Dear Colleagues,

The scientific committee is delighted to announce to you their newest edition concerning Skin Ageing & Challenges. The 13th International Conference on Skin Ageing and Challenges 2022 will be held on November 17-18, 2022 at Altis Grand Hotel, Lisbon, Portugal and Online., Portugal and Online.

During both days, many oral and poster communications will be presented and will cover many hot topics. Skin Challenges 2022 is organized under the patronage of the International Society of Microbiota (ISM).

Ageing is an international issue that has social, economic and individual impacts. Preventing it and decreasing its side effects (all related pathologies) are major challenges for humanity. Thus, the understanding of ageing and in particular skin ageing mechanisms will allow us to live longer, better and healthier.

During Skin Challenges 2022, the Scientific Committee will allocate significant time to discuss the latest advances related to skin homeostasis and ageing. Our objective is to provide answers and to give a future vision and trends on: how can the current researches delay the side effects of ageing and skin ageing?

**Among the Topics which will be discussed during 2 days congress:**

Skin microbiome and mycobiome, skin cancer, atopic skin inflammation, wound healing, engineered stem cells and silk biomaterials, exosome technology, mitochondrial transplantation, skin ageing, skin rejuvenation, senolytic flavonoids, skin photo-protection, facial aesthetics, diet and skin, artificial intelligence, electronic skin, the impact of olfactory receptors on microbiota & wound healing, and more…

As always, we are very much looking forward to meeting you.

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**Prof. Jean Krutmann,**
President of Skin Ageing & Challenges 2022,
IUF – Leibniz Research Institute for Environmental Medicine
Leibniz, Germany
<table>
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<th>Skin Challenges 2022 Speakers</th>
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| **Rapid Detection and Online Analysis of Human Skin Microbial Changes by Flow Cytometry (FloSoFineTM)**  
Jean Krutmann, President of Skin Challenges, Leibniz Research Institute for Environmental Medicine, Germany |
| **Turning Back the Clock – Harnessing Reprogramming to Rejuvenate Cells**  
Inês Milagre, Instituto Gulbenkian de Ciência, Portugal |
| **Electronic Skin that Anticipates and Perceives Touch from Different Directions**  
Oliver Schmidt, Chemnitz University of Technology, Germany |
| **Elucidating the Molecular Landscape of the Stratum Corneum Using 3D OrbSiMS**  
Nichola Starr, University of Nottingham, United Kingdom |
| **Unlocking the Power of AI Skin Tech in the Dermatology Industry**  
Sylvain Delteil, PerfectCorp, Europe |
| **Extracellular Vesicle Therapy for Skin Injuries**  
Piul S. Rabbani, New York University School of Medicine, USA |
| **Skin Microbiome Profile of Healthy Cameroonians and Japanese**  
Kazuhiro Ogai, Kanazawa University, Japan |
| **Skin Microbiome and Mycobiome in Aging**  
Woo Jun Sul, Chung-Ang University, South Korea |
| **Extracellular Vesicles in Facial Aesthetics**  
Jia Xian Law, Universiti Kebangsaan Malaysia, Malaysia |
| **Science and Clinical Applications of Exosomes**  
Duncan Ross, Kimeria Labs, Inc., USA |
| **Recent Artificial Intelligence Developments for Skin Cancer Detection**  
Ricardo Vardasca, ISLA Santarém, Portugal |
| **Doctor Jekyll and Mr Hyde – Two Faces of Opioids in a Wound Treatment**  
Marek Konop, Warsaw Medical University, Poland |
| **DA Gene Variant of AKR1C3 Contributes to Interindividual Susceptibilities to Atopic Dermatitis Triggered by Particulate Air Pollution**  
Thomas Haarmann-Stemmann, Leibniz Research Institute for Environmental Medicine, Germany |
| **Exosome Technology: Pearls & Pitfalls for Skin Rejuvenation**  
Saranya Wyles, Mayo Clinic Department of Dermatology, USA |
| **Atmospheric Pollution Impairs Skin Barrier Function: Focus on PM-Associated Pollutants Under UVA Exposure**  
Laurent Marrot, L’Oréal R&I, France |
| **Mitochondria-Targeted Hydrogen Sulfide Delivery Molecules for Skin Sun Protection and Aging Prevention**  
Uraiwan Panich, Mahidol University, Thailand |
| **Olfactory Receptors, Microbiota & Wound Healing**  
Marvin Edeas, Institut Cochin, INSERM, Université de Paris, France |
| **The Fungal Skin Microbiota in Health and in Atopic Dermatitis**  
Philipp Bosshard, University Hospital Zurich, Switzerland |
| **Rapid Detection and Online Analysis of Human Skin Microbial Changes by Flow Cytometry (FloSoFineTM)**  
Charlotte Esser, Leibniz Research Institute for Environmental Medicine, Germany |
| **Skin Physiology and Two Staphylococci Associated with the Recurrence of Pressure Injuries**  
Kohel Ogura, Kanazawa University, Japan |
| **Skin Regeneration with Engineered Stem Cells and Silk Biomaterials**  
Hongwei Ouyang, Zhejiang University School of Medicine, China |
| **Extracellular Vesicles in Facial Aesthetics**  
Jia Xian Law, Universiti Kebangsaan Malaysia, Malaysia |
| **The Zone of Tissue Activation Delineates Immediate and Long-Term Response of Skin to Wounding and Associates with Markers of Senescence and Regeneration**  
Mikolaj Ogrodnik, Ludwig Boltzmann Research Group Senescence and Healing of Wounds, Austria |
| **Mechanisms Interconnecting Genotype, Transcriptome and Microbiome during Atopic Skin Inflammation**  
Bernhard Homey, University Hospital in Düsseldorf, Germany |
| **Menopause, iron, and aging skin: Is there a connection?**  
Xi Huang, I-On Skincare, Inc., USA |

