



# **Research Techniques in Atopic Dermatitis**

**Wednesday, 15 November 2023 • 13:00-16:00 CET  
Austrian Academy of Sciences • Vienna, Austria**

***An International Eczema Council Symposium at the  
2023 Inflammatory Skin Disease Summit (ISDS)***

## AGENDA

**13:00-13:10**

### Welcome and Introductions from the IEC

Robert Bissonnette, MD MSc FRCPC MSc, Montréal, QC, Canada

**13:10-13:30**

### Single-Cell RNA Sequencing and Atopic Dermatitis

Patrick Brunner, MD, New York, NY, USA

**13:30-13:50**

### Expression Profiling of Inflammatory Skin Diseases for Diagnosis and Personalized Treatment Choice in Clinical Practice

Michel Gilliet, MD, Lausanne, Switzerland

**13:50-14:10**

### Human Cell Atlas

Muzlifah Haniffa, FMedSci, Newcastle-upon-Tyne and Cambridge, England, UK

**14:10-14:30**

### Using Genetically Targeted Mice to Explore Itch, Scratch, and Inflammation

Daniel H. Kaplan, MD PhD, Pittsburgh, PA, USA

**14:30-14:45**

### Break

**14:45-15:05**

### Microbiome

Heidi H. Kong, MD MHSc, Bethesda, MD, USA

**15:05-15:25**

### Multimiomics and Tape Stripping

Helen He, MD, New York, NY, USA

**15:25-15:50**

### Cutting-Edge Spatial Transcriptomics on a Subcellular Level

Andrew Ji, MD, New York, NY, USA

**15:50-16:00**

### Closing Remarks & Adjournment

Robert Bissonnette, MD MSc FRCPC, Montréal, QC, Canada

## IEC PRESIDENT



### Robert Bissonnette, MD MSc FRCPC, IEC President

Robert Bissonnette is the president of the IEC. He is board certified in dermatology and the president of Innovaderm Research—a contract research organization (CRO) specializing in the design, conduct, and analysis of clinical trials in various areas of dermatology—in Montréal, QC, Canada. He has published over 220 articles and book chapters and gives lectures on various aspects of dermatology at national and international meetings.

Dr. Bissonnette earned his medical degree from the University of Montréal, underwent residency training in dermatology at the University of Montréal, and completed his basic and clinical research training at McGill University and the University of British Columbia. He was an associate professor of dermatology at the University of Montréal until 2004.

## PROGRAM CO-CHAIR



### Emma Guttman, MD PhD, IEC Past President, Cofounder, and Councilor

Emma Guttman-Yassky is the system chair of the department of dermatology and the Waldman Professor of Dermatology and Immunology at the Icahn School of Medicine at Mount Sinai, New York. She is the director of the Center of Excellence in Eczema and the Laboratory for Inflammatory Skin Diseases.

Dr. Guttman's major research focus areas are atopic dermatitis (AD)/eczema and alopecia areata. Her research made paradigm-shifting discoveries on the immunologic basis of AD in adults and children with AD, enriching the understanding of the pathophysiology of this common disorder, opening the door for novel, pathway-specific drugs in this disease. She has extended her research interest to hair loss disorders, chronic hand eczema, keloids, ichthyosis, and other skin diseases, in which her findings are also translated to novel therapeutics.

Dr. Guttman cofounded the IEC and is its immediate past president. She has received many national and international awards (such as the AAAAI Award for Scientific Innovation and for pioneering discoveries, AAD Young Investigator award). She was elected as a member to the American Society for Clinical Investigation (ASCI) and the American Dermatological Association (ADA). Dr. Guttman is often a keynote and plenary speaker in international and national meetings and has authored over 300 peer-reviewed publications.

She earned her MD from Sackler School of Medicine at the Tel-Aviv University and a PhD from the Bar-Ilan University, Israel. After her Israeli Board certification in dermatology in Israel, Dr. Guttman moved to the U.S. to pursue a 2-year postdoctoral fellowship at The Rockefeller University in the Laboratory for Investigative Dermatology. Upon completion of her fellowship, she became board-certified by the American Board of dermatology after a second dermatology residency training at Weill-Cornell Medical College, in NY.

## PROGRAM CO-CHAIR



### Kenji Kabashima, MD PhD, IEC Secretary and Councilor

Kenji Kabashima, MD PhD, is a professor who chairs the Department of Dermatology at Kyoto University Graduate School of Medicine in Japan and a principal investigator at the A\*Star Research Skin Labs (A\*SRL) and Singapore Immunology Network (SIgN) in Singapore.

His main research interests include:

- the mechanism of inflammatory skin diseases (atopic dermatitis, contact dermatitis, and psoriasis) in humans and mice
- 3D visualization of the skin using two-photon microscopy.

Kabashima graduated from Kyoto University in Kyoto, Japan, before training in medicine/dermatology at the U.S. Naval Hospital in Yokosuka Japan, Kyoto University Hospital, and the University of Washington Medical Center.

