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KALEIDOSCOPE

the new dawn

Abstract Book

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PROGRAMME

Session 1
13 Sep 2023 - DAY 1

08h00-08h20

Arrival tea sponsored by



08h00-08h20

Registration desk hosted by



Chairpersons:

Beverley Gardner, Skyem, South Africa
Jacques Strydom, Natchem, South Africa

08h20-08h30

Welcome Address

Jacques Strydom, Natchem, South Africa
Coschem, President 2023

08h30-09h00

The Latest Developments in Sunscreen Testing

Beverley Summers, Sefako Makgatho Health University, South Africa

09h00-09h30

Lipid Markers of Dry Skin in African Women

Nasreen Matthews, L'Oreal, South Africa

Online

09h30-10h00

A Novel Patented Active Accelerates Skin Recovery and Strengthening through Epigenetic Pathway

Penny Wu, CORUM Inc, Taiwan

10h00-10h05

Marketing slot in auditorium

10h05-10h30

Tea/coffee break hosted by



Marketing slot in foyer



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Session 2

13 Sep 2023 - DAY 1

- Chairpersons:** Beverley Gardner, Skyem, South Africa
Poonam Sewraj, L'Oréal, South Africa
- 10h30-11h00** ***Blue Light Regulates Melatonin, OPN5, Circadian Genes and Impact Mitochondrial Functions on Cutaneous Cells***
Rozenn Barrois, SEDERMA, France
- 11h00-11h30** ***Investigating Characteristics and Triggering Factors of Scalp Discomfort Sensations in African Women***
Lumbidzani Moyo, L'Oréal, South Africa
- 11h30-12h00** ***Study of Aqueous Hair Food Prototype on a Type 4 Relaxed Hair for Improvement in Detangling, Hair Feel and Improved Manageability***
Vinayak Rupnar, Dow Chemicals IMEA GmbH, UAE
- 12h00-12h30** **RepHAIR yourself. The Importance of Haircare as Selfcare**
Silvia Moretti, SOCRI spa, Italy
- 12h30-13h30** **LUNCH BREAK**

CRODA

Session 3

13 Sep 2023 - DAY 1

- Chairpersons:** Beverley Gardner, Skyem, South Africa
Charmaine du Preez, Amka Products, South Africa
- 13h30-14h00** ***Paving the way for Grading Skin Sensitivity***
Marcel van Rooyen, Symrise, South Africa
- 14h00-14h30** ***Nanotechnology Advances in Cosmetics***
Sreejarani Pillai, Centre for Nanostructures & Advanced Materials, CSIR, South Africa
- 14h30-15h00** ***The Holistic Anti-Aging Potential of Persicaria Senegalensis (Meisn.) Sojak and its Probiotic Fermented Counterpart***
Bianca Payne, University of Pretoria, South Africa
- 15h00-15h30** ***Fermented Beauty Actives for Natural Skincare***
Artur Martí Peraire, Evonik, Spain
- 15h30-16h00** ***Interview Session***
Dr Juanita Kilian, DrK, South Africa

13 Sep 2023
Networking Event @ 16h00

Cocktail party & networking event hosted by



Gin tasting sponsored by



Session 4
13 Sep 2023 - DAY 2

Chairpersons: Beverley Gardner, Skyem, South Africa
Yurita Yona Boodhram, AECI Specialty Chemicals, South Africa

08h00-08h20 *Arrival tea sponsored by*



08h20-08h30 *Welcome*

08h30-09h00 *The African Continental Free Trade Area (AfCFTA) Treaty: Creating the Cosmetic Market of the Future through Standards Harmonization and technical Regulatory Convergence, an Ever-Shifting Kaleidoscope and New Dawn for the African Cosmetic Industry*
Percy Sibanda, L'Oreal, South Africa

09h00-09h30 *Silicones Solutions for Sea, Sun and Sand*
Kirsten Scott, Wacker, South Africa

Online
09h30-10h00 *Gigartina Stellata Zero-G Facial Lifting & Reshaping*
Frederic Serres, Givaudan, France

10h00-10h05 *Marketing slot in auditorium*



10h05-10h30 *Tea/coffee break hosted by*

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Session 5

14 Sep 2023 - DAY 2

Chairpersons: Beverley Gardner, Skyem, South Africa
Marcel van Rooyen, Symrise, South Africa

10h30-11h00 ***Enhancement of the Physicochemical Stability of Retinyl Palmitate by Microemulsion Encapsulation***
Phumelele Kleyi, Centre for Nanostructures & Advanced Materials, CSIR, South Africa

Online
11h00-11h30 ***New Insight in Skin Dehydration: Reversing Skin Holobiont Slow-Down is part of the Solution***
Lauriane Imbert-Roux, Greentech, France

Online
11h30-12h00 ***Supporting Microbiome-Friendly Claims: An Open Access Scale***
Catherine Zenchetta, Givaudan, France

12h05-13h00 **LUNCH BREAK**

Marketing slot in foyer



Session 6

14 Sep 2023 - DAY 2

Chairpersons: Johrinda Nel, Vantage South, South Africa
Beverley Gardner, Skyem, South Africa

13h00-13h30 ***Anti-Elastase Potential of Elegia Tectorum (L.f.) Molin and H.P. Linder***
Marize' Cuyler, University of Pretoria, South Africa

13h30-14h00 ***Unlocking the Acne Microbiome***
Patrick Gonry, Gobiotics-Ingredients, Holland

Online
14h00-14h30 ***Optimum Protection Performance with Multifunctionals Empowered***
Balint Koroskenyi, Symrise, USA

14h30-15h30

Scientific Panel Discussion: Exploring Trends and Innovations in Cosmetics

Join us for an insightful panel discussion where industry experts delve into the latest trends and innovations shaping the cosmetics and personal care industry.

Topics include nanomaterials in cosmetics, cosmeceutical claims and regulation, emerging packaging trends, the role of AI and augmented reality in beauty, epigenetics as inspiration for cosmetics, and the rise of waterless formulations.

Gain valuable insights and be part of the conversation driving the future of beauty. Don't miss this engaging session!

Panellists:

Dershana Jackson, L'Oréal, South Africa

Conny Oberrauter, Infinity Grip, South Africa

Sreejarani Pillai, Centre for Nanostructures & Advanced Materials, CSIR, South Africa

Jacques Strydom, Natchem, South Africa

15h30-15h40

Closing Address

Johrinda Nel, Vantage, South Africa
Vice President, Coschem 2023

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Session 1

13 Sep 2023 - DAY 1

Welcome Address

Jacques Strydom
Natchem, South Africa
Coschem, President 2023

Ladies and gentlemen, esteemed delegates, and distinguished guests,

A very warm welcome to the 2023 Coschem scientific Conference. It is with immense pleasure and excitement that I stand before you today as the President of Coschem, to open this remarkable event. As we embark on this journey together, I cannot help but feel a surge of joy and anticipation, knowing that we are creating history by hosting our first in-person conference in years. I must say, it is quite refreshing to talk to some real faces, as opposed to studio cameras. And what better venue to mark this momentous occasion than the exquisite Focus Rooms, here in Linbro Park, Gauteng.

Our theme for this year's conference, "Beauty Kaleidoscope: New Dawn," encapsulates the transformative journey that our industry has been on, navigating through challenges and embracing opportunities that have redefined the world of cosmetics and personal care. Just like a kaleidoscope, we have witnessed a myriad of colors, patterns, and possibilities emerge, shaping the landscape of beauty in ways we could have never imagined.

The past four years have been a testament to the resilience of our industry. We have seen extraordinary shifts, as our world evolved rapidly with the ever-changing dynamics of consumer preferences, technological advancements, and sustainability imperatives. From clean beauty to conscious consumerism, from inclusive beauty to cutting-edge innovations, we have witnessed trends that have not only shaped products but also transformed lives.

One of the most remarkable trends that have swept through our industry is the emphasis on holistic wellness. Beyond merely seeking beauty on the surface, consumers now seek products that nourish both body and soul. The focus has shifted from vanity to self-care, recognizing that beauty emanates from within. We have seen a rising demand for products that not only enhance appearance but also promote overall health and well-being.

Another key trend that has emerged is the fusion of technology and beauty. From nanotechnology to artificial intelligence, from augmented reality to personalized formulations, the marriage of science and aesthetics has unlocked endless possibilities. Our industry has embraced innovation wholeheartedly, creating products that are not only effective but also delightfully experiential.

In these past years, the world has also awakened to the imperative of sustainability. As we seek to beautify ourselves, we have realized the profound responsibility we bear towards our planet. Brands are now reimagining packaging, sourcing ingredients responsibly, and making a genuine commitment to environmental stewardship. The ethos of sustainability now permeates every aspect of our industry, and it is heartening to see the positive impact we can have on the world.



As we gather here today, it is with a sense of hope and anticipation for the future. The new dawn of the cosmetics and personal care industry is upon us, and we are standing at the cusp of boundless possibilities. The beauty kaleidoscope continues to turn, revealing new colors, patterns, and combinations that will shape the way we perceive and experience beauty.

With this conference, we celebrate the spirit of collaboration, innovation, and resilience that define our industry. I encourage each one of you to seize this opportunity to learn, connect, and be inspired. Together, let us create a future where beauty transcends the superficial and becomes a conduit for positive change in our lives and in the world.

Once again, I extend my heartfelt gratitude to all our attendees, sponsors, and speakers for joining us on this extraordinary journey. Let us make this conference an unforgettable celebration of beauty, science, and the promise of a new dawn.

Thank you and welcome to the 2023 Coschem Conference!

The Latest Developments in Sunscreen Testing

Beverley Summers
Sefako Makgatho Health University
South Africa

Beverley is a Professor of Pharmacy at Sefako Makgatho Health Sciences University (previously Medunsa). She has responsibility for the Photobiology Laboratory is involved in research and postgraduate studies.

She and her husband, Prof Rob Summers established the first Sun Protection Factor testing facility in South Africa at the Photobiology Laboratory, MEDUNSA, in 1989. Since then the laboratory has grown to provide a range of skin- and hair-care claim substantiation and safety testing for local and international companies. Beverley heads The Photobiology Laboratory and is supported by an experienced team which includes Lebogang Kgatuke, Marlize Goosen, Lee-Ann Raaff, Lulu Nkomo, Lettie Masia and Patience Sibinda.

Beverley has published widely, on a variety of topics. She has presented over 200 papers at local and international conferences and has 65 peer-reviewed and 51 other publications to her credit. She has served for many years on working groups and national committees for the CTFA, SA Bureau of Standards, ISO Sunscreen Working group (TC217 WG7) and pharmacy professional organizations. She was part of the Dept of Health working group that developed the original document on Good Clinical Practice in human studies.

She is an honorary life members of the SA Society of Cosmetic Chemists.

ABSTRACT

Beverley Summers, Marlize Goosen.

