
**3rd Singapore International Conference on Skin Research
& 9th Pan Asian Pacific Skin Barrier Research Symposium
CONFERENCE PROGRAMME**

WEDNESDAY 21ST MARCH - DAY 1

08.00 – 16:30 REGISTRATION

08:45 – 09:00 CONFERENCE OPENING AND WELCOME

Thomas DAWSON

Senior Principal Investigator, Institute of Medical Biology, A*STAR
President, Skin Research Society Singapore

09.00 – 10.30 SESSION 1: THE WOUND ENVIRONMENT AND ECOLOGY

Chair: Keith HARDING, Cardiff University, Wales, UK

09.00 – 09.15 **Zee UPTON**, Institute of Medical Biology, Singapore

David BECKER, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

Wound care innovation for the tropics - Overview

09.15 – 09.45 **Marjana TOMIC-CANIC**, University of Miami Miller School of Medicine, USA

Human tissue storytelling: mechanisms, diagnostics and new treatments in wound healing

09.45 – 10.00 **Moogaambikai THANGAVELOO**, Singapore General Hospital, Singapore
Surviving burns: Connexin 43 downregulation prevents burn progression

10.00 – 10.15 **Tony PARKER**, Queensland University of Technology, Australia
How bad is my child's burn? Differences in blister fluid biochemistry to assess paediatric burn wounds

10.15 – 10.30 **Chenghao LIU**, Nanyang Technological University, Singapore
Inflammation-regulated LRG1 orchestrates vessel leakage, angiogenesis and fibroplasia in cutaneous wound healing

10.30 – 11.00 *Morning tea break*

11.00 – 12.30 SESSION 2: MECHANISMS OF SKIN INTEGRITY AND DIFFERENTIATION

Chair: Zee UPTON, Institute of Medical Biology, Singapore

- 11.00 – 11.30 **Keith HARDING**, Cardiff University, UK
Wound healing - can we learn any lessons from approaches to cancer?
- 11.30 – 11.45 **Benjamin William WALTERS**, Institute of Medical Biology, Singapore
Histone acetylation: A key determiner of keratinocyte fate?
- 11.45 – 12.00 **Thuy Tram DANG**, Nanyang Technological University, Singapore
Investigating the influence of surface charge on biomaterial-mediated wound healing response by non-invasive imaging approach
- 12.00 – 12.30 **Xin LU**, University of Oxford, UK
Regulating p53 and beyond: From cell death to sudden death
- 12.30 – 14.00 *Lunch break*

14.00 – 15.45 SESSION 3: WOUND HEALING & THE MICROBIOME - HOST-MICROBE INTERACTIONS

Chair: Thomas DAWSON, Institute of Medical Biology, Singapore

- 14.00 – 14.30 **Elizabeth GRICE**, University of Pennsylvania, USA
Skin microbiome roles in inflammation and wound healing
- 14.30 – 14.45 **Baptiste JANELA**, Singapore Immunology Network, Singapore
Dermal cDC1 control sustained recruitment and survival of neutrophils through VEGF α secretion in response to cutaneous bacterial infection
- 14.45 – 15.00 **Rathi SARAVANAN**, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore
Thrombin derived host defense peptide modulates fibroblast growth and suppresses inflammatory response in vitro and in vivo
- 15.00 – 15.15 **Hao LI**, Molecular Engineering Laboratory, Singapore
Elucidating the functional roles of skin microbial secreted proteases
- 15.15 – 15.45 **Kimberly KLINE**, Nanyang Technological University, Singapore
Pathogenic mechanisms of Enterococcus Faecalis biofilm-associated wound infection

15.45 – 16.00 **Xin LU** - Introduction to Key Note Speaker, Birgit LANE

16.00 – 16.30 **Birgit LANE**, Institute of Medical Biology, Singapore
Building skin research in Singapore

16.30 – 19.00 **Poster Session & Networking Session**
End of Day 1

THURSDAY 22ND MARCH - DAY 2

08.30 – 16:00 **REGISTRATION**

09.00 – 10.30 **SESSION 4: EMERGING TECHNOLOGIES FOR STUDYING SKIN HEALTH - MODELS**

Chair: David BECKER, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

09.00 – 09.30 **Pankaj KARANDE**, Rensselaer Polytechnic Institute, USA
Fabrication of a vascularized full thickness human skin tissue by 3D bioprinting

09.30 – 09.45 **Massimo ALBERTI**, Singapore Institute of Manufacturing Technology, Singapore
Microfluidics meets skin research: novel technologies for automated high-throughput ex vivo and in vitro skin testing

09.45 – 10.00 **Tom CARNEY**, Institute of Molecular and Cell Biology, Singapore
Zebrafish genetics identify novel mechanisms maintaining the skin defensive barrier

10.00 – 10.30 **Shann YU**, University of Chicago, USA
Engineering lymphangiogenesis in skin: How and Why?

