

431* **Trans-ethnic genome-wide meta-analysis identifies multiple novel associations and reveals ethnic heterogeneity of psoriasis susceptibility.** Xianyong Yin, Hui QI Low, Mark Seielstad, Wilson Liao, Mona Stahle, Andre Franke, Xuejun Zhang and Jianjun Liu. Singapore, Singapore; San Francisco, CA; Stockholm, Sweden; Kiel, Germany and Hefei, China.

432 **RNA recognition motif of LEMD3 as a key player in the pathogenesis of Buschke–Ollendorff syndrome.** Shota Takashima, Yasuyuki Fujita, Shotaro Suzuki, Nao Saito, Toshifumi Nomura and Hiroshi Shimizu. Sapporo, Japan.

433 **Epigenetic modulation of skin equivalents by cosmetic ingredients.** Jin Namkoong, Dale G Kern, Remona Gopaul, Elisabeth Lehigh, Anna J Langerveld and Helen Knaggs. Provo, UT and Kalamazoo, MI.

434* **The lncRNA FLJ46906 alters expression of aging-associated proteins through binding to AP-1 and NF-κB.** Kazuyuki Yo, Thomas M. Ruenger. Providence, RI and Yokohama, Japan.

435 **TALEN-induced mutations confirm Col17a1 as a genetic modifier of junctional epidermolysis bullosa in mice.** Thomas James Sproule, John Paul Sundberg, Benjamin E Low, Kathleen A Silva, Deepak Reyon, Keith Joung, Michael V Wiles and Derry C Roopenian. Bar Harbor, ME; Charlestown, MA and Cambridge, MA.

436* **Somatic activating *RAS* mutations cause vascular tumors including pyogenic granuloma.** Young H. Lim, Stephanie Douglas, Christine J. Ko, Richard Antaya, Jennifer McNiff, Jing Zhou, Richard P. Lifton, Deepak Narayan and Keith A. Choate. New Haven, CT.

437* **Gasdermin A3 targets mitochondria to mediate keratinocyte necrosis and skin inflammation.** Liang-Tung Yang, Pei-Husan Lin, Hsien-Yi Lin, Shu-Hui Wu and Cheng-Chin Kuo. Zhunan, Taiwan and Taichung, Taiwan.

438 **Genome wide association study of psoriasis in India.** Rajan P Nair, Lam C. Tsoi, Manju Ghosh, Philip E. Stuart, Madhulika Kabra, Trilokraj Tejasvi, John J Voorhees, Goncalo Abecasis, Vinod Kumar Sharma and James T Elder. Ann Arbor, MI and New Delhi, India.

439 **Cutaneous neovascularization in mice with chronic proliferative dermatitis (Sharpin^{cpdm}).** Harm HogenEsch, Mario Sola, Timothy M Stearns, Kathleen A Silva, Victoria E Kennedy, Lloyd E. King and John Paul Sundberg. West Lafayette, IN; Bar Harbor, ME and Nashville, TN.

440* **Analysis of long non-coding RNAs highlights tissue-specific expression patterns and epigenetic profiles in normal and psoriatic skin.** James T Elder, Lam C. Tsoi, Matthew K. Iyer, Philip E. Stuart, William R Swindell, Johann Eli Gudjonsson, Trilokraj Tejasvi, Mrinal Kumar Sarkar, Bingshan Li, Jun Ding, John J Voorhees, Hyun Min Kang, Rajan P Nair, Arul M Chinnaiyan and Goncalo Abecasis. Ann Arbor, MI; Nashville, TN and Bethesda, MD.

441* **MCP-1 is overexpressed by Tsc2-null skin fibroblasts in a mouse model of tuberous sclerosis with targeted disruption of *Tsc2*.** Shaowei Li, Peter Klover, Rajesh L. Thangapazham, Ji-an Wang, Joel Moss and Thomas N Darling. Bethesda, MD.

442 **Dsp^{rul}: A spontaneous mouse mutation in desmoplakin as a model of Carvajal-Huerta Syndrome.** Heather Fairfield, John Paul Sundberg, Christopher S Potter, Laura G Reinholdt, David E Bergstrom, Belinda S Harris, Ian Greenstein, Soheil S Dadras, Bruce T Liang, Paul N Schofield and C. Herbert Pratt. Bar Harbor, ME; Farmington, CT and Cambridge, United Kingdom.

443 **Meta-analysis of the TNIP1 region in psoriasis identifies two independent association signals.** Kristina Marie Lee, Joanne Nititham, Kimberly E Taylor, Rashmi Gupta, Richard Ahn, Haoyan Chen, Jianjun Liu, Mark Seielstad, Averil Ma, Anne M Bowcock, Lindsey A Criswell, Mona Stahle and Wilson Liao. San Francisco, CA; Shanghai, China; Singapore, Singapore; London, United Kingdom and Stockholm, Sweden.

444* **Dominant de novo GJA1 mutations cause erythrokeratodermia variabilis.** Lynn Boyden, Brittany Craiglow, Jing Zhou, Ronghua Hu, Erin Loring, Kimberly Morel, Christine Lauren, Richard Lifton, Amy S Paller and Keith A Choate. New Haven, CT; New York, NY and Chicago, IL.

445 **Analysis of transcriptomes from palmoplantar pustulosis and palmoplantar pustular psoriasis suggests that they may not be different clinical entities.** Robert Bissonnette, Mayte Suarez-Farinas, Carrie Brodmerkel, Judilyn Fuentes Duculan, Kathleen M Bonifacio and James G Krueger. Montreal, Canada; New York, NY and Spring House, PA.

446** **Psoriasis drug development and GWAS interpretation through in silico analysis of transcription factor binding sites.** William R Swindell, Mrinal Kumar Sarkar, Philip E. Stuart, John J Voorhees, James T Elder, Andrew Johnston and Johann Eli Gudjonsson. Ann Arbor, MI.

447 **Buschke-Ollendorff syndrome in the absence of LEMD3 mutation.** Joshua L Owen, Christy E Purnadi and Donald A Glass. Dallas, TX.

448* **Functional genomics of the *ULBP6* locus reveals a critical role for CTCF-mediated long-range interactions in alopecia areata.** Gina Marie DeStefano, Lynn Petukhova, Esther Drill, Zhenpeng Dai, Li Bian, Raphael Clynes and Angela Christiano. New York, NY.

449 **Multiple facial vellus hair cysts, ear pits, lipomas, macrocephaly, joint laxity and cardiac defects: A novel genodermatosis?** Marisa Grace Grace Ponzo, Margot Van Allen, Magdalena Martinka and Jan Peter Dutz. Vancouver, Canada.

450* **Onychodystrophy, Palmoplantar keratoderma, and Amelogenesis imperfecta (OPA) syndrome caused by a homozygous mutation in *CNBD2*.** YC Metzger, O Sarig, R Bochner, D. Vodo, N Malchin, O Isakov, N Erez, A Gat, I Goldberg, N Shomron, M Schwartz, Irwin McLean, FJD Smith, FB Rihani and Eli Sprecher. Tel Aviv, Israel; Dundee, United Kingdom; Salt Lake City, UT and Irbid, Jordan.

451* **The BAF/SWI/SNF complex controls genome accessibility to p63 during epidermal differentiation.** Xiaomin Bao, Adam Rubin, Kun Qu, Jiajing Zhang, Paul Giresi, Howard Chang and Paul Khavari. Stanford, CA and Palo Alto, CA.

452* **Novel regulatory variants identified in adult atopic dermatitis by targeted deep sequencing alter enhancer function.** Cristina de Guzman Strong, Ashley Quiggle, Twinkal Marfatia, Kara Jill Gulewicz, Avner Shemer, Zane Goodwin, Wendell Jones and Emma Guttman-Yassky. St. Louis, MO; Tel-Aviv, Israel and New York, NY.

Notes:

453 **Guanine nucleotide binding protein alpha q polypeptide ($Gnaq^{M1J}$): An ENU induced mutant allele affecting dermal melanocytosis in the mouse.** Christopher S Potter, Louise Dionne, Heather Fairfield, Soheil S Dadras, John Paul Sundberg and C. Herbert Pratt. Farmington, CT and Bar Harbor, ME.

454 **Skin fragility of the wild-derived, inbred mouse strain *Mus pahari.*** Thomas Sproule, C. Herbert Pratt, Son Yong Karst, Derry C Roopenian and John Paul Sundberg. Bar Harbor, ME.

455 **Mouse models of skin and adnexal diseases in the Mouse Mutant Resource (MMR) at The Jackson Laboratory.** C. Herbert Pratt, Louise Dionne, Laura G Reinholdt, David E Bergstrom, Heather Fairfield, Belinda S Harris, Son Yong Karst and John Paul Sundberg. Bar Harbor, ME.

456 **Inherited LCK deficiency causes susceptibility to EV-HPV infections and early-onset squamous cell carcinoma.** Shuli Li, Lina Duo, Huijun Wang, Wei Dai, Weigang Zhang, Eray Yihui Zhou, Xu Cao, Jiahui Zhao, Sen Guo, Yanan Xu, Tao Zhao, Yueyuan Xiao, Cuiling Ma, Li Xia, Zhihua Yang, Liangtao Zheng, Yiyao Hu, Cheng Feng, Jinghua Yin, Guiwen Xu, Zhimiao Lin, Tianwen Gao, Yong Yang and Chunying Li. Xi'an, China; Beijing, China and Yinchuan, China.

457 **Intra-familial variation in clinical phenotype of *CARD14*-related psoriasis.** Marina Eskin-Schwartz, Lina Basel-Vanagaite, Michael David, Irina Lagovsky, Dan Ben-Amitay, Pola Smirin-Yosef, Lihi Atzmony and Emmilia Hodak. Petah Tikva, Israel and Tel Aviv, Israel.

458 **Mutations affecting keratin 10 surface exposed residues highlight the structural basis of phenotypic variation in epidermolytic ichthyosis.** Haris Mirza, Anil Kumar, Brittany Craiglow, Jing Zhou, Corey Saraceni, Bruce Ragsdale, Leonard Milstone, Paul Rehder, Annamari Ranki and Keith A. Choate. New Haven, CT; Zurich, Switzerland; San Luis Obispo, CA; Oxnard, CA and Helsinki, Finland.

459 **Systems biological analysis of alopecia areata reveals master regulators of hair follicle immune privilege.** James Chen, Ali Jabbari, Jane E Cerise and Angela Christiano. New York, NY.

460 **A role for autocrine and paracrine action of the Th1 chemokines in the pathogenesis of keratoderma.** Christina Young, Ellen Rorke and Richard Eckert. Baltimore, MD.

461 **Pathway analysis and protein-protein interaction network construction provide functional interpretation of GWAS evidence in alopecia areata.** L. Petukhova, Angela Christiano. New York, NY.

462 **Juxta-articular joint-capsule mineralization in CD73 deficient mice: Similarities to patients with *NT5E* mutations.** Dian Wang, Q. Li, Thea P Price, John Paul Sundberg and Jouni Uitto. Philadelphia, PA and Bar Harbor, ME.

463 **miR29b1 plays an important role in epidermal cell growth and survival .** Xiaoling Zhang, Joseph Wu, Jean Qin and Jennifer Y Zhang. Durham, NC.

464 **Kindler syndrome: Novel and recurrent *FERMT1* mutations in 20 unique families with 70 patients and evidence of genetic heterogeneity.** Leila Youssefian, Hassan Vahidnezhad, Mohammad R Barzegar, Q. Li, S Zeinali, P Mansouri, M R Basiri and Jouni Uitto. Tehran, Iran (the Islamic Republic of) and Philadelphia, PA.

465 **Somatic V600E *BRAF* mutation causes syringocystadenoma papilliferum.** Jonathan Levinsohn, Jeffrey Sugarman, Kaya Bilguvar, Jennifer McNiff and Keith A. Choate. New Haven, CT and San Francisco, CA.

466 **The spectrum of *COL7A1* mutations identified in 63 families with dystrophic epidermolysis bullosa by comparative Sanger and next generation sequencing.** Hassan Vahidnezhad, Leila Youssefian, S Zeinali, Mohammad R Barzegar, Soheila Sotoudeh, Adam Ertel, Q. Li, Nikoo Mozaffari, Paolo Fortina and Jouni Uitto. Tehran, Iran (the Islamic Republic of) and Philadelphia, PA.