The Photobiology Laboratory, School of Pharmacy, Sefako Makgatho Health Sciences University

Sunscreen products must be safe, effective and acceptable to the consumer. The risk of under-performing products is that they lead to skin damage in both the short and long terms. Currently the Sun-Protection Factor (SPF) of topically applied sunscreen products is determined *in vivo*. UVA tests are conducted *in vitro* and their classification is based on the *in vivo* SPF value.

The ISO 24444 Standard for *in vivo* SPF determination uses the erythral response of the skin to ultraviolet (UV) radiation. The SPF is a ratio calculated from the energies required to induce a minimum erythral response with and without sunscreen product applied to the skin of human test subjects. Clearly, this process involves exposure of volunteers to UV radiation from a calibrated and standardised artificial source. Since publication of the first version of the ISO 24444 Standard, harmonization has been achieved in many member countries. The standard is applicable to products that contain any component able to absorb, reflect or scatter ultraviolet (UV) rays and which are intended to be placed in contact with human skin.

The SPF and UVAPF provide a basis for the evaluation of sunscreen products for the protection of human skin against erythema and skin damage induced by solar ultraviolet rays. For UVAPF, the ISO 24443 test serves to determine the correlation between the *in vitro* UVA protection factor (UVAPF) and the UVB protection factor, based on the principle of measuring the transmission of UV light through a thin film of the sun-protection product applied to a standardised PMMA plate.

Transmission is measured before and after radiation with a specific dose of UV and the level of UVA protection is calculated accordingly.



There has long been a need for sunscreen tests which do not cause sunburn to the skin of human test subjects. Unfortunately, in-vitro SPF testing using approaches similar to that for UVA have not been reliable. Results have differed widely between test institutes.

The vagaries of *in vitro* SPF testing seem at last to have been overcome with a new method, Hybrid Diffuse Reflectance Spectroscopy (HDRS) This test now has potential to ultimately replace the full *in vivo* testing as described in ISO 24444.

HDRS has been accepted by the ISO for consideration as a modified *in vitro* test (ISO 23698). It is a hybrid method with a non-erythematous in-vivo approach which is more ethically acceptable. HDRS is a combination of *in vivo* diffuse reflectance spectroscopy measurements on the skin and *in vitro* transmission measurements of a sunscreen on a roughened PMMA plate.

The method assesses SPF without having exposing human skin to doses of UVB and UVA sufficient to cause sunburn and pigmentation responses. There is no erythematous end point with HDRS unlike the current *in vivo* SPF test – ISO 24444.

Forearms of the test subjects are used instead of backs which makes the testing procedure much easier. Exposure time is a few seconds in comparison to ISO 24444 exposure , which can be from 15 – 60 minutes depending on the SPF. Results output is immediate and there is no waiting time of 24 hours to allow erythema to develop as the case with ISO 24444.

HDRS has been validated in a series of three “Ring Tests” which included 16 test institutes and 44 products. HDRS results were compared to those obtained under ISO 24444. The test sunscreens were from a wide range of formulations as well as a wide range of SPFs (5–120 [?!]) to validate this new alternative SPF testing procedure.

With this new alternative non-erythematous HDRS technique, not only can SPF values be measured, but also UVA-PF values can be calculated with an excellent correlation to ISO 24443 from the same set of data.

The drawback, as always with any new cutting-edge technology, is the cost of the new and highly specialised HDRS equipment. For the time-being, ISO 24444 is still in place and remains the comparative “gold standard” against which the HDRS data will be evaluated.

Lipid Markers of Dry Skin in African Women

Nasreen Matthews
L'Oréal, South Africa

Nasreen joined L'Oréal South Africa in June 2021 and currently holds the position of Clinical, Instrumental, and Claims Evaluation Scientist within the Research & Department. Her current role focuses primarily on the development of African skin care products, while also synthesizing clinical knowledge on African skin to drive innovation in the industry.

Prior to joining L'Oréal, she gained clinical laboratory experience at Ampath Pathology Laboratories, at a critical time when the COVID pandemic first hit South Africa. She holds a Bachelor's Degree in Microbiology and Biochemistry and an Honours Degree (*Cum Laude*) in Formulation Science from the Nelson Mandela University (NMU).



ABSTRACT

Introduction

African women complain of dry body skin and often apply moisturisers more than once a day. The reason for this habit remains unclear, as there are few research studies on skin in Africa. Some studies suggest that terminal epidermal differentiation may be different in heavily pigmented skin. Our aim was to determine if ceramides, which are known to play a role in other ethnic groups, are also associated with dry body skin in African women.

Materials and Method

Two groups of healthy females, phototype V-VI, aged 20-50 years were recruited for the study. Skin dryness was measured on the legs with a corneometer, and a trained clinician determined the clinical score of dryness with an atlas. Volunteers who had a corneometer score <40 a.u. and a dry leg score ≥ 3 were included in the dry skin group (n=29). Volunteers in the normal skin group (n=29) had a corneometer score ≥ 40 a.u. and a dry leg score ≤ 1 . Samples were collected from the calf with D-squame strips. Lipids were analysed by UPLC coupled with Orbitrap High Resolution Mass Spectrometry.

Results

A significantly reduced ratio of ceramide to cholesterol was observed in the dry skin group. The ratio of the four most abundant ceramide families (CER[NH], CER[NP], CER[AH], CER[AP]) to cholesterol was significantly lower in the dry skin group. Ceramides with long chains were also found to be significantly less abundant in dry skin. These differences in ceramide content have significant implications for the skin's ability to retain water.

A Novel Patented Active Accelerates Skin Recovery and Strengthening through Epigenetic Pathway

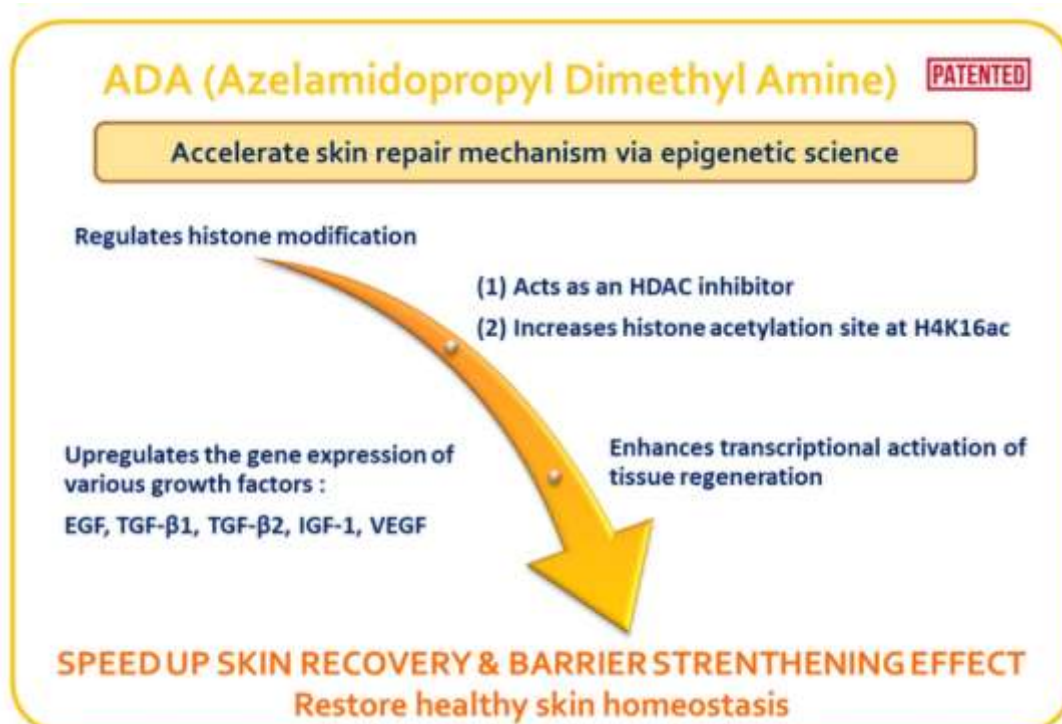
Penny Wu
CORUM Inc, Taiwan

Penny is a team leader of Biolabs at CORUM, Taiwan, a raw material supplier specializing in active ingredients and molecular cosmetics. With more than 16 years of experience in molecular and cellular biology research, Penny's expertise lies in developing know-how platforms to understand the role of small molecules in our skin. She has submitted 9 full research papers to IFSCC (International Federation of Societies of Cosmetic Chemists), covering diverse topics such as hair growth, sun protection, anti-pollution, anti-blue light, whitening and epigenetics mechanism, showcasing her contributions to the field of skincare research. Her expertise aids CORUM in gaining deeper insights into the functions and implications of their active ingredients, driving innovation in the skincare industry.

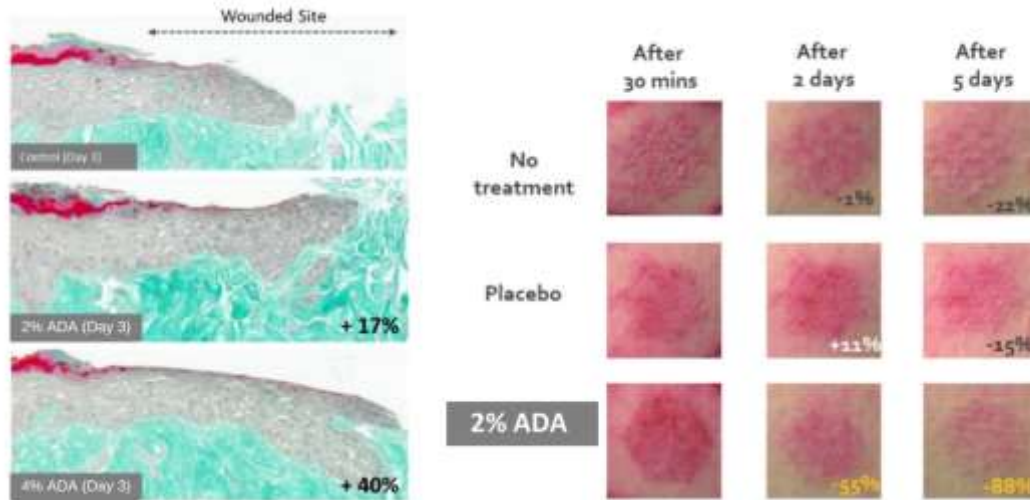


ABSTRACT

Corum has developed a new patented active ADA (Azelamidopropyl Dimethyl Amine), which acts as a regulator on histone modification to increase protein expression leading to cell proliferation and tissue regeneration. Through the epigenetic pathway, ADA is able to accelerate skin recovery speed, strengthen the skin barrier, and promote epithelial formation in the weakened and damaged human skin that has been clinically proven to soothe the irritated skin after laser treatments. This novel proprietary ingredient is safe, stable, non-irritant, and easy to formulate into advanced treatments for skin exposed to biological, environmental, and physical damages from treatment procedures and after-shaving skincare.



