Second ISM Symposium on Skin Microbiota

International Society of Microbiota

Skin Microbiota 2017

Towards a New Era in Dermocosmetics

June 15, 2017 - Paris, France

Reminder

Skin Aging
June 14, 2017

www.microbiota-site.com

Skin Microbiota 2017

Towards a New Era in Dermocosmetics

June 15, 2017 – Paris, France

The International Society of Microbiota decided to organize the second symposium dedicated to skin microbiota which will be held next June 15, 2017 in Paris. On June 14, one day will be dedicated to the innovations in skin-ageing. The two days dedicated to skin will allow having a global vision on the future of skin innovations.

The aim of the Skin Microbiota 2017 will be to discuss the recent advances in skin microbiota, its characterization, its role and clinical impact. We will highlight the latest clinical studies, mechanistic and innovations related to skin microbiota.

Among Skin Microbiota 2017 sessions:

- Human Gut Microbiota 2017: Recent Advances & Perspectives
- Human Skin Microbiota 2017: Recent Advances & Perspectives
    - *Can we modulate the quality and diversity of skin microbiota?*
    - *How to induce durable beneficial changes in skin microbiota?*
    - *How to understand better the role of bacterial metabolites on skin homeostasis?*
- Human Skin Microbiota & Skin Pathologies
- Skin Microbiota Practical session – How to analyse & sequence skin microbiota?
    - *How to analyse and sequence skin microbiota?*
    - *How to interpret the results?*
    - *What is the impact on skin microbiota of skin care products, deodorants, antiseptics, conservators in the formulation?*
    - *What is the limitation of skin microbiota sequencing methods?*
- Presentation of last innovations related to skin microbiota
- Practical session dedicated to all methods to formulate and re-formulate new products related to skin care.

A discussion will be organized about **Skin & Microbiota Formulation – From sequencing and analyzing to interpretation and formulation: Do we need to use probiotics or metabolites?**

Call for abstracts and innovations:

The Scientific Committee of International Society of Microbiota invites all scientists, academics and industrials to present their last advances on scientific research, devices development, formulation, sequencing products and others skin microbiota-related fields. We will welcome in particular clinical innovations (biomarkers and intervention studies).

We hope that you will join us for this dynamic and strategic program and look forward to welcoming you in Paris.

Dr Marvin Edeas
Chairman of the Scientific Committee

Among speakers & topics already confirmed:

More than skin-deep: a concise overview of the role of the skin microbiota in human health and disease

Dr Egert, from Furtwangen University in Germany will demonstrate that the skin microbiota of humans is an important driver of human health and well-being. It is influenced by many host and environmental factors and interacts closely with the skin immune system. Although cause and effect might be difficult to discriminate, changes in skin microbiota structure and function clearly play a role in the pathobiology of many skin diseases and cosmetic disorders, such as body odor production. Hence, treatment and prevention strategies have to respect this role, rendering pre- and probiotic and even transplantation therapies an additional option to the use of antibiotics.

The role of P. acnes in the skin microbiome and its modulation

Dr Paetzold from University Clinic Magdeburg in Germany, will show that Cutibacterium acnes (former P. acnes) is a commensal of the human skin and makes up to 90% of the facial skin microbiome. Therefore it can be regarded as the gatekeeper of the facial skin microbiome. Scientific evidence indicates that some strains are involved in various skin diseases. Therefore the modulation of the strain composition of the skin microbiome is a potential route to address these diseases. Additionally Cutibacterium acnes produces a strong antioxidant which has a potential protective effect on the skin.

Comparison of skin microbiome obtained by swabs and biopsies

Dr Lionel Fry, from the Imperial College in the United Kingdom will explain why his team employed biopsies when they began to investigate the microbiome of psoriasis. This approach was supported by Gallo in 2013 who showed that the dermis is not sterile. Therefore, they carried out a study in which they compared their results with those obtained previously by swabs and there were differences. They have now compared the microbiome obtained by swabs and biopsies in normal skin and there are differences. Microbial communities in swabs are more diverse. There were individual differences in swabs more than biopsies. There was no significant difference found at phylum level but at taxonomic levels. The obligate anaerobes clostridialis are enriched in biopsies. The composition of the microbiota in the different layers of skin is maybe partly driven by the oxygen tolerance of the taxa.