467 **Evidence for coordinate regulation of Hmga2 and Tlr4 in hair follicle stem cells.** Yong Li. Austin, MN.

468 **Mineralization of soft connective tissues and cartilage in Enpp1*asj-2J* mutant mice.** Jieyu Zhang, Q. Li, C. H Pratt, L A Dionne, H Fairfield, S Y Karst, John Paul Sundberg and Jouni Uitto. Philadelphia, PA and Bar Harbor, ME.

469 **MicroRNAs involved in the pathogenesis of pachyonychia congenita.** Andreas Berroth, Yu-An Cao, Manuel A Flores, Tycho Speaker, Mary E Schwartz, Christopher Contag and Roger Kaspar. Stanford, CA; Santa Cruz, CA and Salt Lake City, UT.

470 **Identification of MITF regulated microRNAs in melanoma.** Ashika Jayanthy, Vijayasaradhi Setaluri. Madison, WI.

Growth Factors, Cell Adhesion, & Matrix Biology

All orals [designated with an asterisk (*)] listed below are presented in the Growth Factors, Cell Adhesion, & Matrix Biology Minisymposium on Saturday, May 9, 2015, from 12:30-3:30 pm in Salon AB, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

471 **Subcutaneous adipose tissue accumulation mediated by lymphatic dysfunction.** Kentaro Kajiya, Mika Sawane and Nobuyuki Takakura. Yokohama, Japan and Suita, Japan.

472 **Smurfs E3 ubiquitin ligases negatively regulate TGF-β signaling in keratinocytes.** Ken Shiraishi, Xiuju Dai, Masamoto Murakami, Mikiko Tohyama, Natsuki Matsushita, Takeshi Imamura and Koji Sayama. Toon, Japan.

473* **EphA2 negatively regulates EGFR to promote keratinocyte differentiation.** Bethany Elena Perez White, Paul Thomas, Joshua Rappoport and Spiro Getsios. Chicago, IL.

474** **Integrin αv is necessary for skin tissue generation and SCC tumor invasion, but is dispensable for epidermal maintenance.** Elizabeth Kennedy Duperret, Todd William Ridky. Philadelphia, PA.

475* **Desmosomal mediated mechanotransduction regulates cell adhesion and signaling.** Joshua A Broussard, Kathleen J Green. Chicago, IL.

476 **Tailoring fibroblast culture media to broaden functionality and increase cytokine responsiveness.** Peter Girling, Baertschi Stefan and Chennakesava Cuddapah. Bern, Switzerland.

477 **Estrogen receptor alpha-mediated control of growth factor production from nipple fibroblasts.** Hsin-Jung Wu, Dan F Spandau, Sunil S. Tholpady, Carlos Offutt, Sachiko Koyama and John G. Foley. Bloomington, IN and Indianapolis, IN.

478 **Defining mechanisms that regulate dermal adipose tissue in the skin.** Guillermo Rivera Gonzalez, Valerie Horsley. New Haven, CT.

479* **Altered desmosome organization, endocytosis and desmosome splitting in pemphigus vulgaris epidermis as revealed by super-resolution microscopy.** Sara N Stahley, Maxine Warren, Ron J Feldman, Robert Swerlick, Alexa Mattheyses and Andrew Kowalczyk. Atlanta, GA.

480* **Exclusion of insulin and IGF-1 receptors from caveolar domains by ganglioside GM3 mediates insulin resistance.** Duncan Hieu M Dam, June Jung ha Park, Betty Kong, Xiao-Qi Wang and Amy S. Paller. Chicago, IL.

Notes:

481 **Beneficial effects of blood group antigen synthesis-increasing molecules on extracellular matrix protein production *in vivo.*** Min Kyeong Shin, Mira Choi, Jang-Hee Oh, Se-Rah Lee, Dong Hun Lee, Seon-PIL Jin, Min-Kyoung Kim, Soyun Cho and Jin-Ho Chung. Seoul, Korea (the Republic of).

482 **UV irradiation-induced production of monoglycosylated biglycan through downregulation of xylosyltransferase 1 in cultured human dermal fibroblasts.** Mira Han, Cheng Long Jin, Jang-Hee Oh, Cheng Yao, Chi-Hyun Park, Zhe Hu Jin and Jin-Ho Chung. Seoul, Korea (the Republic of) and Yanji, China.

483 **Analysis of glycosaminoglycan composition change in intrinsically aged and photoaged human skin *in vivo.*** Yeon Kyung Kim, Jang-Hee Oh, Dayae Lee, Min Kyeong Shin, Kyu Han Kim and Jin-Ho Chung. Seoul, Korea (the Republic of).

484* **TGFβ release by fibroblasts requires regulated secretion via autophagosomes.** Beate Eckes, Julian Nuechel, Katrin Blumbach, Katrin Schoenborn, Jan-Niklas Schulz, Alexandra Zuk, Gerhard Sengle, Georg Brunner, Thomas Krieg and Markus Plomann. Cologne, Germany and Muenster, Germany.

485 **Deglycation activity of a combination of *Salvia miltiorrhiza* extract and Niacin.** Sabrina Leoty-Okombi, Julie Saget, Aurelie Boher, Amandine Gaydon, Olga Freis and Valerie Andre-Frei. Lyon, France.

486* **Lysyl hydroxylase 3 localizes to epidermal basement membrane and is reduced in patients with recessive dystrophic epidermolysis bullosa.** Stephen Watt, Jasbani Dayal, Sheila Wright, Celine Pourreyron, James McMillan, Megan Riddle, Irwin McLean, Irene Leigh, John McGrath, Julio Salas-Alanis, Jakub Tolar and Andrew P South. Dundee, United Kingdom; London, United Kingdom; Minneapolis, MN; Monterrey, Mexico and Philadelphia, PA.

487 **Self-delivering RNAi compounds targeting collagenase 1.** Katherine Holton, Melissa Maxwell, James Cardia, Lakshmipathi Pandarinathan and Karen Bulock. Marlborough, MA.

488* **Palmitoylation of the desmosomal cadherins is important for protein stability and assembly dynamics.** Brett J Roberts, Robert Svoboda, Keith Johnson and James K Wahl. Lincoln, NE.

489* ** **Differential requirement for HB-EGF vs. amphiregulin for survival of malignant vs. normal epithelial cells.** Stefan W Stoll, James T Elder. Ann Arbor, MI.

490* **RDEB fibroblast-derived periostin promotes the invasion of squamous cell carcinoma .** Mei Chen, Xinyi Wang, Yingping Hou, Jon Cogan, Olivia Lai, Weihuang Ning and David Timothy Woodley. Los Angeles, CA.

491* **Rapamycin modulates the glucocorticoid receptor functions, blocks atrophogene REDD1 expression, and protects skin against steroid-induced atrophy .** Irina Budunova, Ekaterina Lesovaya, Elena Vinokour, Gleb Baida, Pankaj Bhalla, Kirill Kirsanov, Marianna Yakubovskaya, Leonidas Platanias, Ben Readhead and Joel Dudley. Chicago, IL; Moscow, Russian Federation and New York, NY.

492 **Reduced mechanical force suppresses extracellular matrix production via specific down-regulation of TGF-β type II receptor in adult human dermal fibroblasts: Implications for the role of mechanobiology in skin aging.** Taihao Quan, Zhaoping Qin, Yuan Shao, Tianyuan He, John J Voorhees and Gary J Fisher. Ann Arbor, MI.

493* **Oxidative stress reduces collagen production through eIF2α-dependent down-regulation of transforming growth factor-beta signaling pathway in human dermal fibroblasts.** Tianyuan He, Taihao Quan, John J Voorhees and Gary J Fisher. Ann Arbor, MI.

494* **The role of the hemidesmosomal protein BP180 in granulopoiesis.** Lin Lin, Bin-Jin Hwang, Ning Li, Luis A. Diaz and Zhi Liu. Chapel Hill, NC.

495 **Topical solenopsin analogs improve inflammation and acanthosis in the KC-Tie2 mouse model of psoriasis.** Jack Leonard Arbiser, Kellie A Michaels, Ronald S Nowak, Michael Bonner, Isabella Karlsson, Yi Fritz and Nicole L Ward. Atlanta, GA and Cleveland, OH.

496* **Role of integrin-linked kinase in keratinocyte survival.** Lina Dagnino, Michelle Im. London, Canada.

497 **Intra-abdominal adhesions: Potential pathogenic role of fibronectin^{EDA} and Gli1^{+} cells.** Christine F Lotto, Edward Macarak, X Jin, E Rosato, Jouni Uitto and Joel Rosenbloom. Philadelphia, PA.

498 **Matrilin-2 and ADAMTS-4 express in aggressive basal cell carcinomas and regulate basal cell carcinomas progression.** Zhengke Wang, Fang Xiong, Ming Lu, Catherine Breen and Satori Iwamoto. Providence, RI.

499 **Anti-ageing clinical efficacy of stabilized retinol is associated with the stimulation of hyaluronic acid production.** Ramine Parsa, HK Helene Wong, Yaping Hu, Simarna Kaur, Manpreet Randhawa and Michael Southall. Skillman, NJ.

500 **Secreted heat shock protein-90 alpha (Hsp90α) is essential for skin wound healing.** Ayesha Bhatia, Kathryn O'Brien, Takashi Imai, Mei Chen, David Timothy Woodley, Heiichiro Udono and Wei Li. Los Angeles, CA and Chiba, Japan.

501 **Increased circulating monocyte aggregates in psoriasis patients exhibit an adhesion profile distinct from classical monocytes .** Jackelyn B Golden, Sarah G Groft, Michael V Squeri, Thomas McCormick and Kevin D Cooper. Cleveland, OH.

502* ** **Fibulin-4 is down-regulated in malignant head and neck SCC.** Kathleen P McGuinn, Takako Sasaki, Mon Li Chu and My G Mahoney. Philadelphia, PA and Oita, Japan.

Innate Immunity, Inflammation & Microbiology

All orals [designated with an asterisk (*)] listed below are presented in the Innate Immunity, Inflammation & Microbiology Minisymposium on Friday, May 8, 2015, from 2:00-5:00 pm in Salon E, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

503 **Trichodysplasia spinulosa-associated polyomavirus small T antigen activates MAPK pathway.** Julie H Wu, Harrison Nguyen, Rebecca Simonette, Peter L Rady and Stephen K Tyring. Houston, TX.

504 **Recognition of melanoma by an innate immune receptor Dectin-1 orchestrates innate immune cells for anti-tumor responses.** Hiroaki Ikushima. Tokyo, Japan.

505 **Use of a translational human *ex-vivo* skin model to predict clinical effective dose of a topical drug candidate.** Jessica Neil, Jean-Marie Brusq, Carlos Eduardo Peredo, Susan H Smith, Beth Millerman, Leandro Santos, Mary Bedard, Fabrice Viviani and Javier Cote-Sierra. Research Triangle Park, NC and Les Ulis, France.

506 **GSK compound A Inhibits keratinocyte and T lymphocyte proliferation and cytokine production by blocking cell cycle progression at the G1-S transition phase** Thi Bui, Christine Coquery, David Rickard, John Moore, Susan H Smith and Javier Cote-Sierra. Research Triangle Park, NC.

507 **AN2728, a new boron-based topical anti-inflammatory agent, inhibits phosphodiesterase 4 (PDE4).** Yvonne Freund, Chen Dong, Charlotte Virtucio-Frates, Fernando Rock, Yvonne Mak, Yasheen Zhou, Lee Zane and Kurt Jarnagin. Palo Alto, CA.

Notes:

508* **Dysbiotic microbiota drives atopic inflammation in *Adam17*$^{fl/fl}$*Sox9*-Cre mice.** Tetsuro Kobayashi, Martin Glatz, Keisuke Horiuchi, Thomas Doebel, Daniel Kaplan, Heidi H Kong, Masayuki Amagai and Keisuke Nagao. Tokyo, Japan; Bethesda, MD and Minneapolis, MN.

509* **IL-1β-independent neutrophil recruitment induces long-term protection against a *Staphylococcus aureus* skin reinfection.** Carly Page, Da Lee, Yu Wang, Jonathan Shahbazian, Alyssa Ashbaugh and Lloyd S Miller. Baltimore, MD.