To evaluate the efficacy, our ex vivo study results demonstrate that ADA significantly improved the thickness of *stratum corneum* and accelerated recovery speed. Our clinical studies also show that ADA could reduce erythema of the lesions after the laser treatment, suggesting that the active ingredient is suitable for sensitive skin as an immediate soothing care.



ADA promotes skin repair through epigenetic histone modification pathway and accelerates cutaneous healing mechanism in both epidermis and dermis layers of human skin. Various conducted studies have shown the benefits of ADA to skin:

- Strengthen skin barrier of weakened and damaged skin
- Promote growth factor secretion
- Stimulate cell proliferation of tissue lesions
- Restore healthy skin homeostasis
- Lower sebum secretion
- Anti-inflammation

This compound is water-soluble and can further enlarge the applicability in cosmetics formulations especially for post-acne, post-procedure and post-shaving products.

For more information, please visit www.corum.com.tw

Session 2

13 Sep 2023 - DAY 1

Chairpersons: Beverley Gardner, Skyem, South Africa
Poonam Sewraj, L'Oréal, South Africa

10h30-11h00 *Blue Light regulates Melatonin, OPN5, Circadian Genes and Impact Mitochondrial Functions on Cutaneous Cells*
Rozenn Barrois, SEDERMA, France

11h00-11h30 *Investigating Characteristics and Triggering Factors of Scalp Discomfort Sensations in African Women*
Lumbidzani Moyo, L'Oréal, South Africa

11h30-12h00 *Study of Aqueous Hair Food Prototype on a Type 4 Relaxed Hair for Improvement in Detangling, Hair Feel and Improved Manageability*
Vinayak Rupnar, Dow Chemicals IMEA GmbH, UAE

12h00-12h30 *RepHAIR yourself. The Importance of Haircare as Selfcare*
Silvia Moretti, SOCRI spa, Italy

12h30-13h30 *LUNCH BREAK hosted by*

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Blue Light regulates Melatonin, OPN5, Circadian Genes and Impact Mitochondrial Functions on Cutaneous Cells

Rozenn Barrois
SEDERMA, France

Rozenn is Regional Sales Director at SEDERMA. She obtained a degree and MBA in International Business from the Université de Haute Bretagne, France. Multiple courses from Instituto Tecnológico y de Estudios Superiores de Monterrey, México.

She has 24 years of experience in the Chemical Industry and 21 of them in charge of the promotion of SEDERMA's technology capabilities and innovations. She is member of the SFC (Société Française de Cosmétique).

She is speaker in international scientific congresses of Cosmetics for the last 19 years. She is co-writer of several scientific publications in cosmetics magazines.

ABSTRACT

Blue light regulates melatonin, OPN5, circadian genes and impact mitochondrial functions on cutaneous cells.

Blue light (BL) has positive effects on human both at general level through cycling of circadian genes and for specific treatment of proliferative cutaneous diseases. BL can induce biological cell responses through chromophores or photoreceptors as opsins (OPN), proteins initially observed into retina and involved in photoreception. Interestingly, OPN5 exists in non light-exposed organs and is also present into human skin, only in the epidermal basal layer. Deficiency in skin OPN5, impairs BL-induced gene upregulation of the circadian gene Period2 (PER2). Skin OPN5 is overexpressed during epidermis lesions and seems protecting cycling cells from damages by managing calcium release from its reticulum storage. Due to the development of connected devices, we faced to a growing BL exposure through mobiles, computers or pad screens. Overuse of screen light was accused to damage retina, to disturb general physiology and to increase fatigue via the desynchronisation of melatonin production. Melatonin is produced during the night-time by the pineal gland and is involved into circadian rhythm synchronisation. Skin cells produced melatonin, acting as a cell protector by triggering antioxidant properties, decreasing hydrogen peroxide production and stimulating ATP production. It is also known that BL irradiation increases hydrogen peroxide and singlet oxygen into mitochondrial and induces DNA damages, these parameters being involved in premature skin aging. In addition, BL reduces keratinocytes, endothelial cells and gingival fibroblasts proliferation. All these observations have mainly focused people on BL negative impact. To study both positive and negative effects of BL on skin cells and to evaluate molecules modulating these BL-induced effects, we developed a methodology.

We designed a specific equipment composed of 30 BL LEDs (415nm) to irradiate human keratinocytes and dermal fibroblasts. Dose was 30.2J/cm². Microarray preliminary study, performed on keratinocytes, indicated that 228 genes were upregulated (>2) whereas 76 were downregulated (<0.5).

Results highlighted a BL-induced modification of calcium homeostasis and a reticulum stress involving the UPR response. We observed that BL triggered significantly (*) OPN5 both at gene and protein levels by 183%* and 62%* respectively whereas cell melatonin production was reduced by 38%*. In addition, BL disturbed mitochondrial functions, it negatively modulated mitochondrial membrane potential into keratinocytes by 33%* and depressed their ATP production by 30%*. BL induced pre-inflammatory mediator IL-6 by 147%*, a cytokine involved into premature senescence and tissue aging and it stimulated too, prostaglandin PGE₂, another inflammatory mediator, by 108%*. Impairment of cell contraction by 36%* was



either noticed on human dermal fibroblasts. Our results also indicated that BL up-regulated MMP1 gene expression by 205%*.

We developed a methodology to study BL-induced modulations of cell and tissues physiology. To our knowledge, this is the first report mentioning a direct effect of BL on melatonin production and on stimulation of OPN5 production at gene and protein levels into skin cells. We observed that BL upregulated PER2 and MMP1 gene production and negatively modulated keratinocytes mitochondrial membrane potential and ATP production, this could be partially explained by reactive oxygen species production into mitochondria. This method will help further studies on anti-aging products.

Investigating Characteristics and Triggering Factors of Scalp Discomfort Sensations in African Women

Lumbidzani Moyo
L'Oréal, South Africa

Lumbi holds a PhD in Chemical Technology from the University of Pretoria. Lumbi is passionate about innovation, new bio-chemical technologies, and keen interest on their commercialization. With an interdisciplinary research background, Lumbi has extensively explored various areas such as material science, chemical product design, personal care product development, and claims testing. She brings over ten years' experience in research and development in academia, personal care and specialty chemicals industry. Her previous work experience includes academic research at CSIR (Council for Scientific and Industrial Research) as a Postdoctoral Fellow and Senior Researcher. Her accomplishments include contributing to eight technology demonstrators, trademark and invention disclosure during her tenure at CSIR. Additionally, she worked as a Lead Application Scientist at Croda South Africa, focusing on product development, claims, and instrumental evaluation for Afro-textured hair. In her most recent position as a Sales and Business Development Manager for East and Southern Africa at Novozymes, a leading global biotechnology company, Lumbi showcased her expertise in driving sales and forging business partnerships. She has a multiple of peer-reviewed scientific publications and conference proceedings, reflecting her commitment to advancing knowledge and sharing her expertise in the scientific community.



Currently she is the Head of Clinical, Instrumental & Claims Evaluation SSA at L'Oréal South Africa.

ABSTRACT

Introduction

Sensitive skin describes a skin type that is easily irritated or reacts more strongly to certain environmental factors or skincare products. People with sensitive skin may experience unpleasant sensations in response to stimuli that normally should not provoke such sensations, including redness, itching, dryness, burning, or stinging. While sensitive skin has traditionally been associated with facial skin, epidemiological studies have revealed that this condition can extend to other areas of the body, such as the scalp.

The objective of this study was to unveil the prevalence and the factors associated with sensitive scalp in women from 5 different African countries: Côte d'Ivoire, Nigeria, Kenya, Ghana and South Africa.

Methods

A total of 4244 interviews were conducted across Ivory Coast, Nigeria, Kenya, Ghana, and South Africa, targeting black women between the ages of 18 and 45 yrs. The participants were selected from various social classes ranging from A to D. The comprehensive questionnaire covered a wide range of topics including skin and hair, frequency and intensity of skin reactions, discomfort sensations experienced on the face, body, and scalp, lifestyle factors, cosmetics routines, and environmental influences. The primary focus of this study revolves around the scalp-related questions included in the questionnaire.

Results

Overall, 29% of the study participants declared their scalp to be sensitive. However, the prevalence of self-declared sensitive scalps varied significantly across the continent, with notable differences observed between the two cities surveyed in South Africa. The sensitivity of the scalp was strongly linked to hair styling practices such as braiding, relaxing, and coloring, as well as cleaning routines that included factors like inadequate rinsing, frequency of product use, and choice of products. Regarding environmental triggers, sun exposure emerged as a significant factor for scalp sensitivity. Itching was the most reported unpleasant sensation, even among women who did not typically experience dandruff. Additionally, dry scalp was found to be associated with scalp sensitivity.

Study of Aqueous Hair Food Prototype on a Type 4 Relaxed Hair for Improvement in Detangling, Hair Feel and Improved Manageability

Vinayak Rupnar
Dow Chemicals IMEA GmbH, UAE

Vinayak is a post graduate in Chemical Engineering from IIT Bombay, India. He is working as Technical Service and Development Manager for Dow Consumer Solutions Division handling Middle East, Africa and Turkey region. He has over 25 years of industry experience in the chemical industry having worked with Tecnimont, bp-Castrol and Croda prior to Dow. He has spent significant amount of his time in emerging geographies of India, Middle East, Africa and Turkey. He is based in Dow Chemical MEA HQ in Dubai.



ABSTRACT

Most of the Hair Food market is mainly composed of anhydrous products based on petrolatum and mineral oil with inconveniencies such as unpleasant feel, greasy and/or oily look or lack of smoothness.

To overcome these disadvantages, a water-based formulation containing specific silicones was developed. Performances were first screened using standard test methods and finally evaluated through half-head testing sensory evaluations, comparing the formulation prototype to a commercial water-based Hair Food, leader in the African market.

These half-head testing were conducted in Sefako Makgatho Health Sciences University (South Africa) testing labs, on a panel of 20 panellists (hair type 4) in the age group 18 to 45 having relaxed hair. Results helped in understanding pros and cons of aqueous based formulations for application up to 6 hours of wearing.

Results show that this water and silicones-based formulation addresses various needs such as ease of detangling and combing, improved non greasy hair feel as well as frizz control. These consumer perceivable benefits will facilitate African consumer's hair grooming while enhancing hair beauty.

RepHAIR yourself. The Importance of Haircare as Selfcare

*Silvia Moretti
SOCRI spa, Italy*

Silvia is a microbiologist experienced in immunology research successively applied to testing, and experimentation for the development of new, effective, and safety cosmetic products. Scientific expertise in formulations, ingredients, and safety standards of cosmetic products. Evaluation of product efficacy. Analysis of data and test results to assess the performance of cosmetic products. Marketing support for new concept development and marketing claim support. Contribution to the development of effective marketing strategies to promote products and to coordinate research and development activities, working in multidisciplinary teams to achieve objectives.