10.30 – 11.00 *Morning tea break*

11.00 – 12.45 **SESSION 5: EMERGING TECHNOLOGIES IN WOUND TREATMENTS**

Chair: Thuy Tram DANG, Nanyang Technological University, Singapore

11.00 – 11.30 **Claire HIGGINS**, Imperial College London, UK
Bioinspired treatments for pressure ulcers on the residual limb

11.30 – 11.45 **Jiah Shin CHIN**, Nanyang Technological University, Singapore
Development of scaffolds to promote chronic wound healing

11.45 – 12.00 **Navin Kumar VERMA**, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore
Tuning membrane selectivity of polyethylenimines for cost-effective advanced wound dressings

12.00 – 12.15 **Helena TOPOUZI**, Imperial College London, UK
Exploiting inherent properties of hair follicle dermal papilla cells to promote wound healing

12.15 – 12.45 **Mary CHAN**, Nanyang Technological University, Singapore
Cationic hydrogels and polymers for biomedical and environmental disinfection

12.45 – 14.15 *Lunch break*

14.15 – 16.00 SESSION 6: EMERGING TECHNOLOGIES FOR STUDYING SKIN HEALTH – NON-INVASIVE TOOLS

Chair: Steven THNG, Skin Research Institute Singapore, Singapore

14.15 – 14.45 **Lai Guan NG**, Singapore Immunology Network, Singapore
Lights, microscope and action: Understanding skin immune responses by multiphoton and light sheet microscopy

14.45 – 15.00 **Amalina Ebrahim ATTIA**, Singapore Bioimaging Consortium, Singapore
Multispectral optoacoustic tomography (MSOT) for three-dimensional reconstruction of non-melanoma skin cancers

15.00 – 15.15 **Hyunjung KIM**, Seoul Medical Center, Korea
Development of at-home measurement device for skin barrier functions integrated with IoT technology for atopic dermatitis education and maintenance.

15.15 – 15.30 **Chenjie XU**, Nanyang Technological University, Singapore
Molecular sensors for the diagnosis of the abnormal fibroblasts derived from abnormal scars

15.30 – 16.00 **Jens TITZE**, DUKE-NUS Medical School, Singapore
Skin barrier function and systemic blood pressure control

End of Day 2

FRIDAY 23RD MARCH - DAY 3

08.30 – 16:30 REGISTRATION

09.00 – 10.45 SESSION 7: ACNE & HAIR

Chair: Carlos CLAVEL, Institute of Medical Biology, Singapore

09.00 – 09.30 **Christos ZOUBOULIS**, Brandenburg Medical School Theodore Fontane, Germany

Inflammation and acne: Brand new aspects resulting from sophisticated experimental models

09.30 – 09.45 **Yann BARRANDON**, Ecole Polytechnique Fédérale de Lausanne, Switzerland

From skin to brain

09.45 – 10.00 **Zoe LIM**, Institute of Medical Biology, Singapore

The role of premature senescence in AGA

10.00 – 10.15 **Etienne WANG**, National Skin Centre, Singapore

Oncostatin M is produced by TREM2+ macrophages and maintains hair follicle stem cell quiescence during murine telogen

10.15 – 10.30 **Satoshi NAKAMIZO**, Institute of Medical Biology & Singapore Immunology Network, Singapore

High-fat diet exacerbates neutrophilic folliculitis by facilitating CXCL2 in neutrophils

10.30 – 10.45 **WOO Wei Meng**, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

The role of Hedgehog signaling in hair follicle dermal microenvironment

10.45 – 11.15 *Morning tea break*

11.15 – 11:30 Skin Barrier Sessions in conjunction with PAPSBRs

Welcome Address - President of PAPSBRs

Maoqiang MAN, The Veterans Health Research Institute, San Francisco, USA

Welcome Note from Local Organisers

John COMMON, Institute of Medical Biology, A*STAR and Kenji KABASHIMA, Department of Dermatology, University of Kyoto, Japan

11.30 – 13.15 SESSION 8: SKIN BARRIER & AGEING

Chairs: Birgit LANE, Institute of Medical Biology, Singapore

Jeong Deog LEE, President of KSBR, The Catholic University of Korea, Korea

11.30 – 12.00 **Theodora MAURO**, San Francisco Veterans Hospital & University of California, USA