510 **Role of filaggrin-deficiency, skin injury and *Staphylococcus aureus* in atopic dermatitis-like skin inflammation in mice.** Nate Archer, Yu Wang, Roger Ortines, Alyssa Ashbaugh, Carly Page, Michiko Oyoshi, Raif Geha and Lloyd S Miller. Baltimore, MD and Boston, MA.

511 **Integration of IL17 and TNF responses in human keratinocytes.** Sitharam Ramaswami, Mary E Anderson and Matthew S Hayden. New York, NY.

512 **Expression of toll like receptors 3, 7, 8, and 9 in peripheral blood mononuclear cells from patients with psoriasis .** Hee Joo Kim, Sung Hee Kim, Jeong Hwan Je, Dae Suk Kim, Dong Youn Shin and Min-Geol Lee. Seoul, Korea (the Republic of).

513 **Bacteria in the human skin microbiome mediate glycerol fermentation against *Malassezia furfur.*** Ming-Shan Kao, Ying-Hsien Lee, Yanhan Wang, Richard L Gallo and Chun-Ming Huang. Taoyuan, Taiwan and San Diego, CA.

514 **Unprocessed IL-36α regulates psoriasis-like skin inflammation in co-operation with IL-1α** Liselotte Jensen, Hangfei Fu, Katelynn A Milora and Ornella Dubaz. Philadelphia, PA.

515 **Topical application of acidic formulation alleviates psoriatic symptoms in imiquimod-induced psoriasis model.** Sung Woo Kim, Su Hwan Kim, Sin Hee Lee and Se Kyoo Jeong. Daejeon, Korea (the Republic of).

516 **Brimonidine tartrate inhibits norepinephrine plus adenosine-5'-triphosphate-induced interleukin 6 and interleukin 8 production by human dermal microvascular endothelial cells.** Claire Guo, Lori L Stohl and Richard David Granstein. New York, NY.

517 **Quantitative correlation of pruritus with functional connectivity MRI in the brain of mice with psoriasiform dermatitis.** Xiping Liu, Yasutomo Imai and Sam Hwang. Milwaukee, WI.

518 **The antimicrobial peptide human beta-defensin 3 induces regulatory T cell.** Thomas Schwarz, Anika Bruhs and Agatha Schwarz. Kiel, Germany.

519 **The antimicrobial peptide cathelicidin LL-37 induces semaphorin 3A production in normal human epidermal keratinocytes.** Yoshie Umehara, Yayoi Kamata, Mitsutoshi Tominaga, Francois Niyonsaba, Hideoki Ogawa and Kenji Takamori. Urayasu-shi, Japan and Bunkyo-ku, Japan.

520 **Antimicrobial and anti-inflammatory effects of *Helicobacter pylori*-derived synthetic antimicrobial peptides against *Staphylococcus aureus* in the skin.** Peter I Song, Sunhyo Ryu, Hyomi Hahn, Yoonkyung Park and Cheryl A. Armstrong. Aurora, CO; Denver, CO and Gwangju, Korea (the Republic of).

521* **Nociceptive sensory fibers drive IL-23 from CD301b+ dermal DC and provide protection from cutaneous C. albicans infection.** Sakeen Wali Kashem, Daniel Kaplan. Minneapolis, MN.

522* **Dermal adipocytes protect against invasive *Staphylococcus aureus* skin infection.** Lingjuan Zhang, Christian F. Guerrero-Juarez, Tissa Hata, Raul Ramos, Maksim Plikus and Richard L Gallo. San Diego, CA and Irvine, CA.

523 **IL-9/IL-9R of epidermal keratinocytes in atopic dermatitis: IL-9 induces IL-8 production through STIM1 activation and ERK phosphorylation.** Chih-Hung Lee, Chien-Hui Hong and Yu Hsin-Su. Kaohsiung, Taiwan; Taipei, Taiwan and Zhunan, Taiwan.

524* **TLR4 acts as a death receptor for ultraviolet radiation (UVR) in antigen presenting cells.** Hua Zhou, Erin Harberts, Rita Fishelevich, Stefanie Vogel and Anthony Gaspari. Baltimore, MD.

525 **Real-time imaging of *Bartonella henselae* invading mature human erythrocytes.** Marna Ericson, Gislaine Viera-Damiani, Marlene Neves da Silva, Kalpna Gupta, Tania Soares, Maria Cintra, Amanda de Almeida, Vitor Pelegati, Andre de Thomaz, Mariana Baratti, Hernandes Carvalho, Carlos Lenz Cesar and Paulo Velho. Minneapolis, MN; Campinas, Brazil and Sao Paulo, Brazil.

526* **Angiogenic peptide-30 (AG-30) activates primary human keratinocytes to produce cytokines/chemokines via MrgX receptors.** Chanisa Kiatsurayanon, Francois Niyonsaba, Hiroko Ushio, Shigaku Ikeda, Ko Okumura and Hideoki Ogawa. Tokyo, Japan.

527 **Identification and modulation of cytokines produced from skin-derived innate lymphoid cells.** Christine Coquery, Thi Bui, Susan H Smith and Javier Cote-Sierra. Research Triangle Parl, NC.

528 **Role of galectin-7 in pathogenesis of psoriasis: regulation of skin inflammation and epidermal homeostasis through two microRNA pathways.** Hung-Lin Chen, Chia-Hui Lo, Meng-Ping Lu, Yuan-Hsin Lo, Huan-Yuan Chen and Fu-Tong Liu. Taipei, Taiwan and Davis, CA.

529 **SIG1273: A skin protecting cosmetic functional ingredient with a broad spectrum of anti-aging and anti-inflammatory properties.** Jose R Fernandez, Karl Rouzard, Michael Voronkov, Kristen L. Huber, Corey Webb, Maxwell Stock, Jeffry B. Stock, Joel S. Gordon and Eduardo Perez. Princeton, NJ.

530** **IL-17C, TNFα and IL-36 compensate for loss of IL-6 and identify novel signals facilitating the transition between uninvolved and involved psoriasis skin.** Philip Klenotic, Andrew Johnston, Thomas McCormick and Nicole L Ward. Cleveland, OH and Ann Arbor, MI.

531 **Nitric oxide releasing nanoparticles effectively prevent *Propionibacterium acnes* induced inflammation by both clearing the organism and inhibiting microbial stimulation of the innate immune response.** Min Qin, Angelo Landriscina, Jamie Rosen, George W Agak, Stephanie Kao, Gabrielle Wei, Karin Blecher, Josephine Bonventre, Alicea Clendaniel, Josephine Stacey Harper, Brandon Adler, Joel Friedman, Joshua Nosanchuk, Jenny Kim and Adam Friedman. Los Angeles, CA; Bronx, NY and Corvallis, OR.

532 **Intradermal administration of norepinephrine (NE) and adenosine-5'-triphosphate (ATP) induces interleukin-6 (IL-6) and CXCL1 expression in murine skin.** Lori L Stohl, Wanhong Ding, Richard David Granstein and John A Wagner. New York, NY.

533 **The chronic wound microbiome as a biomarker for clinical outcomes.** Michael Loesche, Sue E. Gardner, Brendan P Hodkinson, Amanda Tyldsley, Joseph Horwinski, Sanaa Boudhar, David J Margolis and Elizabeth A Grice. Philadelphia, PA and Iowa City, IA.

534 **Targeting tumor-associated macrophages with anti-CSF-1R antibodies as a strategy for inhibiting T cell lymphoma tumorigenesis.** Sam Hwang, Xuesong Wu and Yasutomo Imai. Milwaukee, WI.

535 **Commensal microbiota-responsive basophils promote atopic dermatitis-associated itch.** Landon K. Oetjen, Changxiong Guo, Madison R. Mack, Timothy M. Whelan, Qin Liu and Brian S. Kim. St. Louis, MO.

536 **Three-dimensional printing of chemotherapeutic and antibiotic eluting fibers, seeds, and discs for localized drug delivery in cutaneous disease.** Jeffery A Weisman, Nadine Marwan Kaskas, Adam H Green, David H Ballard, Jeffery J Ambrose, Lin Sun and David K Mills. Shreveport, LA and Ruston, LA.

Notes:

537 **C. elegans as a model to screen natural human odors produced by the human skin microbiome.** Sung-Min Wang, Chun-Ming Huang. Taoyuan, Taiwan and San Diego, CA.

538 **Reducing flightless I expression decreases severity of psoriasis in an imiquimod-induced murine model .** Zlatko Kopecki, Heng Chong, Gink Yang, Shireen Sidhu, Jan Ibbetson and Allison Cowin. Adelaide, Australia.

539 **Probiotic activity of *S. epidermidis* in the skin microbiome inhibits the growth of T. rubrum: A fungal nail treatment.** Hong Tsou, Pei-Yi Yu, Shinta Marito and Chun-Ming Huang. Taoyuan, Taiwan and San Diego, CA.

540 **Type 2 human papillomavirus E7 can attenuate NF-κB in human epidermal keratinocytes.** Young Min Park, Yunhee Ryu, Ju Hee Han, Ji Hyun Lee and Soon Yong Choi. Seoul, Korea (the Republic of) and Daejeon, Korea (the Republic of).

541 **Signaling through tachykinin receptors regulates the pro-inflammatory and type 2-biasing functions of mast cells.** Tina L. Sumpter, Olga Tkacheva, William Schufesky, Adrian Morelli and Adriana T Larregina. Pittsburgh, PA.

542 **Microbiome study with an *in vitro* reconstructed skin.** Sabrina Leoty-Okombi, Loreleï Valla-Dury, Celine Lebeux, Valérie Cenizo, Valerie Andre-Frei, Anne Vianney and Sebastien Cadau. Lyon, France.

543* **Cell-specific inflammatory response to short-chain fatty acids produced by *P. acnes.*** James Asbury Sanford, Richard L Gallo. San Diego, CA.

544* **PD-1 regulates imiquimod-induced psoriasiform dermatitis through inhibition of innate IL-17A expression by γδ low T Cells.** Xuesong Wu, Yasutomo Imai, Natarajan Ayithan, Li Wang and Sam Hwang. Milwaukee, WI.

545 **Secrets from the past: Natural products and the future of topical anti-infectives.** Cassandra L Quave, James Lyles, Kate Nelson, Jeffery S. Kavanaugh, Corey Parlet, Heidi Crosby and Alex Horswill. Atlanta, GA and Iowa City, IA.

546 **Psoriasin (S100A7) regulates markers of epidermal differentiation.** Anna-Karin Ekman, Jenny Vegfors, Cecilia Bivik and Charlotta Enerbäck. Linköping, Sweden.

547 **Inhibition of adhesion proteins expression in human dermal microvascular endothelial cells exposed to TNF-α by a *Sambucus nigra* extract** Mathilde Frechet, Lionel Valenti, Pierre-Gilles Markioli, Patrick Lafitte, Frederic Maccario and Jean-François Nicolay. Monaco, Monaco.

548 **Coincident therapeutic light plus ultrasound for *P. acnes* and *S. aureus* biofilm eradication.** Tessie B McNeely, Mark Schafer and Adam Dakin. Ambler, PA.

549 **Improved understanding of the mechanistic aspects of skin allergy – *studies of the fluorescent contact sensitizer TRITC.*** Isabella Karlsson, Kristin Samuelsson, Carl Simonsson, Leopold Ilag, Charlotte Jonsson, Ann-Therese Karlberg and Ulrika Nilsson. Stockholm, Sweden and Gothenburg, Sweden.

550 **Therapeutic intradermal delivery of tumor necrosis factor-alpha antibodies using tip-loaded dissolvable microneedle arrays.** Geza Erdos, Emrullah Korkmaz, Emily Friedrich, Mohamed Ramadan, Alicia R Mathers, Burak Ozdoganlar, Newell Washburn and Louis D. Falo. Pittsburgh, PA.

551 **Interferon-gamma enhances TLR3 expression and anti-viral activity in keratinocytes.** Shin Morizane, Ai Kajita, Tetsuya Takiguchi, Takenobu Yamamoto, Masao Yamada and Keiji Iwatsuki. Okayama, Japan; Hamamatsu, Japan and Kurashiki, Japan.

552* **IL-1 and IL-36 are the dominant cytokines in generalized pustular psoriasis.** Andrew Johnston, Xianying Xing, Liza Wolterink, Drew H Barnes, William R Swindell, Mrinal Kumar Sarkar, J M Kahlenberg, Paul W Harms and Johann Eli Gudjonsson. Ann Arbor, MI.