At Kyoto University, he started his research on lipid mediators in immunology, which led to a PhD. Kabashima also studied at Kyoto University Graduate School of Medicine's Department of Dermatology; the University of California, San Francisco; and the University of Occupational and Environmental Health Japan.

Kabashima's hobbies include running marathons with finish times under 3 hours, trail running (like the 166-km [103-mile] Ultra-Trail du Mont-Blanc), climbing, golfing, and traveling.

## FACULTY



### Patrick Brunner, IEC Councilor

Since 2021, Patrick Brunner has been an associate professor of dermatology at the Icahn School of Medicine at Mount Sinai in New York City, NY, USA, where he is also director of the Cutaneous Lymphoma Clinic at the Kimberly and Eric J. Waldman Department of Dermatology.

As a clinician scientist with a strong interest in skin immunology, he sees patients suffering from primary cutaneous immune cell malignancies and also has a general interest in chronic inflammatory skin diseases such as vitiligo, atopic dermatitis, alopecia areata, and scarring alopecias. His research is aimed at a better understanding of the tumor immunobiology in cutaneous lymphomas, and to develop better treatment modalities for this patient population.

Dr. Brunner obtained his MD from the Medical University of Vienna, Austria. He completed his residency in dermatology at the Department of Dermatology at the Medical University of Vienna (General Hospital Vienna), under the mentorship of Dr. Georg Stingl. Afterward, Dr. Brunner joined the Laboratory for Investigative Dermatology at The Rockefeller University in New York, obtaining a master's degree in clinical and translational sciences and performed research on atopic dermatitis under the mentorship of Drs. Emma Guttman and James G. Krueger.

In 2018, he returned to Vienna to build a research group focusing on cutaneous immunobiology of chronic inflammatory skin diseases and primary cutaneous lymphomas, to better understand how individual immune cells orchestrate skin inflammation in benign and malignant conditions.



### Michel Gilliet, MD

Michel Gilliet is a Swiss dermatologist and immunologist who is chair of the Department of Dermatology at the University of Lausanne, CHUV in Lausanne, Switzerland.

His research has focused primarily on translational research studying immune responses in inflammatory skin diseases and melanoma. He was involved in the discovery of the role of thymic stromal lymphopoietin (TSLP) in atopic dermatitis.

A respected researcher and clinician, Dr. Gilliet has published more than 100 peer-reviewed articles in leading scientific journals, and his work has been cited more than 19,000 times. He is a member of many prestigious medical societies and has served as president of ESDR.

In 2016, he was one of the two annual recipients of the Cloëtta Prize, which honors those who have rendered outstanding services to specific areas of medical research in Switzerland, for his "for his fundamental discoveries on the link between innate immune answers and autoimmune and inflammatory diseases, notably of the skin."

Dr. Gilliet received his medical training at the University of Zürich, Switzerland, and his research training in immunology at the DNAX Research Institute in Palo Alto, California, USA. In 2004, he joined the MD Anderson Cancer Center in Houston, Texas, USA, as an assistant professor in dermatology and immunology. He was promoted to tenured associate professor with a clinical appointment in dermatology, a translational research appointment in melanoma oncology, and a basic science appointment in immunology. He returned to Switzerland and assumed his current role in 2010.

## FACULTY (CONTINUED)



### Muzlifah Haniffa, FMedSci

Muzlifah Haniffa is a Wellcome senior clinical research fellow and faculty in cellular genetics at Wellcome Sanger Institute and professor of dermatology and immunology at Newcastle University in Newcastle upon Tyne, England, UK. This leading member of the Human Cell Atlas initiative pioneered the application of single-cell genomics to decode the developing human immune system and the human skin in health and disease.

Professor Haniffa graduated from medical school in Cardiff, trained as a junior doctor in Cambridge, and received dermatology specialist training in Newcastle, all in England. Professor Haniffa is a Fellow of the Academy of Medical Sciences and a recipient of the Academy of Medical Sciences Foulkes Foundation Medal and the European Federation of Immunological Societies ACTERIA Prize in Immunology and Allergology.



### Helen He, MD

Helen He is a resident in dermatology at the Icahn School of Medicine at Mount Sinai in New York City, NY, USA. Dr. He has published several molecular and proteomic phenotyping studies in atopic dermatitis and other skin conditions, including the first cutaneous single-cell RNA-sequencing profile of atopic dermatitis. She received her BS in biological engineering at the Massachusetts Institute of Technology and her MD at Icahn School of Medicine at Mount Sinai. She has presented at several symposium on behalf of IEC.



### Andrew Ji, MD

Andrew Ji is an assistant professor of dermatology at the Icahn School of Medicine at Mount Sinai in New York, NY, USA. Dr. Ji's lab focuses on understanding how intercellular communication in skin disease, including cancer and inflammatory skin diseases, contributes to heterogeneity and treatment resistance leveraging single-cell and multiomic approaches. Dr. Ji's lab is part of the Black Family Stem Cell Institute and Tisch Cancer Institute. In addition to research, he sees general dermatology patients at a weekly clinic.