Aged epidermal barrier dysfunction contributes to systemic inflammation

12.00 – 12.15 **Carlos CLAVEL**, Institute of Medical Biology, Singapore

The hair follicle stem cell niche and its regulation during ageing

12.15– 12.30 **Sophie BELLANGER**, Institute of Medical Biology, Singapore

Nicotinamide controls the proliferation/differentiation balance in human primary keratinocytes

12.30 – 12.45 **Audrey Shimei WANG**, Institute of Medical Biology, Singapore

Identification and characterization of senescent cells in aging skin

12.45 – 13.15 **Emi NISHIMURA**, Tokyo Medical and Dental University, Japan

Stem cells orchestrate hair follicle aging program

13.15 – 14.45 *Lunch break*

SESSION 9: SKIN BARRIER & DISEASE

14.45 – 16.30

Chairs: Theodora MAURO, San Francisco Veterans Hospital & University of California, USA

Hamm Ming SHEU, National Cheng Kung University, Taiwan

14.45 – 15.15 **Sara BROWN**, University of Dundee, Scotland, UK

Genetic mechanisms in atopic eczema: What can we learn about skin barrier in vivo and in vitro?

15.15 – 15.30 **Yuka SHIBATA**, Kochi University, Japan

Decreased skin water holding capacity in patients with muscular dystrophy

15.30 – 15.45 **Sekyoo JEONG**, Seowon University, Cheongju, Korea

Enhancement of epidermal function delays relapse of psoriasis: A pilot self controlled trial

15.45 – 16.00 **John COMMON**, Institute of Medical Biology, Singapore

Skin microbiome profiles of atopic dermatitis patients segregate into two community composition types that are stable before and after therapy

16.00 – 16.30 **Kenji KABASHIMA**, Department of Dermatology, University of Kyoto, Japan

Interactions between barrier function and immune response in health and disease

16.30 – 17.00 PRIZE CEREMONY

Zee UPTON, Institute of Medical Biology, Singapore and David BECKER, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

18:00 – 21:30 CONFERENCE DINNER @ Privé, Asian Civilisations Museum

Buses to Privé leave the Matrix Building pick-up area at 17:30.

Please arrange your own transport from the restaurant back home. The nearest MRT station is Raffles Place.

SATURDAY 24TH MARCH - DAY 4

08.30 – 09:00 REGISTRATION

09.00 – 10.45 SESSION 10: SKIN BARRIER DEVELOPMENT & INTEGRITY

Chairs: So Yun CHO, Director of Board of Members of KSBR
Leah VARDY, Institute of Medical Biology, Singapore

09.00 – 09.30 **Akiharu KUBO**, Keio University School of Medicine, Tokyo, Japan
Tight but dynamic: The sophisticated barrier system of mammalian skin

09.30 – 09.45 **Li HE**, Institute of Dermatology & Venereology of Yunnan province, Kunming, China
MicroRNA-224-5p induced claudin-5 deficiency contributes to defective permeability barrier in sensitive skin

09.45 – 10.00 **Kento KITADA**, DUKE-NUS Medical School, Singapore
Increased glucocorticoid hormone actions via melanocortin 3 receptor deletion induce skin-specific Na⁺ and water loss

10.00 – 10.15 **Anisa RAHIM**, Institute of Medical Biology, Singapore
Unravelling gene regulation in the epidermis during differentiation

10.15 – 10.45 **Florent GINHOUX**, Singapore Immunology Network, Singapore
Human dendritic cells: From development to functions.

10.45 – 11.15 *Morning tea break*

11.15 – 13.00 SESSION 11: SKIN BARRIER & THE IMMUNE SYSTEM

Chairs: Chih-Hung (Abel) LEE, Kaohsiung Chang Gung Memorial Hospital, Taiwan
Kenji KABASHIMA, Department of Dermatology, University of Kyoto, Japan

- 11.15 – 11.45 **Chang Ook PARK**, Yonsei University College of Medicine, Seoul, Korea
Tissue-resident memory T cells as an immune barrier
- 11.45 – 12.00 **Rintaro SHIBUYA**, Kyoto University Graduate School of Medicine,
Japan
*Complement activation increases susceptibility to surfactant-induced
irritant contact dermatitis*
- 12.00 – 12.15 **Anand Kumar ANDIAPPAN**, Singapore Immunology Network,
Singapore
*Whole transcriptome analysis of peripheral blood reveals strong
proinflammatory signatures associated with skin relevant FLG mutants*
- 12.15 – 12.30 **Jiajia MA**, Lee Kong Chian School of Medicine, Nanyang Technological
University, Singapore
A proteolytic regulator of epidermal integrity and inflammation
- 12.30 – 13.00 **Franklin ZHONG**, Institute of Medical Biology, Singapore
NLRP1 inflammasome in skin inflammation and cancer susceptibility

13.00 END OF CONFERENCE