553* **The human skin virome and its interactions with the host microbiome.** Geoffrey D Hannigan, Jacquelyn Meisel, Amanda Tyldsley, Qi Zheng, Brendan P Hodkinson, Adam J SanMiguel, Samuel Minot, Frederic D Bushman and Elizabeth A Grice. Philadelphia, PA.

554 **Skin microbiome characterizations are biased by sequencing approach.** Jacquelyn Meisel, Geoffrey D Hannigan, Amanda Tyldsley, Adam J SanMiguel, Brendan P Hodkinson, Qi Zheng and Elizabeth A Grice. Philadelphia, PA.

555 **Recirculating dermal IL-17-producing Vγ4+ γδT cells display memory-like responses.** Francisco Ramirez-Valle, Jason Cyster. San Francisco, CA.

556 **TLSP induced phosphorylation of L-plastin in eosinophils and its implication in atopic dermatitis.** Jung U Shin, Ji Yeon Noh, SeoHyeong KIM, Shan Jin, Hemin Lee, Jungsoo Lee, Howard Chu, Chang Ook Park and Kwang Hoon Lee. Seoul, Korea (the Republic of) and Boston, MA.

557* **Spatial expression of RGD-binding integrins on keratinocytes control homeostatic and UV-induced Langerhans cell migration by activating latent TGFβ** Javed Mohammed, Aleh Bobr, Brian Astry, Alina G Bridges and Daniel Kaplan. Minneapolis, MN and Rochester, MN.

558 **A requirement for pDC in the initiation of psoriasiform inflammation.** Alexis Griffith, Matthew Hadiono, Rachel Davis and Daniel Popkin. Cleveland, OH.

559 **Fisetin, a small molecule and a natural inhibitor of mTOR for treating psoriasis.** Jean Christopher Chamcheu, Maria Ines Chaves-Rodriquez, Imtiaz Siddiqui, Vaqar Adhami, Deeba N Syed, Shah-Johan Dodwad and Hasan Mukhtar. Madison, WI.

560* **LTA from commensal bacteria modulates keratinocyte SCF production to maintain mast cells in the skin .** Zhenping Wang, Xiaojun Sun and Anna Di Nardo. La Jolla, CA.

561 **Opposing roles for Neurokinin-1 receptor in skin resident and circulating immune cells.** Yi Fritz, Doina Diaconu, Maya Camhi, Thomas McCormick and Nicole L Ward. Cleveland, OH.

562 **Robust induction of innate epidermal response genes by petrolatum sheds light on its function in preventing cutaneous infections.** Dana Malajian, Joel M Corrêa da Rosa, Avner Shemer, James G Krueger and Emma Guttman-Yassky. New York, NY and Tel-Aviv, Israel.

563 **Clusters of dermal *Bartonella henselae* may be a functional biofilm.** Marna Ericson, Melissa Weber-Sanders, Gislaine Viera-Damiani, Marlene Neves da Silva, Vitor Pelegati, Carlos Lenz Cesar and Paulo Velho. Minneapolis, MN and Campinas, Brazil.

564 **A blockade of lysophosphatidic acid - lysophosphatidic acid receptor 1 cascade augments murine allergic skin inflammation.** Ken Igawa, Yoshiko Itoh and Hiroo Yokozeki. Tokyo, Japan.

565 **Dendritic cells display nanomolar sensitivity to zinc pyrithione-induced zinc ion dysregulation causing heat shock and metal stress response gene expression.** Sophia L Park, Georg T Wondrak. Tucson, AZ.

566 **Effect of IL-17 on an organotypic model of psoriasis** Michael Allen Bachelor, Seyoum Ayehunie, Tim Landry, Zachary Stevens, Cristy Hedin, Alexander Armento and Mitchell Klausner. Ashland, MA.

567 **C-type lectin receptors upregulated in skin of Ptpn6/Shp-1-deficient mice with neutrophilic dermatosis-like disease.** Andrew Nesterovitch, Zarema Arbieva, Daniel Toth, Adrienn Markovics, Tibor Rauch, Michael Tharp and Tibor Glant. Chicago, IL.

568 **SIG1191: A novel cosmetic functional ingredient with anti-inflammatory properties and skin hydrating potential.** Karl Rouzard, Jose R Fernandez, Michael Voronkov, Kristen L. Huber, Corey Webb, Jeffry B. Stock, Maxwell Stock, Joel S. Gordon and Eduardo Perez. Princeton, NJ.

Notes:

569 **xMAP® technology and tape stripping: High-throughput profiling of stratum corneum IL-1RA and IL-1α** Nicola Parisi, P. J. Matts, R. Lever, J. Hadgraft and Majella E. Lane. London, United Kingdom and Egham, United Kingdom.

570 **The cytosolic nucleic acid-sensing pathways play critical roles in host restriction of modified vaccinia virus Ankara replication.** Liang Deng, Weiyi Wang, Cristian Serna-Tamayo, Zhaoyang Niu, Peihong Dai and Stewart Shuman. New York, NY.

571 **Lewisite-induced cutaneous injuries in murine skin.** Mohammad Athar, Changzhao Li, Ritesh K. Srivastava, Zhiping Weng and Farrukh Afaq. Birmingham, AL.

572 **IL-27 participates in cutaneous host immune suppression in leprosy.** Kindra Kelly-Scumpia, Rosane MB Teles and Robert Modlin. Los Angeles, CA.

573 **Negative regulation of noncanonical NF-kB signaling.** Bahram Razani. Los Angelesc, CA and San Francisco, CA.

574 **Macrophages infected with Mycobacterium leprae fail to activate appropriate antimicrobial pathways.** Philip Oliver Scumpia, Giovanni Botten, Kindra Kelly-Scumpia, Robert Modlin and Stephen Smale. Los Angeles, CA.

Photobiology

All orals [designated with an asterisk (*)] listed below are presented in the Photobiology Minisymposium on Saturday, May 9, 2015, from 12:30-3:30 pm in Salon C, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

575 **Comparison of the effects of continuous and pulsed-wave light photodynamic therapy.** Hideyuki Masuda, Makoto Kimura and Akimichi Morita. Tokyo, Japan and Nagoya, Japan.

576 **Role of UVB-induced IL-1 and neutrophils in dermal collagen alteration in murine skin.** Meena Sharma, Victoria Werth. Philadelphia, PA.

577 **Light emitting diode-generated red light alters human fibroblast proliferation rate and migration speed through modulation of the PI3K/AKT pathway.** Jared R Jagdeo, Andrew Mamalis, Roslyn Rivkah Isseroff and William Murphy. Sacramento, CA; Brooklyn, NY and Mather, CA.

578* **A meta-analysis of microRNAs expression profile in UV-radiation induced skin tumors** Ram Prasad, Tripti Singh, Mudit Vaid and Santosh K Katiyar. Birmingham, AL.

579*** **Drinking green tea inhibits photocarcinogenesis in mice by upregulating the levels of miRNA-29 and subsequently inhibition of DNA hypermethylation in tumors** Santosh K Katiyar, Tripti Singh and Ram Prasad. Birmingham, AL.

580 **TGF-beta signaling links E-cadherin loss to suppression of UVB-induced DNA repair.** Lei Qiang, Palak Shah, Mary Helen Barcellos-Hoff and Yu-Ying He. Chicago, IL and New York, NY.

581 **Toll-Like Receptor-4 deficiency enhances repair of ultraviolet radiation induced DNA damage in skin and prevents skin cancer.** Michelle Chang, Mohammad O Ata, Iman A Tamimi, Israr Ahmad, Santosh K Katiyar, Craig A Elmets and Nabiha Yusuf. Birmingham, AL.

582* **Ultraviolet radiation, both UVA and UVB, influences the composition of the skin microbiome.** Erin M Burns, Abdullah Shaheen, Anum Muzaffar, Camli Al-Sadek, Thompson Foy, Mohammad Abdelgawwad, Sumeira Huda, Prescilia N Isedeh, Ranjit Kumar, Travis Ptacek, Henry W. Lim, Iltefat H Hamzavi, Casey D Morrow, Craig A Elmets and Nabiha Yusuf. Birmingham, AL and Detroit, MI.

583 **Clinicopathological features of Bowen's disease resistance to methyl aminolevulinate photodynamic therapy.** Tamara Gracia-Cazaña, Jesus Vera-Alvarez, Angeles Juarranz, Ievgenia Pastushenko, Nerea Salazar, Salvador Gonzalez and Yolanda Gilaberte. Barbastro, Spain; Huesca, Spain; Madrid, Spain; Brussels, Belgium and New York, NY.

584* **Circadian rhythm and skin inflammation.** Amanda K Suggs, Jacqueline Selph, Minh Lam and Elma D Baron. Cleveland, OH.

585 **Ultraviolet Radiation (UVR) induced cytogenetic damage in melanocytes of White, Hispanic and Black skin.** Amrita Dasgupta, Meena Katdare. Hampton, VA and Norfolk, VA.

586 **Evaluation of DNA damage biomarker expression in UV-exposed human keratinocytes using sphingomyelin treatment.** Kevin T Campbell, Kristina Bishard, Karissa Cardenas and Lily Laiho. San Luis Obispo, CA.

587* **Alternative keratin 17 expression variation is induced by different doses of narrow-band ultraviolet B in keratinocytes via Erk1/2-dependent mechanism.** Er-Le Dang, Chang-xu Han, Liang Jin and Gang Wang. Xi'an, China.

588 **Involvement of AhR-dependent COX-2 generation in the mechanism of antifungal voriconazole-induced, UV-associated skin cancer development.** Shigeki Ikeya, Jun-ichi Sakabe and Yoshiki Tokura. Hamamatsu, Japan.

589* **The tumor suppressor $p27^{KIP1}$ in keratinocytes is regulated via an autocrine mechanism involving the aryl hydrocarbon receptor (AHR).** Thomas Haarmann-Stemmann, Marius Pollet and Jean Krutmann. Düsseldorf, Germany.

590 **Combining ethanol and UVB results in augmented acute cutaneous and systemic effects via augmented Platelet-activating factor production.** Ravi Sahu, Jonathan Weyerbacher, Raymond Lloyd Konger and Jeffrey B. Travers. Indianapolis, IN.

591** **Silymarin mediated DNA repair is a mechanism for suppression of UVB induced Treg cells and prevention of photocarcinogenesis.** Hui Xu, Hui Li, Donggou He, Tripti Singh, Ram Prasad and Santosh K Katiyar. Birmingham, AL.

592 **Rab23 regulates UVB-induced autophagy via ERK/mTOR Signaling Pathway in epidermal keratinocytes.** Min Huang, Jian Qiang and Chengxin Li. Xi'an, China and Beijing, China.

593* **Platelet-activating factor receptor agonists generated by radiation therapy thwart host anti-tumor immunity .** Ravi Sahu, Raymond Lloyd Konger and Jeffrey B. Travers. Indianapolis, IN.

594* **Lipid oxidation patterns and kinetics in keratinocytes undergoing senescence-promoting stress or replicative senescence.** Florian Gruber, Marie Sophie Narzt, Ionela Mariana Nagelreiter, Susanne Karner, Johannes Grillari, Katarzyna Figlak, Manuel Filzwieser, Valery Bochkov and Erwin Tschachler. Vienna, Austria and Graz, Austria.

595* **UVA and UVB induce different sets of long non-coding RNAs.** Thomas M. Ruenger, Kazuyuki Yo. Providence, RI and Yokohama, Japan.

596 **Effect of TNFα blockade on UV-induced changes in the skin.** Jamie Langenhan, Meena Sharma, Elizabeth S Robinson, Emily Privette, Rui Feng, Joyce Okawa and Victoria Werth. Phil, PA.

597* **Distinctive molecular and cellular responses to UVB in keratinoctyes and melanocytes.** Liang Liu, Masashi Nakatani and Arianna Kim. New York, NY.

Notes:

598* miR-30 is downregulated in human squamous cell carcinoma and UVB exposed keratinocytes.** Deeba N Syed, Rahul K Lall, Nosheen Akhtar, Jack Longley and Hasan Mukhtar. Madison, WI.

599* Visible light-induced hyperpigmentation in human skin *in vivo* occurs in dark, but not in light skin, and is associated with differential induction of CCL18 and tyrosinase genes.** Barbara Rainer, Ji Qi, Jo Martin, Aleksandra Ogurtsova, C. Conover Talbot, Sherry Leung, Luis A Garza, Anna L. Chien and Sewon Kang. Baltimore, MD.