ABSTRACT

Hair loss and thinning has been COVID side effects. Back into the world has also meant taking rid of those consequences to boost self-confidence.

Hair can be the mirror of our overall health: strong and healthy hair means that the body has enough nutrients for functioning at its best; on the contrary, damaged, frizz and dry hair may be a sign of necessary changes in diet, lifestyle or hair-care routine.

Looking forward, actual hair-care trends focus on repair, protection, and growth emphasizing also scalp-care for achieving stronger hair follicles, maintaining microbiome homeostasis and controlling inflammatory phenomena.

So, it's not surprising that bond builders and damage-repair products are two of the most searched hair-care products since they work to hold the fiber together, compact and stress resistant.

Among bond builders' key ingredients there are small, organic acids, like malic or citric acid, which can help in strengthening hair structure working on protein bonds.

Malic acid is contained in a newly 100% plant derived complex (INCI name Polyglyceryl-3 Betainate Malate, Sulfated Castor Oil, Aqua) developed for restructuring hair fibers and salt linkages of hair damaged by chemical and mechanical treatments. It's a real functional ingredient which contributes to rebuild hair bonds. The cationic surfactant stabilizes, through ionic interactions, the lubricating properties of the sulfo-derivative thus creating a protecting film and improving substantivity. The ionic nature of this patented green complex allows the direct interaction with hair salt bonds repairing damages without altering protein structure. Tested on Caucasian chemical damaged tresses, the green complex reduces combing force and static electricity. In addition, it significantly improves friction properties closing the cuticles thus achieving at the same time smoothness, damage prevention and repairing action. When used in professional product, it decreases inorganic salt content usually present in bleaches and coloring preparations without affecting hair basal element composition.

Additional tests have been performed on Type 8 Afro-textured hair, a truly challenging hair type because extremely curly, brittle, and prone to breakage. To evaluate break tendency, cyclic fatigue test has been chosen because, with an alternative approach, it involves repeated application of force evaluating the number of cycles required for breaking the hair. The green complex applied in aqueous solution on dump hair significantly increases the number of cycles to break the hair indicating stronger fibers and resistance. In addition, it improves fiber elasticity, the hair's ability to stretch and return to its original shape.

If on one side hair damages are restored, on the other side, a green cationic compound (INCI name Polyglyceryl-3 Betainate Acetate) improves styling and scalp care while taking care of the hair. Its cationic nature derives from Betaine (Trimethylglycine), a by-product from sugar beet molasses during sugar

production with multifunctional characteristics such as the ability to retain water, soothe and decongest, stabilize emulsion interfaces, improving sensory characteristics. It has also been proven that betaine is present in hair in which could act as a protective mechanism.

This cationic compound is a patented, 100% plant-derived copolymer which can easily replace synthetic conditioning ingredients. In fact, it is specifically developed for improving compatibility and delivering moisturization, smooth and anti-frizz effect, either in rinse-off and in leave-on hair products. Because completely soluble in water, it is the perfect partner for transparent products. Acetic acid has been chosen for its positive influence on conditioning activity and improving hair combability and softness. On Caucasian chemical damaged tresses, the green cationic compound significantly improves dry combability and reduces static electricity. When compared to silicone conditioning shampoo, it delivers a moisturized after-feel both on straight and wavy hair, achieving disciplining efficacy with frizz and fly-away visibly reduced. Used regularly, it also preserves dye intensity.

Scalp skin is very sensitive since it contains high number of glands and follicles but a lower barrier function. For this reason, it's important to properly moisturize, cleanse and re-balance. So, if "scalp-care is the new skin-care", the cationic compound is the right partner for this delicate regime. Not only betaine can hydrate the scalp but, together with acetic acid, they show antimicrobial boosting activity towards dandruff causing bacteria without unbalancing microbiome equilibrium and irritant effects.

Hair is one of the first aspects people may notice and how they look can describe the person we are: healthy hair is a sign of confidence and self-care. Both actives, the green complex and the green cationic compound, can assist people in their journey for taking care of their hair and scalp but in a sustainable manner because, besides their proven efficacy, they are also completely natural so to be gentle on hair, scalp and environment.

Session 3

13 Sep 2023 - DAY 1

Chairpersons: Beverley Gardner, Skyem, South Africa
Charmaine du Preez, Amka Products, South Africa

13h30-14h00 *Paving the way for Grading Skin Sensitivity*
Marcel van Rooyen, Symrise, South Africa

14h00-14h30 *Nanotechnology Advances in Cosmetics*
Sreejarani Pillai, Centre for Nanostructures & Advanced Materials, CSIR, South Africa

14h30-15h00 *The Holistic Anti-Aging Potential of *Persicaria Senegalensis* (Meisn.) Sojak and its Probiotic Fermented Counterpart*
Bianca Payne, University of Pretoria, South Africa

15h00-15h30 *Fermented Beauty Actives for Natural Skincare*
Artur Martí Peraire, Evonik, Spain

15h30-16h00 *Interview Session*
Dr Juanita Kilian, DrK, South Africa

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Paving the way for Grading Skin Sensitivity

Marcel van Rooyen
Symrise, South Africa

Marcel holds a B Admin degree majoring in Marketing Communication and completed the Coschem Scientific diploma in 2017.

She joined the Symrise Cosmetic Ingredient division as a Sales Director in 2019, responsible for the Sub-Saharan region.

Marcel has been involved in the chemicals and cosmetic industry since 2000 and held various sales roles in companies including Sensient Technologies, Millchem, Sharon Bolel and Air Products.



ABSTRACT

Sensitive skin is one of the most common skin conditions that can negatively impact the quality of life of those who suffer from it. 71% Of the Global adult population has sensitive skin syndrome to some degree, with 40% having a very or moderately sensitive skin. This skin issue can be permanent or occasional condition. Some symptoms are well described and visible such as: dryness, pimples, redness, oiliness. But others are not visible: stinging, burning sensations.

To-date, grading of it still relies solely on consumer's self-perception and remains a difficult and unreliable process. Did you know that the stinging test with lactic acid, the most common method to assess skin sensitivity, is not suitable to grade it? It can only evaluate volunteers with high sensitivity or low sensitivity. Experts have yet to agree on a common approach and a reliable tool to accurately assess skin sensitivity. What if an objective analytical tool based on AI and Hyperspectral image analysis could be developed to grade skin sensitivity with high correlation to self-assessment?

In this study, Symrise developed an innovative tool to analyze skin sensitivity: Skin Sensitivity Index for sensitive skin with the use of Artificial Intelligence. This abstract will detail its development process.

In the beginning, the goal was to identify the parameters of sensitive skin and to define the ground truth. To start with, we conducted a first clinical study including sensitivity assessments. During the inclusion interview, the subjects answered a questionnaire in which they declared the cutaneous sensations they felt towards various factors. Based on these answers and additional visual skin evaluations (shine aspect, redness, dryness...), a trained expert judged whether the subjects had a sensitive skin or not, thus providing a binary classification of the panel. But this binary classification was not sufficient to appraise soothing product's efficacy, because it was not able to highlight slight improvement of skin sensitivity. A linear regression of the responses to the questionnaires was used with a sensitivity ranking from 0 to 10. To validate the self-perception score, it was then compared with a sensitivity status given by the expert (binary assessment of "sensitive status" versus "non-sensitive status"). The correlation was high (96.8%) and the ground truth was established.

In the second step, the AI model based on this ground truth (the perceived sensitivity grade) and hyperspectral image analysis was built with 90 volunteers. Face skin color, homogeneity and chromophore parameters were computed and used to train the neural network with regards to the perceived sensitivity grades. It was the first version of Skin Sensitivity Index.

In the third step, the goal was to increase its robustness of the index. 183 Caucasian women were included in a new study, with a better distribution of the skin sensitivity. The self-assessment questionnaire was asked three times, with a delay of two weeks. It allowed to analyze repeatability and identify the most reliable and repeatable subjects. At the end, 119 volunteers were selected. In this panel, 98 volunteers were used to train the AI model and 21 to test it. This second panel was used to build a more robust Skin Sensitivity Index.

The last step was to challenge the proof of concept with a soothing cream. It was checked and confirmed twice with Skin Sensitivity Index.

Skin Sensitivity Index suggests novel support and assessment of skin sensitivity evolution over the year and after using a soothing treatment. It allows the calculation of relevant indices for skin sensitivity automatic grading. The assessment cannot be biased anymore by wording of subjective feelings.

Author: Diane Lanfranchi, Symrise France

Nanotechnology Advances in Cosmetics

Sreejarani Pillai
Centre for Nanostructures & Advanced Materials
CSIR, South Africa

Sreejarani is a material scientist affiliated with DSI/CSIR Centre for Nanostructures and Advanced Materials, Pretoria, South Africa. She received her PhD degree in Physical Chemistry from Cochin University of Science and Technology, India in 2003 and was a recipient of the prestigious CSIR research fellowship. In 2006, she moved to South Africa and continued postdoctoral studies at Tshwane University of Technology. She joined CSIR in 2007, as a Senior Researcher and currently holds the position of Principal researcher.



Sreejarani current research focuses on advanced functional materials for topical applications. She has extensive research experience with various nanomaterials including cellulose nanofibres, nano clay minerals, nano metal oxides, carbon nanomaterials, nanoparticles as well as nano/micro emulsions and topical delivery systems. Her research initiatives have resulted in various industry collaborations, numerous publications in international peer-reviewed journals, conference presentations, and product-based technology demonstrators.

ABSTRACT

Cosmetics are deemed as the fastest-growing segment of the personal care industry and their use has risen significantly over the years. The application of nanotechnology in cosmetics has been demonstrated to overcome the disadvantages associated with conventional cosmetics and to add additional useful functionalities to a formulation. Cosmetic formulations incorporating nanotechnology are a relatively new yet very promising and highly researched area.

Various international and local brands are implementing this nanotechnology as an innovative approach to offer high quality and efficacy of their cosmetic products. Cosmetics based on nanotechnology offer various advantages like increasing the bioavailability of the active ingredients and hence prolonging the effect of cosmetics while improving the overall performance. Nanocarrier technology has been effectively applied in the field of cosmetics due to the fact that it can effectively promote percutaneous penetration and significantly increase skin retention of active components in functional cosmetics.

This presentation focuses on the advancement of nanomaterial and nanotechnology strategies and related innovations in topical delivery systems, and cosmetics formulations.

The Holistic Anti-Aging Potential of *Persicaria Senegalensis* (Meisn.) Sojak and its Probiotic Fermented Counterpart

Bianca Payne
University of Pretoria, South Africa

Bianca obtained her Bachelor of Science Degree from the University of Pretoria in Microbiology, followed by her Honours and Masters at the same institution in specializing in Medicinal Plant Science. She is currently enrolled for her PhD which investigates tools such as fermentation and gold nanoparticle synthesis on enhancing the potential bioactivity of South African plants, specifically in relation to maintenance of the dermal matrisome as for the development of anti-ageing candidates. Since 2016 she has also worked as a research assistant at the University of Pretoria and co-founded a start-up company, “Blyde Botanics” alongside a fellow PhD student from Prof Namrita Lall’s research group, in 2019.