[www.skin-challenges.com](http://www.skin-challenges.com)
Welcome Note & Introduction Remarks

8h00 – Materials Distribution & Welcome Coffee

9h00 – Welcome Note & Introductory Remarks
Jean Krutmann, President of Skin Challenges 2022, Leibniz Research Institute for Environmental Medicine, Germany

Session 1: Skin Microbiota – Recent Scientific Advances

9h15 - Rapid Detection and Online Analysis of Human Skin Microbial Changes by Flow Cytometry (FloSoFineTM)
Charlotte Esser, Leibniz Research Institute for Environmental Medicine, Germany

9h40 - Skin Microbiome Profile of Healthy Cameroonian and Japanese
Kazuhiro Ogai, Kanazawa University, Japan

10h05 - The Fungal Skin Microbiota in Health and in Atopic Dermatitis
Philipp Bosshard, University Hospital Zurich, Switzerland

10h30 - Coffee Break Networking & Poster Session
11h10 - Skin Microbiome and Mycobiome in Aging
Woo Jun Sul, Chung-Ang University, South Korea

11h35 - Mechanisms Interconnecting Genotype, Transcriptome and Microbiome during Atopic Skin Inflammation
Bernhard Homey, University Hospital in Düsseldorf, Germany

Session 2: Wound Healing and Skin Regeneration

12h00 - Olfactory Receptors, Microbiota & Wound Healing
Marvin Edeas, Institut Cochin, INSERM, Université de Paris, France

12h25 - Lunch Break Networking & Poster Session

14h00 - The Zone of Tissue Activation Delineates Immediate and Long-Term Response of Skin to Wounding and Associates with Markers of Senescence and Regeneration
Mikolaj Ogrodnik, Ludwig Boltzmann Research Group Senescence and Healing of Wounds, Austria

14h25 - Skin Physiology and Two Staphylococci Associated with the Recurrence of Pressure Injuries
Kohei Ogura, Kanazawa University, Japan

14h50 - Skin Regeneration with Engineered Stem Cells and Silk Biomaterials
Hongwei Ouyang, Zhejiang University School of Medicine, China

15h15 - Doctor Jekyll and Mr Hyde – Two Faces of Opioids in a Wound Treatment
Marek Konop, Warsaw Medical University, Poland

15h40 - Coffee Break, Networking, & Poster Session
Session 3: Lifestyle, Diet and Skin Aging: The Inside Beauty

16h10 - Atmospheric Pollution Impairs Skin Barrier Function: Focus on PM-Associated Pollutants Under UVA Exposure
Laurent Marrot, L’Oréal, France

16h35 - Menopause, iron, and aging skin: Is there a connection?
Xi Huang, I-On Skincare, Inc., USA

17h00 - A Gene Variant of AKR1C3 Contributes to Interindividual Susceptibilities to Atopic Dermatitis Triggered by Particulate Air Pollution
Thomas Haarmann-Stemmann, Leibniz Research Institute for Environmental Medicine, Germany

17h25 - The Effect of Facial Exercise on Perceived Appearance, Self-esteem, Face Image, and Well-being Among Adult Women
Topaz Broitman, Reichman University, Israel

17h35 - Skin-Aging Enzyme Inhibition and Oxidative Stress Protection by Hairless Canary Seed (Phalaris Canariensis L.) Peptides
Andrea Liceaga, Purdue University, USA

17h45 - Role of the Trpv3 Channel in the Default of Cutaneous Thermoregulation During Aging
Lisa Martin, Claude Bernard University, France

17h55 - Cell Imaging for Dermocosmetic Claims Substantiation Through In vitro Assessment on Cellular Skin Models
Oceane Guyot, HCS Pharma, France