600 Mixture of *Areca catechu* nuts and *Alpinia katsumadai* seeds inhibits skin photoaging by inhibition of UVB-induced 11β-hydroxysteroid dehydrogenase type 1 up-regulation. Jin-Ju Nam, Ji-Eun Park, Seok Kyun Yun and Seong-Joon Moon. Seongnam-si, Korea (the Republic of).

601 Changes of genes in a time-dependent photoaged mouse model. Seon-PIL Jin, Eun Young Seo, Chang-Eop Kim, In-kyung Oh and Jin-Ho Chung. Seoul, Korea (the Republic of).

602 Solar simulated Ultraviolet radiation induces global histone hypoacetylation in human HaCaT keratinocytes. Hong Sun, Xiaoru Zhang, Thomas Kluz, Lisa Gesumaria, Mary S Matsui and Max Costa. Tuxedo, NY and Melville, NY.

603 Antioxidants prevent ozone induced oxidative damage in human keratinocytes. Christian Oresajo, Giuseppe Valacchi, Claudia Sticozzi, Nannan Chen and Yevgeniy Krol. Ferrara, Italy; Clark, NJ and New York, NY.

604 CXCL5 is secreted by UV irradiated skin cells and enhances CGRP release in sensory neurons. Gitta Neufang, Olga Reichert, Dennis Roggenkamp, Ludger Kolbe, Lara Terstegen, Franz Staeb and Horst Wenck. Hamburg, Germany.

605 Autophagy and skin aging . Raaj P Khusial, Michelle Slade, John Lyga and Uma Santhanam. Suffern, NY.

606 Chemiexcitation of melanin derivatives induces cyclobutane dimers in the dark. Douglas E. Brash, Sanjay Premi, Silvia Wallisch, Camila Mano, Adam Weiner, Antonella Bacchiocchi, Kazumasa Wakamatsu, Etelvino Bechara, Ruth Halaban and Thierry Douki. New Haven, CT; Sao Paolo, Brazil; Toyoake, Japan and Grenoble, France.

607 Signaling pathways that modulate the UVR response of human melanocytes . Zalfa A Abdel-Malek, Anne vonKoschembahr, Viki Swope and Renny Starner. Cincinnati, OH.

608* UVB induces mast cell dermal recruitment and activation trough S1P production from human keratinocyte . Anna Di Nardo, Matthieu Vanderberghe and Zhenping Wang. La Jolla, CA.

609* Identification of glycolysis-derived α-dicarbonyl metabolites as the smallest known endogenous UVA-photosensitizers in human skin cells and reconstructed epidermis. Georg T Wondrak, Rebecca Justiniano, Shuxi Qiao and Joshua D Williams. Tucson, AZ.

610 Low-level laser treatment of chemotherapy-induced alopecia: A preclinical study in rats. Assuan Lens, Keyvan Nouri, Joaquin Jimenez and Tongyu Cao Wikramanayake. Miami, FL.

611 Enhanced DNA repair in keratinocytes reconstituted into epidermal equivalents. Dennis H. Oh, Katherine Ona-Vu. San Francisco, CA.

Pigmentation & Melanoma

All orals [designated with an asterisk (*)] listed below are presented in the Pigmentation & Melanoma Minisymposium on Friday, May 8, 2015, from 2:00-5:00 pm in Salon AB, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

612 Small molecule inhibitors of protein kinase CK2 reduce proliferation and viability of melanoma cells *in vitro.* Erin Marie Dodd, Janeen H Trembley and Rehana Leila Ahmed. Mpls, MN.

613 The role of KIT in early melanoma development. Christian Posch, Martina Sanlorenzo, Homayoun Moslehi, Igor Vujic, Juan Oses-Prieto, Rosaura Esteve-Puig, Gary Green, Luz Feeney, Al Burlingame, Klemens Rappersberger and Susana Ortiz-Urda. San Francisco, CA; Boston, MA; Vienna, Austria and Torino, Italy.

614 Neurotrophin receptors and perineural invasion in desmoplastic melanoma. Noah Frydenlund, Dominick Leone, Brendon Mitchell, Shi Yang and Meera Mahalingam. Boston, MA.

615* CD4, IL-17, and COX-2 are associated with inflammation in melasma. Adriana Rodríguez-Arámbula, Juan P Castanedo-Cázares, Diego Cortés-García, Bertha Torres-Álvarez and Karla Imelda Martínez-Rosales. San Luis Potosi, Mexico and San Luis Potosí, Mexico.

616 An epithelial-mesenchymal transition in melanoma is associated with acquired resistance to BRAF inhibition. Yiyin Erin Chen, Zhenyu Ji, Michael Taylor, Jenny Chi-Ni Njauw, Goran Jonsson and Hensin Tsao. San Francisco, CA; Boston, MA and Lund, Sweden.

617* MT19c resensitizes metastatic melanoma cells to vemurafenib, decreases tumor growth, and increases survival in a vemurafenib-resistant metastatic melanoma model. Alex Han, Michael Vezeridis, Rakesh Singh, Leslie Robinson-Bostom, Martin A Weinstock and Richard Moore. Providence, RI.

618 Dual inhibition of CRD-BP and BRAF in BRAF-mutant Melanoma – A novel approach to overcome resistance to BRAF inhibitors. TaeWon Kim, Yaohui Gloria Xu, Vijayasaradhi Setaluri and Vladimir Spiegelman. Madison, WI.

619 Aspirin induces Nrf2-mediated transcriptional activation of heme oxygenase-1 in protection of human melanocytes from H_2O_2-induced oxidative stress. Zhe Jian, Lingzhen Tang, Tianwen Gao and Chunying Li. Xi'an, China.

620 Depletion of melanoma fn14 by oligonucleotide-mediated exon skipping. Kristen M Beck, Sitharam Ramaswami, Wangyong Zeng and Matthew S Hayden. New York, NY.

621 High expression of Mcl-1 mediated by MEK–ERK1/2–STAT3 signaling pathway protects melanocytes and melanoma cells against ultraviolet B-induced apoptosis. Takeshi Fukumoto, Tetsushi Iwasaki, Taro Okada, Takanori Hashimoto, Youbin Moon, Masanobu Sakaguchi, Yasuo Fukami, Chikako Nishigori and Masahiro Oka. Kobe, Japan.

622* Y chromosome encoded TSPY proto-oncogene drives increased melanoma cell aggressiveness . Maria L. Wei, Zhi-ming Huang, Yunmin Li, Tatsuo Kido, Iwei Yeh, Kavari Korgavkar, Adi Nosrati, John Livingstone, Jillian W. Wong, Glynis Scott and Chris Lau. San Francisco, CA and Rochester, NY.

623 Broadband light absorption characteristics of melanin: human skin measurement beyond Chromameter and Mexameter. InSeok Seo, Hao Ouyang. Skillman, NJ.

Notes:

624* **CDK1 enhances tumor initiation and stemness by interacting with stem cell genes in human cancers.** Yuchun Luo, John J Arcaroli, Nicholas Nguyen, Sucai Liu, Lekha Kutty, Stacey Bagby, Steven Robinson, William Robinson, David Norris, Wells Messersmith and Mayumi Fujita. Aurora, CO and Denver, CO.

625 ***Akt activation promotes the development of brain metastases in a mouse model of melanoma.*** Joseph Cho, James Robinson, Rowan Arave, Russell Green, David Kircher, Guo Chen, Michael Davies, Allie Grossmann, Matthew VanBrocklin and Sheri Holmen. Salt Lake City, UT; Austin, MN and Houston, TX.

626 **Phenformin as a therapeutic adjunct for melanoma.** Fiona M Shaw, Lewis C Cantley and Jonathan Hale Zippin. Atlanta, GA and New York, NY.

627 **MicroRNA approach to target collagen recycling, cellular senescence and melanin production *in vitro.*** Karine Cucumel, Ludivine Mur, Florian labarrade, Catherine Gondran, Gilles Oberto, Yolene Ferreira and Nouha Domloge. Sophia Antipolis, France.

628 **Post-translational mechanisms regulate fn14 expression and signaling in melanoma.** Matthew S Hayden, Kristen M Beck. New York, NY.

629 **mTOR and PKM2 are constitutively up-regulated in human melanoma cells but not in melanocytes** Alfredo Gonzalez, Jeanine Justiniano, Ryan Garrity, Yali Cui and Yinsheng Wan. Providence, RI and Xi'an, China.

630 **Circadian rhythm of human tyrosinase.** Earl C Goyarts, Nadine Pernodet. Melville, NY.

631 **Characteristic comparison of human melanoma cell lines derived from primary and metastatic sites** Xiaofeng Lin, David Fiore, Paul Thompson, Jane K Goodrich, Tatyana Yufit, Polly Carson and Vincent Falanga. Boston, MA.

632 **Effects of MAPK inhibition on glucose uptake in melanoma are largely secondary to alterations in cellular morphology .** Nicholas Theodosakis, Matthew A Held, Alexander Marzuka and Marcus Bosenberg. New Haven, CT.

633 **Correlation of insulin-like growth factor II mRNA-binding protein 3 (IMP-3) and high mobility group AT-hook 2 (HMGA2) expressions in human melanoma.** Chia-Yu Chu, Yi-Shuan Sheen, Chih-Chun Yeh and Shiou-Hwa Jee. Taipei, Taiwan.

634* **Multigene epigenetic signature is a prognostic marker in melanoma.** Goran Micevic, Viswanathan Muthusamy, Richard Scolyer and Marcus Bosenberg. New Haven, CT and Sydney, Australia.

635* **Delayed cyclobutane pyrimidine dimers induced by chemiexcited melanin derivatives long after UV exposure.** Sanjay Premi, Silvia Wallisch, Camila Mano, Adam Weiner, Antonella Bacchiocchi, Kazumasa Wakamatsu, Etelvino Bechara, Ruth Halaban, Thierry Douki and Douglas E. Brash. New Haven, CT; Sao Paulo, Brazil; Toyoake, Japan; São Paulo, Brazil and Grenoble, France.

636* **Oncogene starvation via selective CDK7 inhibition: A novel approach for targeting traditionally undruggable oncogenic molecules in melanoma.** Philip Eliades, David Michael Miller, Michael Taylor, Raj Kumar, Nicholas Kwiatkowski, Tinghu Zhang, Richard A Young, Nathanael S Gray and Hensin Tsao. Boston, MA and Cambridge, MA.

637* **Sex steroids regulate human pigmentation through non-classical receptors.** Christopher Natale, Todd William Ridky. Philadelphia, PA.

638 **Fisetin potentiates the anti-invasive and anti-metastatic effects of sorafenib in BRAF-mutated melanoma.** Harish C Pal, Ariana C Diamond, John C Kappes, Craig A Elmets and Farrukh Afaq. Birmingham, AL.

639 **P2X7/PANX1 inhibition decreases melanoma proliferation and differentiation *in vitro* and decreases tumor growth *in vivo.*** Jenna Bordelon, Samantha L Schneider, Andrew Louis Ross, Mark Eller and James Michael Grichnik. Miami, FL and Bronx, NY.

640 **Notch1 confers melanoma resistance to temozolomide through NLRP1 upregulation.** Zili Zhai, Weimin Liu, Manjinder Kaur, Yuchun Luo, David Norris, Richard A. Spritz, Charles A Dinarello and Mayumi Fujita. Aurora, CO and Denver, CO.

641** **Narrow band UVB treatment of human vitiligo is associated with induction of stem cell genes for melanocyte repopulation in the hair follicle and epidermis.** Stanca A Birlea, Nathaniel B. Goldstein, Maranke I Koster, Laura Hoaglin, Bifeng Gao, Kenneth Jones, Dennis R Roop and David Norris. Aurora, CO.

642 **Tyrosinase targeting self-delivering RNAi compounds.** Melissa Maxwell, Katherine Holton, James Cardia, Lakshmipathi Pandarinathan, Michael Byrne and Karen Bulock. Marlborough, MA.

643 **Differences in patient and tumor characteristics in amelanotic vs. pigmented melanomas.** Lauren Christene Strazzulla, Xiaoxue Li, Lana Tong, Sandra J Lee and Caroline C Kim. New York, NY; Los Angeles, CA and Boston, MA.