In 2018 she was awarded the prize for best Masters Student at the 44th Annual Conference for the South African Association of Botanists and Best Young Scientist. Later that year she was awarded the DST Albertina Sisulu Fellowship for Women in Science. She has published 17 research articles in peer-reviewed journals and 9 book chapters.

ABSTRACT

Skin health and beauty have long been considered to reflect the overall well-being of an individual. While literature is scant regarding the use of plants for their anti-ageing potential, the use of plants for skin related ailments is abundant and can be applied to anti-ageing research. This can be done as many aspects of the molecular pathways responsible for the formation of wrinkles and an aged phenotype are common to stress responses experienced by the skin under duress. *Persicaria* is one of fifty genera in the Polygonaceae family of mono- and dioecious herbs, small trees, and shrubs. It is abundantly distributed throughout the Northern hemisphere but can be found throughout Africa growing along streams, rivers, pools, and swamps in freshwater systems. Traditionally, it has been used for a range of skin troubles and was therefore selected for the current study. A semi pure sample form this plant has been confirmed to exhibit significant antiaging effects in a human validation study.

In vitro assessment using elastase inhibition revealed promising activity against key contributors to the ageing pathway including elastase, collagenase, and inflammatory mediators. Based on the noteworthy elastase inhibitory potential of this extract, bioassay guided liquid-liquid partitioning was used to determine the most bioactive partition which was selected for further compound isolation using column and flash chromatography, respectively. From this a possible novel compound has been isolated and structure elucidation is underway.

Fermentation has long been used in the food and beverage industry, and with the range of benefits offered by probiotic bacteria, it is becoming an increasingly interesting tool in cosmetics. The ethanolic crude ethanolic extract was fermented using *Bifidobacterium bifidum* and investigated for its elastase inhibitory potential. The fermented extract was found to have a five-fold lower IC₅₀ value of 10.86 ± 2.15 µg/mL compared to 50.59±4.36 µg/mL. Furthermore, the fermented extract was also found to have improved irritancy potential in a human irritancy study compared to the ethanolic extract, while eradicating the appearance of wrinkles after 28 days of application in a human efficacy study.

These results support the use of extracts of *P. senegalensis* for use in the development of anti-ageing technologies. Multiple mechanisms of action provide a multi-faceted approach to natural well-ageing strategies that will progress the value that scientifically proven natural ingredients can contribute to the cosmetic industry and growing demand for natural products.

Fermented Beauty Actives for Natural Skincare

Artur Martí Peraire
Evonik, Spain

Artur is a biochemist with almost 10 years of experience in sales positions in the chemical industry field. He started this journey in December '19 in Infinitec, company leader in delivery systems for cosmetic applications. In June '21, Infinitec was acquired by Evonik. Now, he is the Business Developer of Evonik for Active Ingredients in the MEA region.

ABSTRACT

In this occasion we will share our last studies on different interesting natural ferments for skincare application, all of them scientifically proven to activate mechanisms that help to restore the skin's youthful appearance and that, at the same time, are powerful and safe ingredients suitable for all skin types from a sustainable fermentation process.

Ganoderma lucidum extract project 1

INCI: Water/Aqua; Ganoderma lucidum extract; Glycerin; Propanediol; Xanthan gum; 1,2-hexanediol; Caprylyl glycol

Obtained from the fermentation of the Reishi mushroom, which has a long tradition of use in Asian countries for its healing properties, the first studies will be focus on Ganoderma lucidum extract. Through the fermentation process, key metabolites of the mushroom extract are made available that support biological pathways related to cellular proliferation and migration. Over time, this is supportive of skin regeneration that leads to younger-looking skin.

Conclusions:

- Balances the natural slow-down in skin renewal due to aging with a boost in tissue regeneration
- Accelerates skin re-epithelialization after disruption of the epidermal barrier
- Activates biological pathways involved in cell migration and proliferation

Pichia Ferment project 2

INCI: Glycerin, Pichia Ferment Lysate Filtrate

The second studied ferment is obtained from the fermentation of a Pichia Pastoris strain found co-existing among the century-old trees of the Yosemite National Park in the United States. This strain was found to provide unique benefits through fermentation due to its upregulation of cellular activity.

Conclusions:

- Restores the skin's firmness, elasticity and texture
- Promotes pro-collagen and elastin synthesis
- Activates healthy cell renewal for enhanced skin vitality

Lactobacillus/Rye Flour Ferment project 3

INCI: Lactobacillus/Rye Flour Ferment; Sodium Benzoate; Potassium Sorbate (proposed)

The last analyzed ferment elevate the positive attributes of organic rye through ecosystemic fermentation. Unlike single-strain fermentation, our ecosystemic approach uses a multi-strain consortium of natural lactic acid bacteria which enables a broader collection of beneficial agents for the skin.

Conclusions:

- Helps to resurface the skin
- Promotes the balance of a healthy skin microbiota



Interview Session

*Dr Juanita Kilian
DrK, South Africa*

Dr Juanita Kilian, is a qualified as a pharmacologist with a Master's in Dermaceutical product development and Doctorate in Transdermal Delivery Technology from the University of London, School of Pharmacy.

Juanita has engaged in the study of transdermal delivery systems and has made unique formulation discoveries, which had a profound influence on the development of the DrK cellREVERSE Dermal Health Care product range.

Today, Juanita is the director, formulator, and founder of the DrK cellREVERSE Dermal Health Care product line with the extensive focus on the skin microbiome and the interaction between the skin, brain, and gut.



13 Sep 2023
Networking Event @ 16h00

Cocktail party & networking event hosted by



Gin tasting sponsored by



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Session 4

14 Sep 2023 - DAY 2

Chairpersons: Beverley Gardner, Skyem, South Africa
Yurita Yona Boodhram, AECI Specialty Chemicals, South Africa

08h00-08h20 *Arrival tea sponsored by*



08h20-08h30 *Welcome*

08h30-09h00 *The African Continental Free Trade Area (AfCFTA) Treaty: Creating the Cosmetic Market of the Future through Standards Harmonization and technical Regulatory Convergence, an Ever-Shifting Kaleidoscope and New Dawn for the African Cosmetic Industry*
Percy Sibanda, L'Oréal, South Africa

09h00-09h30 *Silicones Solutions for Sea, Sun and Sand*
Kirsten Scott, Wacker, South Africa

Online
09h30-10h00

Gigartina Stellata Zero-G Facial Lifting & Reshaping
Frederic Serres, Givaudan, France

10h00-10h05 *Marketing slot*



10h05-10h30 *Tea/coffee break hosted by*



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The African Continental Free Trade Area (AfCFTA) Treaty: Creating the Cosmetic Market of the Future through Standards Harmonization and technical Regulatory Convergence, an Ever-Shifting Kaleidoscope and New Dawn for the African Cosmetic Industry

*Percy Sibanda
L'Oréal, South Africa*

Percy is a Cosmetic Chemist as well as a Corporate & Private Law graduate. He holds a Bachelor of Science Degree with Honours in Applied Chemistry, a Bachelor of Commerce in Law Degree (with distinction), and a Diploma in Cosmetic Science.

He has worked in the cosmetic industry for more than 15 years, starting at SDK Agencies for two and a half years, in the cosmetic contract manufacturing space where he worked in product development, quality control, and production.

He then moved to the Cosmetic, Toiletry & Fragrance Association (CTFA), the cosmetic industry trade association where he worked as a Technical Advisor on various aspects of cosmetic self-regulation for almost 3 years. He then joined the L'Oréal Group where he has been the Scientific & Regulatory Affairs Advisor for Sub-Saharan Africa for the past decade, with a focus on regulatory intelligence.

Percy is specialised in the Scientific & Regulatory Affairs of the Cosmetic Industry in Sub-Saharan Africa (SSA). He is adept at supporting, managing, leading, and driving an aligned approach to end market management of priority regulatory matters to at present achieve the L'Oréal Group's regulatory and commercial objectives in SSA.

Percy represents the L'Oréal Group on multiple stakeholder platforms, some of which he leads, that range from national and regional standards bodies where he is the National Chairperson of SABS TC 217 – Cosmetics, various professional and trade association committees chief among which he is a member of the Executive Committee of the Aerosol Manufacturers Association (AMA), advocacy and non-governmental organisation (NGO) group engagement platforms as well as government stakeholder engagement platforms on regulatory policy development impacting trade in cosmetics, chemicals management, and standardisation.

Percy further collaborates with an extensive network of local and international experts both within and outside the L'Oréal Group to ensure the necessary infrastructure and processes to deliver tailored regulatory solutions for priority regulatory issues in the SSA region are available to meet business requirements and encourage the growth of the South African and African cosmetic industry. A passionate speaker at South African cosmetic industry events on his two vocations – science and law, in particular the confluence of legal ethics and innovation, out of which ethical innovation is borne. Percy also enjoys writing opinion pieces on these two subjects as pertain to the cosmetic industry.

ABSTRACT

The African Continental Free Trade Area (AfCFTA) Treaty is an ambitious flagship project of the African Union (AU's) "Agenda 2063: The Africa We Want". It is a multilateral trade agreement covering multiple spheres of regulatory and other aspects of the African economy towards the creation of one African market through the elimination of technical trade barriers thereby boosting intra-Africa trade and ease of movement of value-added African-produced products that include cosmetics within the African continent.

Implemented successfully, the provisions of the AfCFTA Treaty will create a single cosmetics continental market with a consumer base of about 1,3 Billion individuals and a combined Gross Domestic Product (GDP)



of about USD 3.4 trillion. The cosmetic industry in Africa and globally thus needs to pay attention to this transformative regulatory development, in particular, the opportunities it presents as well as how cosmetic companies may leverage this development to access new markets within the African continent, trade preferentially under favourable tariff regimes and reduce the currently existing complexities of moving cosmetic products between African countries.

Cosmetics have been identified as a key sector for prioritization in trade development under the AfCFTA within the African Fast Moving Consumer Goods (FMCG) space. As part of the mandate for the prioritisation of the African cosmetic industry, the institutions of the AU intend to eliminate technical barriers to trade that include cosmetic standards that are not harmonised, divergent cosmetic technical regulatory systems, and in the process create regional value chains for the cosmetic industry within the continent's main economic hubs that will foster further local and international investment in the African cosmetic industry.

In this presentation we will explore the AfCFTA Treaty in detail i.e., its regulatory provisions, how they will be implemented at a country and continental level, how transformative these will be for the cosmetic industry, the work that has begun to make the intentions of the AfCFTA a regulatory reality as well as a success for the cosmetic industry in South Africa and continentally in cosmetic standards harmonisation and technical regulatory convergence.