The role of microbiota in tissue regeneration

After the description of the wound healing steps, Dr Angela Faga from the University of Pavia, Italy will present the current concepts about the anti-inflammatory and regenerative effects of the topical applications of spring waters rich in nonpathogenic microflora. A particular attention will be paid to the researches of her group about the regenerative properties and the bacterial flora of an Italian spring water.

Factors shaping the composition of the cutaneous microbiota

Dr Szabo, from MTA-SZTE Dermatological Research Group, Hungary will propose a hypothesis on how changes in the cutaneous ecosystem might lead to the transformation of a seemingly harmless species into an opportunistic pathogen through bacterial dysbiosis. Highlighting the fact that *Propionibacterium acnes* (*P. acnes*) is one of the most dominant lipophilic microbes of the postadolescent, sebum-rich human skin regions and that recent results suggest that Westernization strongly increases the dominance of the *Propionibacterium* genus in human skin compared to natural populations living more traditional lifestyles.

The relation between ichthyosis vulgaris, host genotype and skin microbiota

Dr Van Hijum from NIZO food and health research in the Netherlands will present his research about Filaggrin, a structural skin protein highly abundant in histidine that, upon degradation, serves as the main source of “natural moisturizing factors". Questioning if variation in this epidermal barrier gene can cause microbial changes, he will show how his team proved, in a recently developed in vitro system that mimics human stratum corneum for bacterial growth, that reduction of these taxa was indeed due to FLG deficiency. Furthermore, functional analysis revealed that microbiome-derived genes involved in metabolic pathways for histidine utilization as carbon source are underrepresented in the FLG-/- microbiome. Collectively, the data show for the first time how a specific genetic defect in the skin barrier can shape the composition of cutaneous microbial communities.

Human microbiome: an unprecedent opportunity for better skin health and wellness

Dr Baensch from Nestlé Skin Health, Switzerland will cover through his presentation some demonstrated skin benefits with probiotics and nutritional bioactives. The general accessibility of skin coupled with longitudinal stability of skin microbiota allows clinical studies investigating alterations observed at different stages of health and disease states, e.g. acne breakouts at different stages of life, atopic dermatitis, psoriasis etc. In addition, rapid and high throughput DNA sequencing platforms and data integration can shed light on the individualized skin microbiome for personalized skin care and therapeutics. In conclusion, human microbiome-based solutions offer an unprecedented opportunity to deliver tomorrow’s nutritional and topical solutions for enhancing quality of life by advancing skin health.

Bacterial therapy in skin infection: *Micrococcus luteus* Q24

Dr John Tagg, from the University of Otago in New Zealand will demonstrate how spectrum evaluation using the deferred antagonism test on $CaCl_2$- supplemented Columbia agar base medium has shown that strain Q24 has broad inhibitory activity against several important gram-positive pathogens of the epidermis. He will describe how the production of inhibitory activity against streptococci appears to be enhanced by the addition of blood to the test agar medium. An *ex vivo* model using porcine skin has been developed and applied to study the competition on an epithelial membrane between populations of strain Q24 and target pathogens, including *Staph. aureus*. Following seeding of the skin, longitudinal samples of the interacting populations were analysed by culture and by PCR-DGGE. The population levels achieved by *Staph. aureus* were typically 100-fold less on epidermal tissue that had bee pre-colonised by strain Q24. These findings have provided encouragement for the further evaluation of strain Q24 for a variety of potential probiotic applications, ranging from the elimination of *Staph aureus* nasal carriage to the prevention of microbial population disequilibria on the epidermis resulting from the uncontrolled proliferation of staphylococci, streptococci or propionibacteria.

Reverse of skin ageing: non invasive print tests for sebum - corneocytes - microbiota

A set of new generation of non invasive skin print tests has been developed to assess age associated changes in sebum, corneocytes and microbiota. Results of the successful applications of these tests in clinic for correction of parameters of skin ageing will be given by Dr Ivan Petyaev from Lycotec Ltd, United Kingdom.