644* **Inhibition of histone deacetylase 3 overcomes BRAF-inhibitor resistance.** Xiao-Qi Wang, Antonio Velez, Chelsea St. Claire and Amy S. Paller. Chicago, IL.

645 **XPA-induced autophagy promotes cisplatin resistance in melanoma cells.** Chunying Li, Rui Ge, Lin Liu and Tianwen Gao. Xi'an, China.

646* **MSX1-induced neural crest-like reprograming promotes melanoma progression.** Mizuho Fukunaga-Kalabis, Markus Heppt, Joshua Wang, Denitsa Hristova, Zhi Wei, Martin Irmler, Carola Berking, Robert Besch, Johannes Beckers, Frank J Rauscher, David E Fisher and Meenhard Herlyn. Philadelphia, PA; Munich, Germany; Newark, NJ; Neuherberg, Germany and Boston, MA.

647 **Measurement of skin pigmentation using a chromameter in a 3-dimensional epidermal model containing functional melanocytes** Michael Allen Bachelor, Bridget Breyfogle and Mitchell Klausner. Ashland, MA.

648 **Strategic use of BCL-2 inhibitors to target melanoma cells and melanoma initiating cells.** Nabanita Mukherjee, Chung-Wai Shiau, Yan Lu, Adam R Almeida, Josianna V Schwan, Yuchun Luo, Mayumi Fujita, Steven Robinson, William Robinson, David Norris and Yiqun G Shellman. Aurora, CO and Taipei, Taiwan.

649 **The adverse correlation of primary cilia in melanoma is likely independent of proliferation and cell cycle progression .** Elizabeth R Snedecor, Clifford Sung, Alejandra Moncayo, Brooke Rothstein, Daniel Mockler, Marcia Tonnesen, Evan Jones, Mayumi Fujita, Richard August Clark, Kenneth R Shroyer and Jiang Chen. Stony Brook, NY; Medford, MA; Northport, NY and Denver, CO.

650 **Switching the enemy: The anti-leprotic clofazimine displays anti-melanoma activity through induction of genotoxic stress.** Angela L Davis, Sophia L Park, Hui Li, Shuxi Qiao, Joshua D Williams and Georg T Wondrak. Tucson, AZ.

651* **IL-23 prevents melanoma development through multiple mechanisms.** Tahseen H. Nasti, Mohammad Athar, Laura Timares and Craig A Elmets. Birmingham, AL.

652* **Deregulation of chemotactic signals, leukocyte recruitment, and immunity in segmental vitiligo.** Ahmed Fawzy Rezk, Moetaz El-Domyati, Wael Hosam El-Din, Jouni Uitto, Olga Igoucheva and Vitali Alexeev. Minia, Egypt and Philadelphia, PA.

653 **Evaluation of a topical formulation containing myristyl nicotinate for modulating melanin production in comparison to a formulation containing hydroquinone .** Smitha Rao. New York, NY.

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654 **4'-Bromo-resveratrol, a new small molecule inhibitor of SIRT3, imparts anti-proliferative effects and causes metabolic reprograming of human melanoma cells.** Jasmine George, Minakshi Nihal, Chandra K Singh and Nihal Ahmad. Madison, WI.

655 **105F is a novel immunoadaptive treatment candidate for melanoma that induces apoptosis and the secretion of pro-inflammatory IL-6.** Gail Naughton, Emmett Pinney, Christian Posch, Aline Betancourt and Mayra Montes-Camacho. San Diego, CA and San Francisco, CA.

Skin & Hair Developmental Biology

All orals [designated with an asterisk (*)] listed below are presented in the Skin & Hair Developmental Biology Minisymposium on Thursday, May 7, 2015, from 2:00-5:00 pm in Salon D, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

656 **Human facial sebaceous glands contain the enzymes that synthesise prostaglandin $F_{2\alpha}$ and prostamide $F_{2\alpha}$ and the receptors to respond to bimatoprost.** Mohammad Shalbaf, Theresa Street, Neil J Poloso, Jenny W Wang, David Woodward and Valerie Randall. Bradford, United Kingdom and Irvine, CA.

657 **A comparison of methods of anagen synchronization in an animal model for alopecia.** Alexandra Cristina Villasante, Vanessa Alejandra Petit, Natalie Yin, George Elgart, Lawrence Schachner and Joaquin Jimenez. New York, NY and Miami, FL.

658 **Knockdown of *Sulf2* causes hair loss in obese mice fed a fast food diet.** Jeannette M. Olazagasti, Catherine D. Moser, Tae Hyo Kim, Anuradha Krishnan and Lewis R. Roberts. Rochester, MN.

659 **Follistatin and secreted frizzled-related protein 1, OVO homolog-like 1-regulated genes, are important for hair follicle neogenesis.** Young-Kwan Sung, Soon-Sun Bak, Moon Kim and Jung-Chul Kim. Daegu, Korea (the Republic of).

660 **Stimulatory effect of pseudoceramide on hair growth through intracellular sphingolipids signaling.** Jong Hwan Bae, Bu Man Park, Dae Hwan Kim, Kyong Oh Shin, Seung Phil Hong, Hyun Jong Kim, Sung Ku Ahn and Se Kyoo Jeong. Daejeon, Korea (the Republic of); Cheongju, Korea (the Republic of); Cheonan, Korea (the Republic of); Seoul, Korea (the Republic of) and Wonju, Korea (the Republic of).

661 **Systematic analyses for skin, hair, and nail abnormalities in The Jackson Laboratory's KOMP² knockout mouse program.** John Paul Sundberg, C. Herbert Pratt, Stephen A. Murray, Kathleen A Silva, Victoria E Kennedy, Lloyd E. King and Soheil S Dadras. Bar Harbor, ME; Nashville, TN and Farmington, CT.

662 **Wnt/β-catenin signaling drives epidermal fate specification in human embryonic stem cells.** Samantha Lin, Kathryn A. Rosowski, Amanda Farrell, Ana Tadeu, Cassandra O'Curran and Valerie Horsley. New Haven, CT.

663 **Dynein is necessary for intracellular transport of both nutrients and autophagosomes in human dermal fibroblasts.** Yong Zhuang, Russell Wyborski, Siming Chen, Raaj P Khusial and John Lyga. Suffern, NY.

664* **Dynamic interactions between nail epithelium and digit bone by Wnt signaling.** Makoto Takeo, Christopher S. Hale and Mayumi Ito. New York, NY.

665 **Alterations of vitamin A metabolism and signaling in central, centrifugal, cicatricial alopecia patients.** Liye Suo, Wilma F Bergfeld, Natasha Mesinkovska and Helen B Everts. Cleveland, OH and Columbus, OH.

666 **Human hair follicle epithelial stem cells undergo epithelial-mesenchymal transition (EMT) in primary cicatricial alopecia: Lessons from lichen planopilaris.** Hisayoshi Imanishi, David Ansell, Matthew Harries, Norbert Sepp, Tamas Biro, Daisuke Tsuruta, Christopher M Ward and Ralf Paus. Manchester, United Kingdom; Innsbruck, Austria; Osaka, Japan and Debrecen, Hungary.

667 **Electrophysiological and immunohistological characterization of TMEM16A isoforms in human sweat glands.** Torsten Ertongur-Fauth, Andrea Brueggemann, Christina Jost and Daniela Kulichová. Zwingenberg, Germany and Munich, Germany.

668* **Hdac1 and hdac2 are required for maintenance and survival of embryonic and adult epidermal stem cells.** Matthew LeBoeuf, Fang Liu, Xinyi Zhao, Eric Olson and Sarah Millar. Philadelphia, PA and Dallas, TX.

669 **Keratinocytes devoid of DLX3 initiate psoriasis-like inflammation in mice.** Jin-Chul Kim, Gaku Nagato, Youichi Ogawa, Mark C Udey and Maria Morasso. Bethesda, MD.

670 **Preventing radiation-induced hair loss by augmenting spontaneous anagen repair through modulating wnt signaling.** Wen-Yen Huang, Hsien-Yi Chiu, Chih-Chieh Chan and Sung-Jan Lin. Taipei, Taiwan.

671** **Inducing hair follicle neogenesis with 3 protein factors.** Sung-Jan Lin, Sabrina Mai-Yi Fan, Chien-Mei Yen, Szu-Hua Pan and Yu-Ju Chen. Taipei, Taiwan.

672 **Novel diagnostic test predicts mean change in hair counts in female androgenetic alopecia patients treated with topical minoxidil.** John McCoy, Andy Goren, Janet Roberts and Nisha Desai. Irvine, CA and Portland, OR.

673* **Alopecia areata is transferred via activated T-lymphocytes.** Eddy Hsi Chun Wang, Mohsen Khosravi-Maharlooei, Reza Jalili, Richard Yu, Aziz Ghahary, Jerry Shapiro and Kevin John McElwee. Vancouver, Canada.

674*** **The role of dermal wnt activation in hair follicle development and carcinogenesis.** Peggy Myung, Thomas Yang, Panteleimon Rompolas and Valentina Greco. New Haven, CT.

675 **The role of regulatory T-cells in hair follicle cycling.** Niwa Ali, Hong-An Truong, Abul K. Abbas and Michael David Rosenblum. San Francisco, CA.

676 **Enhancing hair follicle regeneration by microthermal injury.** Yueh-Feng Wu, Sabrina Mai-Yi Fan and Sung-Jan Lin. Taipei, Taiwan.

677 **Apoptotic signals increase during catagen-like changes in hair follicles confirming follicle organ culture's exciting new potential as a human *in vitro* catagen model.** Heero Najeeb Rahman, Nilofer Farjo, Bessam Farjo and Valerie Randall. Bradford, United Kingdom and Manchester, United Kingdom.

678 **Bimatoprost alters prostaglandinand prostamide synthesis inhuman scalp hair follicles.** Valerie Randall, Heero Najeeb Rahman, Karzan Khidhir, Omid Shalbaf, Nilofer Farjo, Bessam Farjo, Neil J Poloso, Jenny W Wang, David Woodward and Steve Picksley. Bradford, United Kingdom; Manchester, United Kingdom and Irvine, CA.

679 **Spatial trans-interactions between lineage-specific gene loci are required for differentiation of the stratified epithelium.** Andrei Mardaryev, Janina Baer, Krzysztof Poterlowicz, Jana Rudolf, Igor Malashchuk, Valentina Rapisarda, Vinod Kumar, Andrey Sharov, Joanne Yarker, Michael Fessing, Terumi Kohwi-Shigematsu, Vladimir A. Botchkarev and Thomas Magin. Bradford, United Kingdom; Leipzig, Germany; Boston, MA and San Francisco, CA.

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680* **Polycomb repressive complex maintains epidermal progenitors by repressing key Merkel cell differentiation genes.** Elena Ezhkova, Evan Bardot and Carolina Perdigoto. New York, NY.

681* **Serum response factor (SRF) regulates the development and cyclic regeneration of the hair follicle, and functions in epidermal development in a stage-specific manner.** Tatiana Efimova, Congxing Lin, Aaron Koppel, Alexi Kiss and Liang Ma. St. Louis, MO.

682* **Inhibition of JAK-STAT signaling promotes hair growth.** Sivan Harel, Claire Higgins, Jane E Cerise, James C Chen, Zhenpeng Dai, Raphael Clynes and Angela Christiano. New York, NY.

683 **Sexual dimorphism in human scalp skin.** James Chen, Gina Marie DeStefano and Angela Christiano. New York, NY.

684 **Prostaglandin D2 (PGD2) enhances testosterone metabolism in primary human keratinocytes possibly via upregulation of aldo-keto reductase 1C3 (AKR1C3) expression.** Alon Mantel, Alice P Pentland and Meena Katdare. Hampton, VA; Rochester, NY and Norfolk, VA.

685* **Wnt/β-catenin signaling marks self-renewing stem cells in multiple epithelial tissues .** Sarah Millar, Mingang Xu, Jeremy Horrell, Heather Gochnauer, Jiawei Cui, Melinda Snitow, Tien Peng and Edward Morrisey. Philadelphia, PA.

686 **Alopecia areata and atopic dermatitis share common Th2 and IL-23 inflammatory pathways, with implications for targeted therapeutics.** Emma Guttman-Yassky, Shinji Noda, Anjali Shroff, Yasaman Mansouri, Judilyn B Fuentes-Duculan, Avner Shemer, Mayte Suarez-Farinas and James G Krueger. New York, NY and Tel-Hashomer, Israel.

