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

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**WEDNESDAY 21<sup>ST</sup> 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 $\alpha$  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, Birgitte LANE
- 16.00 – 16.30** **Ellen Birgitte LANE**, Institute of Medical Biology, Singapore  
*TBA*
- 16.30 – 19.00** **Poster Session & Networking Session**  
**End of Day 1**

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**THURSDAY 22<sup>ND</sup> 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**

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**FRIDAY 23<sup>RD</sup> 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: Ellen Birgitte 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.**

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**SATURDAY 24<sup>TH</sup> 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<sup>+</sup> 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**