Skin Ageing & Challenges 2022 Posters

Umbilical Cord Mesenchymal Stem Cells Characterization: In Vitro Preliminary Assessments for Chronic Wound Healing
Patrícia Sousa, University of Porto, Portugal

MIR-30A-5P Alters Epidermal Terminal Differentiation During Aging by Regulating BNIP3L/NIX-Dependent Mitophagy
Fabien Chevalier, Claude Bernard University Lyon, France

Brazilian Red Propolis – A Product from Natural Origin for Healing Skin Lesions of Secondary Intention
Claudia Helena Pellizzon, São Paulo State University, Brazil

Interaction of Skin Cells with Skin Microbiota
Zeynab Moinipoor, University of West Minster, The United Kingdom
Ameliorative Effect of Fermented Cabbage Extracts on Wound Healing and Contact Dermatitis
*Sooah Kim, Jeonju University, Republic of Korea*

Dermatological Manifestations in Patients with Covid-19 Pneumonia in Veracruz, Mexico
*Luis del Carpio-Orantes, Instituto Mexicano del Seguro Social, Mexico*

Histopathological Evaluation of Skin Biopsies in Benghazi
*Salma Al-Sunousi, University of Benghazi, Libya*

Fisetin Inhibits UVA-Induced Expression of MMP-1 and MMP-3 Through the NOX/ROS/MAPK Pathway in Human Dermal Fibroblasts and Human Epidermal Keratinocytes
*Thi-Hung Le, Jeonbuk National University, Korea*

Basigin Controls Matrix Remodeling, the Secretory Phenotype and Metabolic Adaptations of Senescent Keratinocytes and Their Epidermal Microenvironment
*Gruber Florian, Medical University of Vienna, Austria*

Protective Effects of Quercetin-loaded PLGA Nanoparticles Against UVA-Induced Photoaging in Mouse Skin
*Weerawon Thangboonjit, Mahidol University, Thailand*

18h05 – End of Conference Day 1
Session 4: Skin Challenges 2022 Innovations

4.1. Artificial Intelligence & Skin: Advances & Perspective

9h00 - Unlocking the Power of AI Skin Tech in the Dermatology Industry
Louis Chen, EVP and Chief Strategy Officer at PerfectCorp, Taiwan

9h25 - Recent Artificial Intelligence Developments for Skin Cancer Detection
Ricardo Vardasca, ISLA Santarém, Portugal

9h50 - Electronic Skin that Anticipates and Perceives Touch from Different Directions
Oliver Schmidt, Chemnitz University of Technology, Germany

10h15 - Elucidating the Molecular Landscape of the Stratum Corneum Using 3D OrbiSIMS
Nichola Starr, University of Nottingham, United Kingdom

10h40 - Coffee Break Networking & Poster Session

4.2. Extracellular Vesicles & Skin: The Points of View

11h20 - Science and Clinical Applications of Exosomes
Duncan Ross, Kimera Labs, Inc., USA

11h45 - Exosome Technology: Pearls & Pitfalls for Skin Rejuvenation
Saranya Wyles, Mayo Clinic Department of Dermatology, USA
12h10 - Extracellular Vesicle Therapy for Skin Injuries
*Piul S. Rabbani, New York University School of Medicine*

12h35 - Coffee Break, Networking, & Poster Session

14h00 - Extracellular Vesicles in Facial Aesthetics
*Jia Xian Law, Universiti Kebangsaan Malaysia*

14h25 - Comparative Profiling of Stem Cell Derived Extracellular Vesicle Sources for Applications in Skin Rejuvenation
*Soraya Williams, Loughborough University, United Kingdom*

### 4.3. Other Skin Innovations

14h35 - Turning Back the Clock – Harnessing Reprogramming to Rejuvenate Cells
*Inês Milagre, Instituto Gulbenkian de Ciência, Portugal*

15h00 - Novel Mitochondria-Targeted Sulfide Delivery Molecules Prevent Photo-Ageing
*Uraiwan Panich, Mahidol University, Thailand*

15h25 - Coffee Break Networking & Poster Session

16h05 - Anti-aging Potentials of Methylene Blue for Human Skin Longevity
*Kan Cao, University of Maryland College Park, USA*

16h15 - Natural and Sustainable Sugarcane Based Cosmetic Ingredient with Anti-Aging Properties
*Maria João Carvalho, Universidade Católica Portuguesa, Portugal*

16h25 - Mauritius Tea Extract Activate Skin Antioxidant and Bioenergetic Systems
*Tanesha Naiken, LVMH Recherche, France*

16h35 – Discussion
17h05 – Skin Ageing & Challenges 2022 Awards
18h00 – End of Skin Ageing & Challenges 2022