687* ***Gorab* is essential for dermal papilla cells to respond to hedgehog signals during hair follicle formation.** Jiang Chen, Ying Liu, Elizabeth R Snedecor, Yeun Ja Choi, Ning Yang, Xu Zhang, Yuhuan Xu, Yunlin Han, Evan C Jones, Kenneth R Shroyer, Richard August Clark, Lianfeng Zhang and Chuan Qin. Beijing, China and Stony Brook, NY.

688 **The distal end of the arrector pili muscle is a potential epidermal stem cell niche.** Niloufar Torkamani, Nicholas Rufaut, Leslie Jones and Rodney Sinclair. Richmond, Australia and Melbourne, Australia.

689* **Wnt signaling controls the reversible differentiation of melanocyte stem cells during their self-renewal.** Qi Sun, Hai Hu, Makoto Takeo, Wendy Lee, Mark M. Taketo and Mayumi Ito. New York, NY and Kyoto, Japan.

690 **MHC genes associated with alopecia areata exhibit diverse and complex expression patterns during hair follicle development in mice.** Alexander Awgulewitsch, John Paul Sundberg. Charleston, SC and Bar Harbor, ME.

691 **3D cultures of hair follicles on Gelfoam® promote functional recovery of severed peripheral nerves and the spinal cord when transplanted to the injury site.** Robert M. Hoffman, Wenluo Cao, Lingna Li, Sumiyuki Mii, Yasuyuki Amoh and Fang Liu. San Diego, CA; Shanghai, China and Kanagawa, Japan.

692 **Molecular diagnostics in differentiation of segmental overgrowth syndromes.** Jouni Uitto, Leila Youssefian, Hassan Vahidnezhad, T Baghdadi, A Ghaznavi, Q. Li and Mina Tabrizi. Tehran, Iran (the Islamic Republic of) and Philadelphia, PA.

693* **Studying hair cycle clock with the aid of multi-scale diffusion-based mathematical modeling.** Maksim Plikus, Ji Won Oh, Qixuan Wang and Qing Nie. Irvine, CA.

694* **The LINC complex promotes keratinocyte cell-cell adhesion and hair follicle structure.** Amanda Zubek, Rachel Stewart, Kathryn A. Rosowski, Megan King and Valerie Horsley. New Haven, CT.

695* **Rapid hair cycle pattern breakdown during mouse development revealed with the aid of mathematical modeling.** Ji Won Oh, Qixuan Wang, Qing Nie and Maksim Plikus. Irvine, CA.

696 **Genetic determinants of eccrine sweat gland density in the mouse.** Bruce Morgan, Yana Kamberov and Clifford Tabin. Boston, MA.

Tissue Regeneration & Wound Healing

All orals [designated with an asterisk (*)] listed below are presented in the Tissue Regeneration & Wound Healing Minisymposium on Saturday, May 9, 2015, from 12:30-3:30 pm in Salon E, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

697** **Nesprin-2 declines during skin aging and its loss negatively impacts fibroblast and keratinocyte behavior *in vitro.*** Robert Maidhof, Ying Chen, Uma Santhanam and John Lyga. Suffern, NY.

698 **Interferon-γ (IFN-γ) impedes wound healing by slowing keratinocyte migration through the upregulation of SHIP-2 and phospho-cofilin.** Channa G Ovits, Jie Chen, Juana Gonzalez, Dix P. Poppas, Diane Felsen and John A. Carucci. New York, NY.

699 **Vitamin D and calcium regulation of epidermal wound healing.** Dan Bikle, Chia-Ling Tu and Yuko Oda. San Francisco, CA.

700* **Reconstitution of three-dimensional skin composed of keratinocytes, fibroblasts and melanocytes induced from Muse human pluripotent stem cell.** Takeshi Yamauchi, Kenshi Yamasaki, Kenichiro Tsuchiyama, Saaya Koike, Mai Inoue and Setsuya Aiba. Sendai, Japan.

701 **High glucose environment increased thrombospondin-1 expression in keratinocytes via epigenetic regulation: Metabolic memory of impaired angiogenesis during diabetic wound healing.** Cheng-Che Lan, Shu-Mei Huang, Ching Shuang Wu and Gwo-Shing Chen. Kaohsiung, Taiwan.

702 **Targeted genetic alteration in hyaluronan catabolism delays wound healing in mice.** Jun Muto, Andrea Garcia, Daisuke Watanabe, Ajit Varki and Richard L Gallo. Nagakute, Japan and La Jolla, CA.

703* **Collagen XVII regulates actin dynamics and traction forces in motile keratinocytes.** Sho Hiroyasu, Zachary Colburn and Jonathan Jones. Pullman, WA.

704* **Cadherin endocytosis, adhesion, and cytoskeletal linkage cooperatively regulate collective cell migration.** Chantel Cadwell, Benjamin A Nanes, Daniel Conway and Andrew Kowalczyk. Atlanta, GA and Richmond, VA.

705 **Keloid pathogenesis: Potential role of EDA domain of cellular fibronectin.** J. Andrews, Jaana Marttala, Edward Macarak, Joel Rosenbloom and Jouni Uitto. Philadelphia, PA.

706* **Paracrine regulation of wound angiogenesis through cooperation of epidermal integrins.** Whitney M. Longmate, Scott P. Lyons, Sridar V. Chittur, Livingston Van De Water and C. Michael DiPersio. Albany, NY and Rensselaer, NY.

707 **Scar from minor burns: Focus on cutaneous nerve destruction and regeneration.** Vetrichevvel Thirthar Palanivelu, Siaavash Maghami, Shashini Dissanayake, Hilary Wallace, Fiona Wood, Guy Ben-Ary, Stuart Hodgetts and Mark Fear. Perth, Australia.

708 **Comparison of the transcriptomes of mouse skin derived precursors and SKP-derived fibroblasts by RNA-Seq.** Yujie Mao, Li Li. Chengdu, China.

709* **Epigenetic regulation of the wound healing: the role of Polycomb Cbx4 gene in the epithelial regeneration.** Andrey Sharov, Andrei Mardaryev, Ahmar Aziz, Krzysztof Poterlowicz, Tatyana Y Sharova, Guoliang Xu and Vladimir A. Botchkarev. Bradford, United Kingdom; Boston, MA and Shanghai, China.

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710 **Fibroblasts from the elderly fail to deposit sufficient extracellular matrix to generate connective tissue *in vitro.*** Richard August Clark, Fubao Lin and John Medamana. Stony Brook, NY.

711* **IRF1 protein levels depend on microRNA miR-31 and reduced levels of IRF1 inhibit keratinocyte migration.** Thomas Andl, Chase Taylor and Claudia D Andl. Nashville, TN.

712 **The pivotal role of periostin in RDEB scarring.** Olivia Lai, Jon Cogan, Xinyi Wang, Yingping Hou, David Timothy Woodley and Mei Chen. Los Angeles, CA.

713 **Prolonged local vasodilation following topical application of nitric oxide releasing nanoparticles.** David Otto Schairer, Moses Tar, Pedro Cabrales, Mahantesh Navati, Brandon Adler, Parimala Nacharaju, Adam Friedman, Joel Friedman and Kelvin Davies. Bronx, NY and La Jolla, CA.

714 **The guanine nucleotide exchange factor β-PIX regulates the speed of motile keratinocytes.** Susan B Hopkinson, Gregory Stimac and Jonathan Jones. Pullman, WA.

715 **Human skin equivalents with perfusable three-dimensional microvessels.** Hasan Erbil Abaci, Zongyou Guo, Brian Gillette, Wen-han Lee, Karl Gledhill, Samuel K Sia, Michael L Shuler and Angela Christiano. New York, NY and Ithaca, NY.

716 **Keratinocyte progenitor cells in human subcutaneous adipose tissue.** Hideo Iida, Toshio Hasegawa, Atsushi Sakamoto, Akino Wada, Tatsuo Fukai and Shigaku Ikeda. Tokyo, Japan.

717* **Repair versus regeneration: *Msx2* is required for epidermal competency during wound induced follicular neogenesis.** Michael Warren Hughes, Ting-Xin Jiang, Gary Lai, Christopher Schafer, Robert Maxson, Randal Widelitz and Cheng-Ming Chuong. Los Angeles, CA and Tainan, Taiwan.

718 **Improving stretch mark pathophysiology knowledge by specific *in vitro* models.** Stephanie Bredif, Morgane de Tollenaere, Marisa Meloni and Carol Courderot-Mazuyer. Epernon, France; Milan, Italy and Besançon, France.

719 **Influence of adipose-derived extra-cellular fraction on skin repair** Barbara Bellei, Emilia Migliano, Marinella Tedesco, Stefania Bucher and Mauro Picardo. Rome, Italy.

720 **A novel animal model for lichen planus.** Etienne Wang, Sivan Harel, Victor Luria and Angela Christiano. New York City, NY and Boston, MA.

721* **Inhibition of Apoptosis signal-regulating kinase 1 alters differentiation of the wound epithelium to enhance tissue regeneration.** Theresa A Freeman, Natalie Chernets, Deepa Kurpad and My G Mahoney. Philadelphia, PA.

722 **Dielectric barrier discharge plasma treatment increases tissue oxygenation during murine ear regeneration.** Natalie Chernets, John R Eisenbrey, Ji-Bin Liu, Deepa Kurpad, Flemming Forsberg and Theresa A Freeman. Philadelphia, PA.

723* **Ephrin-A ligand loss enhances keratinocyte migration via ligand-independent EphA2 action.** Spiro Getsios, Nihal Kaplan, Bethany Elena Perez White, Ji Zheng, Paul Hoover, Rosa Ventrella, William R Swindell, Johann Eli Gudjonsson and Bingcheng Wang. Chicago, IL; Cleveland, OH and Ann Arbor, MI.

724 **Topical application of mesenchymal stem cells accelerates healing of wounds in a scleroderma mouse model.** Tatyana Yufit, Xiaofeng Lin, David Fiore, Polly Carson, Marta Otero-Vinas and Vincent Falanga. Boston, MA and Vic, Spain.

725 **A novel assay for evaluating wound healing in a full-thickness *in vitro* human skin model.** Michael Allen Bachelor, Alexander Armento, Jonathan Oldach, Mitchell Klausner and Patrick J. Hayden. Ashland, MA.

726 **Acute immune effects and tissue destruction in mice following skin exposure to sulfur mustard.** Lopa Das, Kurt Quoc Lu. Cleveland, OH.

727 **Long-term type 2 diabetes induces dysfunctions in epidermal keratinocytes with impact on the interaction with nerve fibers in organotypic skin models.** Ludger Kolbe, Olga Reichert, Gitta Neufang, Lara Terstegen, Horst Wenck and Dennis Roggenkamp. Hamburg, Germany.

728 **Dermal fibroblasts derived from human venous ulcers show high migratory and proliferative activity *in vitro.*** Marta Otero-Vinas, Xiaofeng Lin, Tatyana Yufit, Polly Carson and Vincent Falanga. Boston, MA and Vic, Spain.

729 **A novel stress-response mechanism by Hsp90α and Hsp90β to cope with hypoxia and nutrient paucity during wound healing.** Priyamvada Jayaorakash, Hangming Dong, Memgchen Zou, Ayesha Bhatia, Kathryn O'Brien, Mei Chen, David Timothy Woodley and Wei Li. Los Angeles, CA.

730 **Effects of diet modification on the formation of heterotopic ossification in the mutant *Abcc6*$^{-/-}$ mouse following thermal injury.** Thea P Price, Christine F Lotto, J. Andrews, Q. Li and Jouni Uitto. Philadelphia, PA.

731* **Topically delivered allogeneic mesenchymal stems cells accelerate healing.** Michael Lichtman, Sarah Kam, Tatyana Y Sharova, Xiaofeng Lin, Tatyana Yufit, David Fiore, Polly Carson and Vincent Falanga. Boston, MA.

732 **Increased TSLP expression in keloids: Dose increased expression of TSLP promote keloid pathogenesis?** Jung U Shin, SeoHyeong KIM, Ji Yeon Noh, Shan Jin, Chang Ook Park, Ju Hee Lee, Won Jai Lee, Dong Won Lee and Kwang Hoon Lee. Seoul, Korea (the Republic of) and Boston, MD.

733 **Keloid pathogenesis: Gene expression profiling in a mouse model for keloids.** Jaana Marttala, J. Andrews, Joel Rosenbloom and Jouni Uitto. Philadelphia, PA.