Importantly, this presentation endeavours to provoke a mind shift among South African cosmetic industry players in particular how looking at the African continent as one market and not 54 different ones may impact their regulatory, market access, and business strategies for the future.

The presentation will further highlight how by leveraging continentwide regulatory evolutions the AfCFTA will bring about, the cosmetic industry may reduce the cost of regulatory compliance, the cost of producing cosmetics locally (in Africa), and overall, the cost of doing business in Africa for cosmetic companies. Further, the presentation will explore how quick adaptation to the changes that the AfCFTA will bring about will be important for the survival and continued competitiveness of the South African and continental cosmetic industry.

In conclusion, the presentation will highlight areas where lobbying is still necessary through trade associations such as the Cosmetic, Toiletry & Fragrance Association (CTFA), Aerosol Manufacturers Association (AMA), Consumer Goods Council of South Africa (CGCSA), etc. to South African government agencies that will in turn lobby the AfCFTA Secretariat and its enabling institutional organisations as well as those of the AU to enable desirable regulatory and business outcomes for the cosmetic industry in South Africa in the context of the AfCFTA and how this may be achieved.

Silicones Solutions for Sea, Sun and Sand

Kirsten Scott
Wacker, South Africa

Kirsten joined WACKER Chemicals Middle East as Regional Sales Manager in 2015, holds Marketing and Microbiology associate degrees and was President of Coschem in 2017/8.

Kirsten has been involved in Household and Personal Care Industry since 1987.

ABSTRACT

The United Nation's 3rd goal of "Good Health and Well-Being" remains paramount in protecting ourselves from the harmful effects of the sun, which is critical to this goal. But as concern for our reefs and oceans grow, cosmetic chemists increasingly need to find solutions to balance the need for the safety of humans with the health of our environment. This means ensuring that the actives we use are formulated in most sustainable, efficient and effective way possible.

In this session, we will discuss how we can use the intrinsic nature of silicones to provide sensorial effects which encourage adequate usage levels of sunscreens to offer enough protection, as well as ways of enhancing the appearance of sunscreens on our skin. In addition, we will look at how the spread-ability of silicones contributes to providing an even and improved coverage on the skin. And see how a well-formulated product requires actives, particularly inorganics, to be well distributed within the product to reach maximum SPF values. Finally, we will evaluate various silicones at different levels to select which of those silicones ensure that our sunscreens remain in place at the same time when we have fun in the sun and water.

Silicones are a product of primarily sand and methanol, and by replacing methanol with sustainably sourced bio methanol in a mass-balanced approach, many of these silicones are now available with a Naturalness Index, which is TÜV SÜD certified. Our presentation will delve into how to formulate Sustainable solutions in mind.



Gigartina Stellata Zero-G Facial Lifting & Reshaping

*Frederic Serres
Givaudan, France*

Frederic has a Master degree in Chemistry of Polymers & Biology of the French University of Lille, and has 20 years' experience with several active ingredient manufacturers. He works for Givaudan Active Beauty since 7 years and takes care now specifically of the African & Middle East Region. He works actively with our partners from The Careco for the African territories.



ABSTRACT

Gigartina Stellata Extract

- Company name: Givaudan Active Beauty
- INCI name: Water (and) Propanediol (and) Gigartina Stellata Extract

Our researchers crafted an enriched extract of a red macro algae, giving birth to a new and powerful active ingredient. By relaunching the production of key biomarkers responsible for elastin organization in the dermis, it counteracts the effect of gravity, playing a role in the skin ageing process and loss of skin firmness & elasticity.

- Improves the dermis structure and restores skin biomechanical properties, by boosting collagen and elastic fibers' organization
- Lifts sagging skin and re-densify the extracellular matrix
- Significantly reshapes the face contour and decreases the volume of the double chin in just 1 month.

Gravity on Earth has inevitable consequences on skin. It is proven that the skin loses 75% of its collagen density between 35 and 70 years old. Hence, skin sagging, loss of contour and double chin appear.

This active is created through marine biotech with a red macroalgae called *Gigartina stellata*, rich in various bio-active compounds: shinorine and floridoside to biologically fight the physical effects of gravity on skin.

- Improve the dermis structure & skin elasticity: in vitro tests demonstrated a significant increase of collagen I production and influences the expression of genes involved in the dermis structure, elastic fibres organisation and fibres degradation protection. Additionally, a full proteome characterisation was performed on skin explants, topically treated with the ingredient at 1% for 5 days or left untreated. It demonstrated that it significantly restores the production of key proteins, particularly proteins involved in elastic fibres organisation and in the dermis structure.
- Restore skin biomechanical properties: ex-vivo tests demonstrated a significant orientation of collagen fibres back to a more anisotropic organisation, bringing back an optimal structure to the skin deep layers and significantly restores skin suppleness, as demonstrated by Atomic

Force Microscopy measurements, close to the value of a skin 30 years younger.

Two clinical studies have been conducted to demonstrate even more its robust efficacy:

- Boosting collagen and lifting sagging skin: A double blind clinical evaluation was carried out during 56 days (the active 1% vs. placebo) on 40 volunteers. The extract of a red macro algae significantly stimulates collagen density by up to 3.4 times better than the placebo.
- A reshaping effect to fight double chin: A double blind clinical evaluation was carried out during 28 days (the ingredient 1% vs. placebo) on 44 volunteers. The active significantly improves skin firmness and

elasticity, by respectively +7.0% and +8.0%, up to 7 times better than the placebo. The study also demonstrated that it significantly decreases the volume of the double chin versus placebo, by -27.4mm³ in average on the whole panel of volunteers.

This represents a visual improvement of volunteers' facial contour, and a drastic aesthetic benefit for the lower part of their face.

Our active ingredient obtained different labels such as 100% Natural Origin Content (ISO 16128), Vegan and Halal suitable, COSMOS and NATRUE approved and the INCI CHINA.

Session 5

14 Sep 2023 - DAY 2

Chairpersons: Beverley Gardner, Skyem, South Africa
Marcel van Rooyen, Symrise, South Africa

10h30-11h00 ***Enhancement of the Physicochemical Stability of Retinyl Palmitate by Microemulsion Encapsulation***
Phumelele Kleyi, Centre for Nanostructures & Advanced Materials, CSIR, South Africa

Online
11h00-11h30 ***New Insight in Skin Dehydration: Reversing Skin Holobiont Slow-Down is part of the Solution***
Lauriane Imbert-Roux, Greentech, France

Online
11h30-12h00 ***Supporting Microbiome-Friendly Claims: An Open Access Scale***
Catherine Zenchetta, Givaudan, France

12h00-13h00 **LUNCH BREAK**

Marketing slot in foyer



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Enhancement of the Physicochemical Stability of Retinyl Palmitate by Microemulsion Encapsulation

Phumelele Kleyi

*Centre for Nanostructures & Advanced Materials
CSIR, South Africa*

Phumelele obtained his PhD degree in Chemistry from Rhodes University in 2014. In the same year, he was appointed as a Postdoctoral Researcher by the DSI/NIC National Centre for Nanostructured Materials at CSIR. He worked in a Water Research Group, developing nanostructured materials for the disinfection of water.

In 2019, he moved to the Advanced Functional Materials and Cosmetics group where the focus is on the development of nanomaterials for delivery of cosmetic active ingredients and stability enhancement. He has been working in this group until to date.

ABSTRACT

Retinoic acid is the most active form of vitamin A for the eradication of skin problems, such as photodamage, hyperpigmentation, fine lines, and wrinkles. It is known to regulate skin keratinocyte growth and differentiation. However, there are several factors which indicate that topical application of retinoic acid is challenging. Among these is its extremely low solubility which limits its incorporation into an acceptable vehicle, photo-instability which may render its topical application ineffective and tolerability problem leading to significant erythema, dryness, peeling, scaling, and irritation of skin. Retinyl palmitate has become a popular alternative to retinoic acid for skincare formulations or products because of its better stability and less irritating nature although having slightly lower efficacy. Although more stable than retinoic acid, retinyl palmitate is still relatively susceptible to degradation in the presence of UV radiation, oxygen, heat, as well as strongly acidic and basic conditions. As a result, preparation of cosmetic formulations containing retinyl palmitate require addition of anti-irritant and antioxidant ingredients, to eradicate irritation and degradation due to oxidation.

Microemulsions offer advantages including improvement of active ingredients solubility, enhancement of bioavailability, protection of the unstable active ingredients against environmental conditions and prolonged shelf life. In this study, retinyl palmitate was encapsulated into a (O/W) microemulsion using the optimized experimental conditions (MO:Smix:Water ratio = 5:30:65), with the intended goal being to encapsulate the highest amount of vitamin A possible. Pseudo-ternary phase diagrams revealed that the microemulsion prepared with S_{mix} (PEG 7 GC:Tween 80) ratio of 9:1 displayed the largest microemulsion zone, and was the most stable microemulsion. The droplet size, polydispersity index, and zeta potential were measured using dynamic light scattering. The microemulsion structure was investigated using polarized light microscopy. The transmittance of the microemulsion formulations was measured using UV-visible spectroscopy. The chemical structure of vitamin A in the microemulsions was monitored using Fourier transform infrared spectroscopy and nuclear magnetic resonance. Transdermal diffusion experiments revealed excellent skin penetration rate of retinyl palmitate from the microemulsion as well as from the formulation. Encapsulation of retinyl palmitate into microemulsion is a suitable strategy for the enhancement of the physicochemical stability.



New Insight in Skin Dehydration: Reversing Skin Holobiont Slow-Down is part of the Solution

Lauriane Imbert-Roux
Greentech, France

Lauriane obtaining her PhD in Biotherapies from Paris Descartes University in 2018, she joined CHANEL Parfums Beauté as a Skin researcher to create biological concepts from active results contributing to anti-aging product launches.

In August 2022, she joined Greentech R&D team as Head of the Biology lab, in charge of developing natural innovative cosmetic actives through biological and clinical assessments.

ABSTRACT

Loss of skin hydration is one of the main concerns worldwide and it affects skin of all ages, types (oily, normal, dry) and ethnicities. Its frequency increases with age, being noticeable in almost all over 60 years old (yo)¹. Skin hydration relies on a combination of two mechanisms: hydration and moisturization, meaning respectively skin ability to absorb water and to prevent its loss². Skin dehydration (temporary lack of water) needs also to be distinguished from dryness (intrinsic lack of lipids). However, both skin conditions strongly need water-binding ingredients. Hyaluronic acid (HA) is able to retain 1000 times its weight in water. Thus, targeting HA synthesis and protection against oxidative stress in the different skin layers, is particularly efficient to restore skin hydration. Then, locking water within the skin is correlated with barrier function reinforcement: actions on tight junctions, skin differentiation, lipid synthesis and microbiota. Indeed, it is now well known that skin microbiota, and its relationship with its host, play a strong role in skin proper functioning. Of interest, microbial communities depend on body skin site physiology, with changes associated with moist vs dry zones³.