Second ISM Symposium

Skin Microbiota 2017

June 15, 2017 - Paris

Preliminary Agenda

8h00 **Welcoming & Registration of Attendees**

9h00 **General introduction on gut microbiota: targeting microbiota or its metabolites?**
Marvin Edeas, Institut Cochin – INSERM U1016, Université Paris Descartes, France

Session 1: Skin Microbiota 2017: Recent Advances & Perspectives

How can microbiota from different niches communicate with each other?
Why should we consider skin microbiota as our second immune system?
Skin care products, deodorants, antiseptics, conservators in the formulation: What is the impact on skin microbiota?
Can sun exposure and ultraviolet exposure influence diversity of skin microbiota?
How are ageing and skin microbiota related?
Questions and Discussion

9h45 **More than skin-deep - a concise overview of the role of the skin microbiota in human health and disease**
Markus Egert, Furtwangen University, Germany

10h15 **Discussion**

10h30 Coffee Break

11h00 **The role of microbiota in tissue regeneration**
Angela Faga, University of Pavia, Italy

11h30 **Human microbiome: an unprecedent opportunity for better skin health and wellness**
Johannes Baensch, Chief Scientific Officer Nestlé Skin Health, Switzerland

12h00 **Factors shaping the composition of the cutaneous microbiota**
Kornélia Szabó, MTA-SZTE Dermatological Research Group, Hungary

12h30 Lunch Break

Session 2: Skin Microbiota 2017 – Practical Issues

How to analyse and sequence skin microbiota?
Recent advances in sequencing techniques and analysis
How to interpret the results?
What are the differences in skin microbiota between ages? Body parts? Healthy and unhealthy persons?
What is the limitation of skin microbiota sequencing methods?

14h00 **Comparison of skin microbiome obtained by swabs and biopsies**
Lionel Fry, Imperial College, United Kingdom

14h30 **Reverse of skin ageing: non invasive print tests for sebum - corneocytes - microbiota**
Ivan Petyaev, Lycotec Ltd, United Kingdom

Session 3: Human Skin Microbiota & Skin Pathologies

14h45 **The role of P. acnes in the skin microbiome and its modulation**
Bernhard Paetzold, University Clinic Magdeburg, Germany

15h15 **The relation between ichthyosis vulgaris, host genotype and skin microbiota**
Sacha van Hijum, NIZO food and health research, The Netherlands

15h45 Coffee Break

16h15 **Bacterial therapy in skin infection: *Micrococcus luteus* Q24**
John Tagg, University of Otago, New Zealand

16h45 **Round Table with Speakers: Skin Microbiota & Formulation**
Formulation with probiotics or formulation with metabolites?
Efficiency of beneficial effects of probiotics on skin microbiota variability and diversity
What kind of clinical studies do we need to undertake and demonstrate the effects and/or impact?
What kind of beneficial effects are we looking for?

17h15 **Call for abstracts and innovations:**

The Scientific Committee of International Society of Microbiota invites all scientists, academics and industrials to present their last advances on scientific research, devices development, formulation, sequencing products and others skin microbiota-related fields. Please send us a one-page abstract by email **before June 2, 2017.**

Among short oral presentations already accepted:

The human skin microbiota as a source of novel bacteriocin-producing strains with health potential
Julie O'Sullivan, Teagasc Food Research Centre , Ireland

17h45 **Discussion & Conclusion in Presence of the Scientific Committee and Speakers**
Can we manipulate skin microbiota?
Can we talk about diversity and quality of skin microbiota?
Microbiota or Metabolites: the subtle balance

Skin Microbiota 2017 Award: Best strategy to evaluate and/or formulate

The award will be discerned after abstract submission & presentation.
Please send us your abstract before June 2.

18h00 **End of Skin Microbiota 2017**

At your Diary:

Targeting Microbiota World Congress
October 26-27, 2017 – Berlin, Germany
www.microbiota-site.com