734* **CAGE sequencing reveals MAFB as an early VEGF-C induced transcription factor that mediates cutaneous lymphatic vessel differentiation and development.** Michael Detmar, Lothar Dieterich, Sarah Klein, Anthony Mathelier, Young-Kwon Hong and Wyeth Wasserman. Zurich, Switzerland; Vancouver, Canada and Los Angeles, CA.

735 **Phosphorylation of SMAD2 linker site Thr220 is a marker for quiescent stem cells.** Claudia D Andl, Thomas Andl. Nashville, TN.

736* **Estrogen receptor alpha-mediated control of growth factor production from nipple fibroblasts.** Hsin-Jung Wu, Dan F Spandau, Sunil S. Tholpady and John G. Foley. Bloomington, IN and Indianapolis, IN.

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P. Weary
G. Weinstein
C. Wheeler, Jr.
K. Wolff
K. L. Yang

SID AWARDS

Stephen Rothman Memorial Award Recipients
Presented for distinguished service to investigative cutaneous medicine.

1967	Marion Sulzberger
1968	Donald Pillsbury
1969	Harvey Blank
1970	Thomas Fitzpatrick
1971	Aaron Lerner
1972	William Montagna
1973	Rudolf Baer
1974	Hermann Pinkus
1975	Eugene Van Scott
1976	Albert Kligman
1977	Irvin Blank
1978	George Odland
1979	Clayton Wheeler, Jr.
1980	Clarence Livingood
1981	Isadore Bernstein
1982	J. Lamar Callaway
1983	Richard Stoughton
1984	A Gedeon Matoltsy
1985	Herman Beerman
1986	Otto Braun-Falco
1987	Walter Shelley
1988	John Strauss
1989	Walter Lobitz, Jr.
1990	Walter Lever
1991	Robert Goltz
1992	Irwin Freedberg
1993	Arthur Eisen
1994	Ruth Freinkel
1995	Howard Baden
1996	Irma Gigli
1997	Stephen Katz
1998	Klaus Wolff
1999	Lowell Goldsmith
2000	Richard Dobson
2001	Robert Briggaman
2002	Eugene Bauer
2003	Georg Stingl
2004	Stuart Yuspa
2005	John Voorhees
2006	Thomas Lawley
2007	Barbara Gilchrest
2009	Luis Diaz
2010	Dennis Roop
2011	John Stanley
2012	Paul Bergstresser
2014	Jouni Uitto

Naomi M. Kanof Clinical Investigator Award
This award is given to enlighten present and future workers about the importance of clinical investigation. It honors an individual who has made significant contributions to our understanding of clinical medicine.

1993	Alvan Feinstein
1994	R.Michael Blaese
1995	Judah Folkman
1996	Jean Wilson
1997	C. Garrison Fathman
1998	Jeffrey Bluestone
1999	Brian Strom
2000	William Kelley
2001	James Ostell
2002	Leena Peltonen
2003	Judith Campisi
2004	Brian Druker
2005	Joseph Nadeau
2006	John Schiller
2007	Thomas Pearson
2009	Mahlon DeLong
2010	Douglas Lowy
2011	David Lane
2012	Luis Parada
2014	Mark Chance

SID Governance

Julius Stone Lectureship

This award is intended to promote the advancement of knowledge in immunology as it relates to the skin and skin disease.

1999 Eli Gilboa
1999 Stephen Johnston
1999 Jeffrey Trent
2000 Nigel Bunnett
2000 Ronald Crystal
2000 Ralph Steinman
2001 Roland Martin
2002 Gerald Crabtree
2004 Adrian Hayday
2005 Polly Matzinger
2006 Alexander Rudensky
2007 Donald Y.M. Leung
2009 Jamey Marth
2010 Rafi Ahmed
2011 Casey Weaver
2012 Rebecca Buckley
2014 Alice P. Pentland

William Montagna Lectureship

This annual award is intended to honor and reward young active investigators. Primary emphasis is given to researchers in skin biology.

1975 Kenneth Halprin
1976 Frank Parker
1977 Arthur Eisen
1978 Irma Gigli
1979 Marvin Karasek
1980 Irwin Freedberg
1981 Stephen Katz
1982 John Parrish
1983 Douglas Lowy
1984 Gerald Lazarus
1985 Eugene Bauer
1986 Georg Stingl
1987 Jouni Uitto
1988 Stuart Yuspa
1989 Tung-Tien Sun
1990 Karen Holbrook
1991 Luis Diaz
1992 Dennis Roop
1993 Ervin Epstein, Jr.
1994 John Stanley
1995 Elaine Fuchs
1996 Thomas Kupper
1997 Barbara Gilchrest
1998 Robert Modlin
1999 Fiona Watt
2000 Thomas Luger
2001 Peter Elias
2002 Kathleen Green
2003 Masayuki Amagai
2004 Akira Takashima
2005 Paul Khavari
2006 Richard Gallo
2007 George Cotsarelis
2008 Pierre Coulombe
2009 Angela Christiano
2010 W. H. Irwin McLean
2011 John McGrath
2012 Howard Chang
2013 Andrzej Dlugosz
2014 Xiao-Jing Wang

Herman Beerman Lectureship

This lecture is given by a distinguished medical scholar, traditionally from fields other than dermatology.

1961 Rene Dubos
1962 Hans Selye
1963 Rupert Billingham
1964 Curt Stern
1965 Albert Szent-Gyorgyi
1966 Jerome Gross
1967 G.J.V. Nossal
1968 John Buettner-Janusch
1969 Henry Kunkel
1970 Norman Wessells
1971 Aiden Breathnach
1972 Frank Dixon
1973 H. Hugh Fudenberg
1974 Charles Cochrane
1975 David Katz
1976 Bert O'Malley
1977 Russell Ross
1978 Hilary Koprowski
1979 Michael Brown
1980 Phil Leder
1981 Pedro Cuatrecasas
1982 Frank Ruddle
1983 Lawrence Lichtenstein
1984 Robert Gallo
1985 Thomas Waldmann
1986 Torsten Wiesel
1987 Leroy Hood
1988 Joseph Goldstein
1989 Pierre Chambon
1990 Ronald Herberman
1991 K. Frank Austen
1992 Bert Vogelstein
1993 Charles Janeway, Jr.
1994 Solomon Snyder
1995 Eric Lander
1996 Irving Weissman
1997 Michael Karin
1998 Günter Blobel
1999 Philippa Marrack
2000 Robert Langer
2001 William Haseltine
2002 Ronald DePinho
2003 Thomas Jessell
2004 Robert Weinberg
2005 Timothy Ley
2006 Amita Sehgal
2007 Stuart Schreiber
2009 Daniel Kastner
2010 Raymond Schinazi
2011 Jennifer Lippincot-Schwartz
2012 Mina Bissell
2013 Allan Balmain
2014 Hopi Hoekstra

Eugene M. Farber Psoriasis Research Award

This award is presented at the Annual Meeting to young investigators whose focus is on psoriasis research.

2003 David Jones
Thomas McCormick
2004 Edmund Lee
Michael Allen
2005 Curdin Conrad
Shigetoshi Sano
2006 Helen Young
Amos Gilhar
2007 Rajan Nair

Eugene M. Farber Lectureship

This lecture is presented by an investigator whose work is relevant to expanding our insights into the pathophysiology and treatment of psoriasis.

2007 Brian Nickoloff
2008 Enno Christophers
2009 James T. Elder
2010 James Krueger
2011 Kevin Cooper
2012 Frank Nestle
2014 Joel Gelfand

Albert M. Kligman / Phillip Frost Leadership Lecture & Award

This award is made to an individual in acknowledgment of significant contributions to the understanding of structure and function of skin in the past five years.

2008 Jouni Uitto
2009 Stephen Katz
2010 John R. Stanley
2011 Peter Elias
2012 Robert Lavker
2013 Elaine Fuchs
2014 Robert Modlin

SID/Galderma Acne Research Award

2002 Diane Thiboutot
2003 Jenny Kim
2004 Michaela Downie
2005 Andrzej Dlugosz
2006 Sewon Kang
2007 Philip Liu

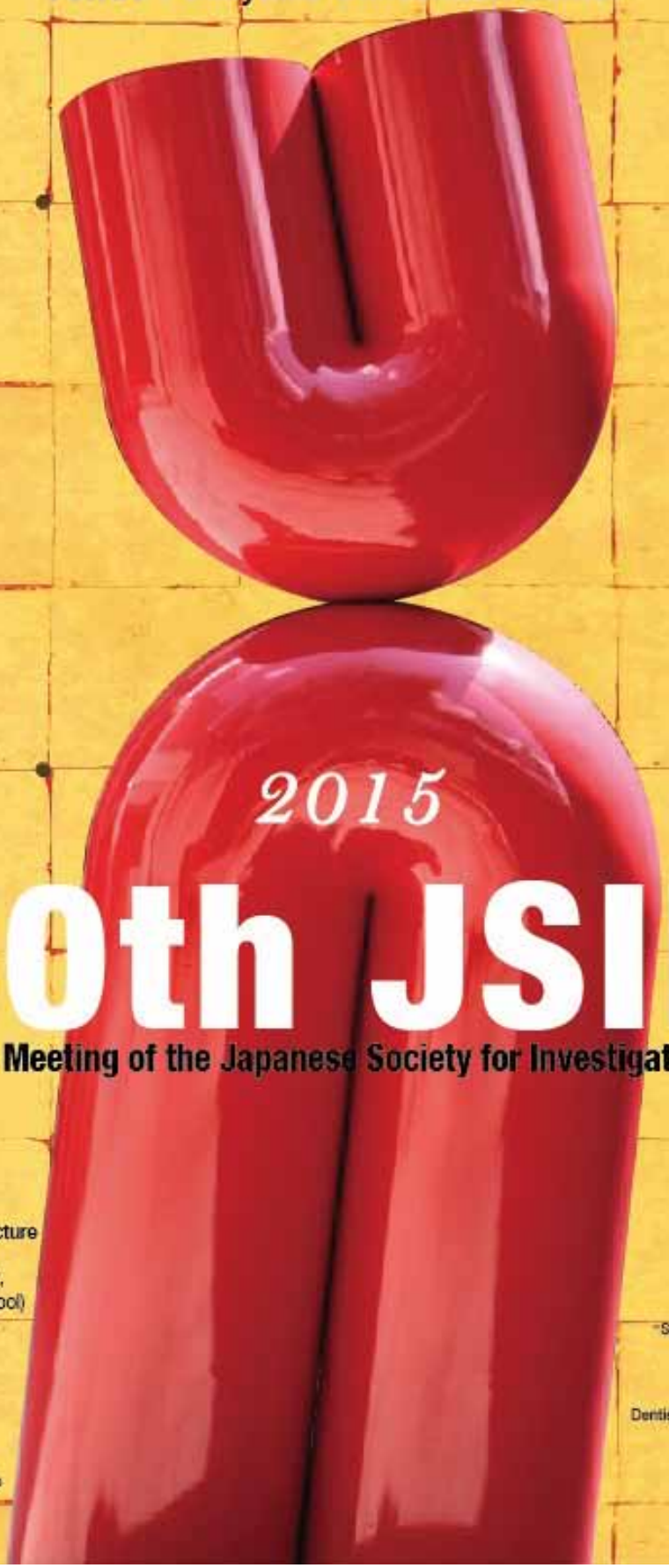
SID/Galderma Rosacea Research Award

2009 Kenshi Yamasaki

NOTES


45th Annual
ESDR Meeting
9-12 September 2015
Rotterdam, The Netherlands
www.esdr2015.org
EUROPEAN SOCIETY FOR
ESDR
DERMATOLOGICAL RESEARCH

Theme : Advance Dermatology through Science
Dates : December 11 (Fri) – 13 (Sun), 2015
Venue : Okayama Convention Center



2015

40th JSID

The 40th Annual Meeting of the Japanese Society for Investigative Dermatology

Tanioku Kihei Memorial Lecture
Thomas S. Kupper
(Department of Dermatology,
Harvard Medical School)

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Okayama University
Graduate School of Medicine,
Dentistry and Pharmaceutical Sciences

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SOCIETY FOR INVESTIGATIVE DERMATOLOGY

75TH ANNUAL MEETING

SCOTTSDALE, ARIZONA
MAY 11-14, 2016