As the relationship between skin hydration level and microbiota on same skin site has been barely studied, the first aim of this study was to analyze the consequences of dehydration on the skin holobiont, meaning the assemblage of the skin and its microbial environment. Therefore, metaproteomic was used to identify protein interactions between skin host and its microbiota, and to determine the changes occurring in microbial diversity and holobiont functions in dehydrated skins.

More precisely, swabs were collected from cheeks at day 0 from 20 younger (25-35 yo women of all skin types) and 20 older women (42-54 yo) with dehydrated skin⁴. Mass spectrometry based-metaproteomic process was conducted to sequence proteins from bacterial, fungi and human origin followed by taxonomic, functional and statistical analysis⁵. From comparison between these 2 groups, 871 proteins (from 6058 identified) were significantly differentially expressed. Diversity was also evaluated showing an absence of significant variation for microbial genus composition. Conversely, functional analysis showed that proteins linked to antioxidant responses (ex: NQO2) and to skin barrier (ex: FLG), were significantly downregulated whereas oxidative stress proteins were upregulated with age and dehydration. Thus, proper skin holobiont protein interactions are necessary to maintain skin hydration.

From these innovative results, the second aim here was to develop a natural solution able to reverse the differences identified through metaproteomic and to act on HA metabolism. Inspiration comes from cold-resistant natural elements. An extract (GSfE) from roots of *Gentiana lutea*, a plant that thrives in high altitude, was enhanced by fermentation with *Shingomonas faeni*. This rare bacteria, isolated from the French aerobiome can resist abiotic stresses by reinforcing its cell membrane through polar lipids synthesis and secreting antioxidant enzymes. GSfE is rich in molecules of interest from *Gentiana lutea* such as loganic acid and swertiamarine, known for their antioxidant properties, as well as amino-acids (part of the natural moisturizing factors) and polar lipids coming from cold-condition optimized process of fermentation by *S.*



faeni. *In vitro* studies reveal that GSfE significantly boosts HA synthesis in keratinocytes and fibroblasts, as well as genes related to antioxidant cell defenses preventing HA degradation by free radicals. It also induces HA main receptor, CD44, production as well as tight junction, epidermal differentiation markers expression and lipid synthesis, for a more cohesive barrier function efficiently locking water in skin. As dermal-epidermal junction is essential in water diffusion, it was also demonstrated that GSfE reinforces expression of its markers such as laminins and integrins.

Clinical studies were performed to study the hydra-restructuring potential of GSfE *in vivo*. Volunteers randomly applied 1% GSfE or its placebo (split-face) for 28 days, with measurements at D0 and D28. A sebum-deficient sub-panel presenting both dehydrated and dry skin was also studied. All indicated figures are significant ($p < 0,05$) vs placebo. At D28, hydration was increased on the whole panel: +7.3%, and even more greatly on the sebum-deficient panel: +12.5%. Regarding the variation of skin surface lipids at D28, a protective effect on the hydrolipidic film was obtained with the active treatment. A lipid-replenishing effect was observed on the sebum-deficient sub panel: + 43% vs placebo. GSfE action on skin hydration also smoothes wrinkles.

Metaproteomic analysis was also performed with swab sampling after 56 days of GSfE application on the older dehydrated panel. It reveals that GSfE does not induce a significant variation of microbial composition and alpha-diversity at the genus level. At the species level, *Staphylococcus epidermidis* and *Ralstonia sp* abundances were upregulated by the treatment, respectively by +39% and +45% vs D0. *S. epidermidis* has a well-known role in barrier function through ceramides synthesis⁶. *Ralstonia sp* is increased in skin defined as "ideal" which present a higher hydration content compared to undesirable skin⁷. Consequently, upregulating abundance of these bacteria strengthens barrier function for skin moisture maintenance. Moreover, functional analysis showed that GSfE 1% restores youthful protein functions identified previously to be slow-down with age and dehydration. Particularly, it upregulates proteins linked to skin barrier preservation and antioxidant responses, while downregulating proteins involved in oxidative stress in older dehydrated skins. Moreover, it improves skin natural defenses and DNA damage repair, by an upregulation of associated proteins.

As a conclusion, this study reveals a slow-down of specific functions in skin holobiont protein interactions proving that it plays a role in moisturization maintenance. It also illustrates that a natural extract, GSfE, can invigorate these protein interactions as well as HA metabolism resulting in a deep skin hydro-restructuring and regulation of skin lipidic film. It thus proves its efficacy both on skin hydration and moisturization bringing a solution to skin dehydration, an universal issue affecting skins from all ages, ethnicities and types. Moreover, innovative metaproteomic approach appears as a key promising method for a better understanding of skin biology and holobiont functions. Indeed, thanks to all identified proteins with still unknown functions, it opens a new path to discover innovative targets and mechanisms involved in skin hydration.

Supporting Microbiome-Friendly Claims: An Open Access Scale

Catherine Zenchetta
Givaudan, France

Catherine is in charge of the Strategic & Innovation management for Givaudan Active Beauty S&T. She joined the company in 2018 as a Skin Microbiome Expert and has been in charge of many projects dedicated to the skin microbiome and biology. She is now responsible for the development of innovative strategies and communication for the R&D department. She has a BS and MS in molecular biology. Givaudan Active Beauty brings up cutting-edge technologies draw on science and nature to create high-per-forming molecules and functional agents.



Inspired by the beauty needs of consumers worldwide, Active Beauty offers award-winning products for an expanded range of benefits including anti-ageing, self-tanning, soothing, hydrating, cooling, and more. Part of the Givaudan Fragrance Division, Active Beauty leads the market in crafting innovative products supported by our strong expertise in advanced and applied sciences.

ABSTRACT

Our understanding of the interplay between skin microbiota and the skin's health status is growing. Consequently, the cosmetic industry is increasingly concerned with ensuring that beauty products do not adversely affect this microbiota and skin health. A standardized methodology, including topical applications, swabbing, and bacterial colony-counting, was set up and evaluated to define a methodology evaluating the Microbiome-Friendliness of a cosmetic ingredient.

The skin's bacterial density was longitudinally monitored after repeated applications of two reference compounds: physiological saline, assumed to be neutral, and chlorhexidine, assumed to have a perturbing effect.

Healthy volunteers were enrolled in six clinical studies, involving application of physiological saline and chlorhexidine to both sides of the neck. Over 7 days, skin swabs were collected at defined time points, and bacterial density was assessed based on a classical colony-counting approach.

The longitudinal assessment of skin bacterial density proved highly robust, with a very steady inter-seasonal impact of chlorhexidine on skin bacterial density. This consolidated methodology supported the development of an easy-to-understand viability score that quantifies the intrinsic short-term impact of an ingredient on skin bacterial populations. Three time points have been defined for the evaluation of a cosmetic ingredient: flash disturbance, cumulative disturbance and resilience capacity of the skin microbiota. The scale defining the level of Microbiome

Friendliness ranges from A to E for a clear and transparent classification. The methodology and results are supported by a dermatologist. The results of this research have been made available to the entire scientific community by publication in an open access journal (Robe et al. 2023, Rehabilitation of Skin Bacterial Counts to Assess the Short-Term Impact of Ingredients in Topical Applications—Presenting a Culture-Based Viability Score).

This method, combining clinical evaluation and classical microbiology, can be extended from active ingredients to any other cosmetic molecule (e.g., functionals). A further major advantage of this scoring methodology will be that it is compatible with the evaluation of finished cosmetic products. Finally, this open-access scale offers a transparent certification methodology supporting Microbiome-Friendly claims.

Session 6

14 Sep 2023 - DAY 2

Chairpersons: Johrinda Nel, Vantage South, South Africa
Beverley Gardner, Skyem, South Africa

13h00-13h30 ***Anti-Elastase Potential of Elegia Tectorum (L.f.) Molin and H.P. Linder***
Marize' Cuyler, University of Pretoria, South Africa

13h30-14h00 ***Unlocking the Acne Microbiome***
Patrick Gonry, Gobiotics-Ingredients, Holland

Online
14h00-14h30 ***Optimum Protection Performance with Multifunctionals Empowered***
Balint Koroskenyi, Symrise, USA

14h30-15h30 ***Scientific Panel Discussion: Exploring Trends and Innovations in Cosmetics***
Topics include nanomaterials in cosmetics, cosmeceutical claims and regulation, emerging packaging trends, the role of AI and augmented reality in beauty, epigenetics as inspiration for cosmetics, and the rise of waterless formulations.

Gain valuable insights and be part of the conversation driving the future of beauty. Don't miss this engaging session!

Panellists:
Dershana Jackson, L'Oréal, South Africa

Conny Oberrauter, Infinity Grip, South Africa

Sreejarani Pillai, Centre for Nanostructures & Advanced Materials, CSIR, South Africa

Poonam Sewraj, L'Oréal, South Africa

Jacques Strijdom, Natchem, South Africa

15h30-15h40 ***Closing Address***
Johrinda Nel, Vantage, South Africa
Vice President Coschem 2023

Abstract Book

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Anti-Elastase Potential of *Elegia Tectorum* (L.f.) Molin and H.P. Linder

Marize' Cuylar
University of Pretoria, South Africa

Marizé is currently enrolled for a PhD degree in Medicinal Plant Science at the University of Pretoria. She completed her undergraduate degree in Plant Science and Biochemistry and completed her BSc Hons and MSc in Medicinal Plant Sciences.

The aim of her PhD is to determine whether South African plant extracts reduce symptoms associated with eczema including the intolerable itching sensation, rehydration of the skin, formation of dark patches and wrinkles. Furthermore, her study focuses on the inhibitory effect of these extracts on tumor necrosis factor alpha (TNF- α), one of the main cytokines involved in the development of acute and chronic eczema.

Marizé has published several peer-reviewed articles. She also served as the project manager of a book published by Taylor and Francis titled "Medicinal Plants for Cosmetics, Health and Diseases" and has also contributed a chapter to the book. She was awarded the third best paper presentation in a young scientist category at the 2022 Indigenous Plant Use Form (IPUF) conference, South Africa. She has been awarded the UP Postgraduate Bursary for Masters and Doctoral studies.



ABSTRACT

The prevalence of atopic dermatitis, commonly referred to as eczema, is an inflammatory skin condition that has increased in prevalence worldwide. One of the proposed causes for the development of eczema is the outside-in hypothesis, which states that eczema is caused by a disruption within the skin barrier. This results in the overexpression of histamine leading to an intolerable itching sensation. The increase in histamine levels further stimulates the overexpression of proteases such as elastase, which promotes wrinkle formation. In addition, histamine levels enhance the expression of cell migration-inducing proteins (CEMIP) resulting in inflammation.