Prior to joining Mount Sinai, Dr. Ji was a clinical instructor at Stanford University and postdoctoral fellow in the lab of Dr. Paul Khavari. He received his bachelor of science degree in biological engineering from the Massachusetts Institute of Technology and his MD from Weill Cornell Medical College. He completed his dermatology residency training at Stanford. During medical school, he completed an HHMI Fellowship in the Lab of Dr. Joan Massagué at Memorial Sloan Kettering.



### Daniel H. Kaplan, MD PhD

Daniel H. Kaplan is a professor within the Department of Dermatology and Immunology at the University of Pittsburgh in Pittsburgh, PA, USA.

His research is dedicated to understanding the mechanisms that underlie skin immunity and the interplay of different immune cell types that reside in the skin. His laboratory currently is focused on understanding how intracellular communication mechanisms between immune cells and non-hematopoietic cells in the skin modulate cutaneous immunity and skin disease. He found that pain-sensing nerves are necessary and sufficient to trigger innate immune responses and this can augment regional immunity by communicating the presence of danger to adjacent areas of skin through a process termed "anticipatory immunity." Other neurons that innervate the epidermis actively suppress mast cells resulting in attenuated skin inflammation. Finally, his lab has shown that keratinocytes determine Langerhans cells (LC) migration and epidermal residency of resident memory T cells by controlling the amount of available active TGF $\beta$  in the epidermis.

As a graduate student at Washington University in St. Louis, he participated in the re-invigoration of the concept of tumor immunosurveillance by observing an increased frequency of skin tumors in immunodeficient mice. During his postdoctoral fellowship at Yale University, he developed a number of mouse lines with a selective deficiency of LC and showed that these cells have the unexpected capacity to suppress tissue immune. As an assistant and later associate professor at the University of Minnesota, he found that LC and dermal dendritic cells have unique functions in the development of anti-pathogen responses. In 2015, he moved to the University of Pittsburgh.



### Heidi Kong, MD MHSc, IEC Councilor

Heidi Kong is a board-certified dermatologist and senior investigator and chief of the Cutaneous Microbiome and Inflammation Section in the National Institute of Arthritis and Musculoskeletal and Skin Diseases Intramural Research Program in Bethesda, MD, USA. Dr. Kong also is an attending physician on the NIH Dermatology Consultation Service and an adjunct investigator at the National Cancer Institute.

Dr. Kong has dedicated her research to investigating the skin microbes in patients with inflammatory skin diseases and in healthy individuals. Her translational research program integrates clinical medicine, genomics, microbiology, and immunology to study the role of staphylococci in atopic dermatitis as well as microbes in patients with immunodeficiencies. Dr. Kong's collaborative group aims to gain insights into the pathogenesis of skin diseases and to potentially identify therapeutics for patients.

## IEC THANKS OUR CORPORATE SUPPORTERS

The support of our corporate partners makes it possible for the International Eczema Council (IEC) to advance its mission of increasing the understanding of atopic dermatitis and promoting its optimal management through research, education and patient/family care. Learn how to join these companies in advancing the IEC mission; visit [eczemacouncil.org/corporate-membership](https://eczemacouncil.org/corporate-membership) and email CEO Alan Stiles at [astiles@eczemacouncil.org](mailto:astiles@eczemacouncil.org).

### PRESIDENT'S COUNCIL



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### DIRECTOR'S COUNCIL



### COUNCILOR'S COUNCIL





# INTERNATIONAL ECZEMA COUNCIL

## ABOUT THE INTERNATIONAL ECZEMA COUNCIL

Founded in late 2014 and led by dermatologist and allergist experts in atopic dermatitis, the International Eczema Council (IEC) is a global nonprofit organization.

### Mission

The IEC brings together dermatology experts on atopic dermatitis to:

- Identify and prioritize unmet needs for research related to atopic dermatitis.
- Facilitate atopic dermatitis research that addresses these needs.
- Disseminate evidence-based information about atopic dermatitis and its optimal management to healthcare professionals and the public through direct communication and in conjunction with other organizations.
- Promote good practices in the care of patients with atopic dermatitis worldwide.
- Collaborate with physicians, scientists, and stakeholder organizations around the world.

### Global Leadership and Expertise

The IEC is governed by a 14-person Board of Directors comprising leading international experts in atopic dermatitis and a layperson who is an atopic dermatitis patient.

Atopic dermatitis experts from around the globe serve in an advisory role as Councilors and Associates, contributing their expertise to support the IEC's research, programs, events, and education. The IEC has **126 Councilors and Associates in 29 countries**, and this group continues to grow.

### Upcoming Symposia

**Topicals in the Pipeline: New and Emerging Therapies:** March 7, at AAD in San Diego, CA, USA.



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