Elegia tectorum (L.f.) Moline & H. P. Linder is a native perennial evergreen plant that is mainly used as an attractive garden plant and is traditionally used for thatching roofs, weaving baskets and booms. Previously, a study conducted by Lympers et al. (2021) reported that an ethanolic of *E. tectorum* displayed anti-elastase activity with a 50% inhibitory concentration (IC₅₀) of 13.50 \pm 1.50 μ g/mL. Therefore, this study aimed to confirm the anti-elastase activity of *E. tectorum* and to determine whether the ethanolic extract (ET-EtOH) could inhibit the production of cell-migration induced protein (CEMIP) and histamine. Furthermore, this study focused on determining whether the activity of ET-EtOH was enhanced when fermented (ETF) or used to synthesize gold nanoparticles (ETAuNP). Lastly, the potential mutagenic properties, irritancy potential and *in vivo* efficacy of ET-EtOH were evaluated.

The extract's anti-elastase activity was evaluated, where ET-EtOH displayed an IC₅₀ value of 14.58 \pm 2.00 μ g/mL, while ETF and ETAuNP showed IC₅₀ values > 500 μ g/mL. Thus, ET-EtOH was further evaluated for its effect on CEMIP and histamine production using human adenocarcinoma cells (HT-29) and phorbol 12-myristate 13-acetate (PMA) stimulated granulocytes, respectively. Thereafter, the effect of ET-EtOH on histamine and CEMIP production was evaluated. ET-EtOH at a concentration of 6 μ g/mL (0.10 \pm 0.01 ng/mL) and 3 μ g/mL (0.11 \pm 0.01 ng/mL) significantly inhibited ($p < 0.05$) histamine production compared to the 0.25% DMSO vehicle control (0.26 \pm 0.02 ng/mL). Furthermore, compared to the untreated control (0.31 \pm 0.04 ng/mL), ET-EtOH at a concentration of 240 μ g/mL (0.12 \pm 0.01 ng/mL, $p < 0.01$) and 60 μ g/mL (0.18 \pm 0.02 ng/mL, $p < 0.05$) significantly reduced CEMIP production.

The potential mutagenic properties of ET-EtOH using *Salmonella typhimurium* was evaluated, where ET-EtOH at 5 mg/mL (131.33 ± 10.84) displayed no significant difference in the number of revertant colonies compared to the 10% DMSO vehicle control (100.00 ± 8.52). Thereafter, ET-EtOH was evaluated for its *in vivo* irritancy and efficacy, which indicated that ET-EtOH displayed mild irritancy and significantly reduced wrinkle formation after 28 days. Further investigation into identifying bioactive compounds and the effect of ET-EtOH on mast cell histamine-associated receptors should be considered.

Unlocking the Acne Microbiome

Patrick Gonry
Gobiotics-Ingredients, Holland

Patrick graduated as a chemical engineer. He also finished a specialization in cosmetic manufacturing and dermato-cosmetic science at the medical university of Brussels.

In 1995 he started as a consultant, supporting cosmetic producers and raw material suppliers in product development.

He trained many cosmetic chemists and technical sales representatives.

Since 2002 his research has been mainly dedicated to the human microbiota, which resulted in the launch of the first prebiotic ingredient for baby care and intimate hygiene.

He is the driving force behind many skin microbiota-derived concepts, raw materials and cosmetic products.



ABSTRACT

Acne is a skin condition that is thought to be caused by an infection of *Cutibacterium acnes*. This infection is fueled by an excess of sebum. Sebum is the preferred food for *C. acnes*. The classic strategy to improve acne skin is to reduce the sebum and kill as much as possible *C. acnes*. Usually, salicylic acid is presented as the saviour.

On the other hand, *C. acnes* is also known to be a valuable protector of the skin. This creates a paradox as *C. acnes* seems to be pathogenic and protective at the same time.

Through a metagenomics study of the skin microbiome during acne new insights have been discovered. This metagenomics study not only reveals the evolution of the skin microbiome during acne but also uncovers the activity of all the microbes and explains how all the different species are communicating with each other. A whole new world is uncovered. The *C.acnes* paradox is explained. Thanks to this study also the role of salicylic acid is demonstrated, and the unique performance of a dedicated Inulin-prebiotic. This Inulin-prebiotic is not only performing in leave-on formulations but also performs in rinse-off facial washes.

The results of this study are a game changer and will inspire you to improve acne formulations.

Optimum Protection Performance with Multifunctionals Empowered

Balint Koroskenyi
Symrise, USA

Balint received his Ph.D. in Polymer Science from the University of Massachusetts at Lowell.

He has held several positions in academia and industry. He has worked in Personal Care as a bench chemist, as a technical account manager, and, in his current role, as a product manager for a total of over 8 years.

He is currently a Senior Global Product Manager at Symrise's Cosmetics Ingredients Division overseeing multifunctional ingredients used for Product Protection. He is a member of the Society of Cosmetic Chemists and the PCPC Micro Committee. He is a co-instructor of the course "Antimicrobial Protection in Cosmetics: Preserving your formulations", which is part of the Continuing Education Program of the Society of Cosmetic Chemists.



ABSTRACT

The philosophy of minimalism "Do more with less" is challenging formulators increasingly to select ingredients that provide multiple benefits for their final cosmetic products. About 81% of consumers always check the ingredients of the products they buy*. By that the industry strives to use less ingredients with more benefits to shorten the INCI, to reduce development times and inventory while having less impacts on environmental aspects. By replacing traditional preservatives with multifunctional ingredients Symrise launched a new technology that provides solutions to optimise the product protection performance with multifunctional ingredients for cosmetics.

The technology shows combination of barriers such as pH, chelating agents or water activity that allow formulators using less ingredients, lower concentration while optimising the protection and safety of cosmetics. The presentation will reveal examples how to successfully protect modern cosmetic formulation with optimised performances.

*Source: Mintel

Scientific Panel Discussion: Exploring Trends and Innovations in Cosmetics

Topics include nanomaterials in cosmetics, cosmeceutical claims and regulation, emerging packaging trends, the role of AI and augmented reality in beauty, epigenetics as inspiration for cosmetics, and the rise of waterless formulations.

Dershana Jackson

L'Oréal, South Africa



Dershana holds a BSC (Microbiology) Honour's Degree and a Bachelor of Arts Degree in Psychology from the University of the Witwatersrand, as well a Cosmetic Science Diploma. She has completed a course in Business and management development at the Gordon Institute of Business Science and continues to grow her digital skills as a means to future-proof her career.

Dershana brings with her 27 years of experience in technical and regulatory roles in the pharmaceutical, cosmetic and food industries. In the context of her participation in the panel, her most notable contribution to the cosmetic industry in South Africa includes shaping and influencing the content of the draft cosmetic regulations, the National Chemicals waste management act, the development of associated policies and regulations, the upskilling of entrepreneurs and directing standards development and harmonisation to enable inter-regional and inter-continental trade.

Dershana has published editorials in the *Pharmaceutical & Cosmetic Review*, covering regulatory trends and technical expertise related to the evolution of consumer behaviour and the market landscape. Her current role is that of Scientific Director for the South African subsidiary of L'Oréal. She oversees the scientific advisory, regulatory affairs and the regulatory intelligence functions for South Africa and Sub-Saharan Africa.

Conny Oberrauter

Infinity Grip, South Africa

Conny, a respected figure in cosmetic chemistry and marketing since 1996, stands as the founder of The Cosmetics Chef and Infinity Grip.

The former empowered cosmetic crafting through digital platforms, while the latter introduced a groundbreaking liquid chalk, revolutionizing athletic performance. A two-time president of the Society of Cosmetic Chemists of South Africa, Conny's influence extends to the educational sphere and includes co-authoring a pioneering hair care patent. Her expertise culminated in winning the 2023 Woman of Stature Woman of the Year award for Beauty and Fashion, further affirming her significant contributions.



Sreejarani Pillai
Centre for Nanostructures & Advanced Materials
CSIR, South Africa



Sreejarani is a material scientist affiliated with DSI/CSIR Centre for Nanostructures and Advanced Materials, Pretoria, South Africa. She received her PhD degree in Physical Chemistry from Cochin University of Science and Technology, India in 2003 and was a recipient of the prestigious CSIR research fellowship. In 2006, she moved to South Africa and continued postdoctoral studies at Tshwane University of Technology. She joined CSIR in 2007, as a Senior Researcher and currently holds the position of Principal researcher.

Sreejarani current research focuses on advanced functional materials for topical applications. She has extensive research experience with various nanomaterials including cellulose nanofibres, nano clay minerals, nano metal oxides, carbon nanomaterials, nanoparticles as well as nano/micro emulsions and topical delivery systems. Her research initiatives have resulted in various industry collaborations, numerous publications in international peer-reviewed journals, conference presentations, and product-based technology demonstrators.

Poonam Sewraj
L'Oréal, South Africa

Poonam has an extensive experience of over a decade, during which she has dedicated her expertise to the comprehensive examination of African hair and skin dynamics. Presently assuming the position of Head of Sensory and Expert Evaluation for Sub Saharan Africa at L'Oréal.

Poonam's distinguished track record is highlighted by the presentation of her pioneering research at various international conferences, a corpus of work that has substantially informed and catalyzed numerous product launches. Poonam has a Bachelor of Sciences (Honors) degree in Microbiology and Biotechnology, complemented by a Diploma in Cosmetic Sciences.

Prior to her pivotal role at L'Oréal, Poonam honed her skills as a scientist specializing in vaccine clinical trials at the WITS Health Consortium. This confluence of experiences has not only fortified Poonam's technical acumen but also cultivated her aptitude for orchestrating multifaceted initiatives with finesse and precision.



Jacques Strydom
Natchem, South Africa



Jacques completed his degree in Chemical Engineering at the University of Stellenbosch in 2013. His final year dissertation as well as further Masters studies were focused on Microbiological Engineering in the field of biofuels, where he studied microalgae conversion to biodiesel as well as starch conversion to bioethanol. His career took a turn when he started working as an R&D Manager in 2016 at a FMCG manufacturing company in Muizenberg, Cape Town.

Since then, Jacques has been working on the supply chain side as a Technical Manager at AECI Specialty Chemicals in the Personal Care and Home Care department. Most recently, he joined the aromatic world of fragrances as a Sales Manager at Natchem. Other than his professional aspirations in science, Jacques loves creating: Whether it be music, art, woodwork, electronics, photography or 3D renderings.

Closing Address

Johrinda Nel
Vantage, South Africa
Vice President, Coschem 2023

Dear Delegates, Presenters, Sponsors and Guests

We have come to the end of our annual scientific conference.

A lot of energy and time has gone into this event to make it a success each year. We would like to thank the Scientific Committee and the organizers of this conference for all their input and you as a delegate for attending this event.

This was also our first face to face conference in a couple of years, and I am sure everyone can agree that it has been wonderful to see familiar faces as well as some new ones. The continuation and success of our Society is dependent on new members who brings fresh new ideas and their unique technical knowledge.

Coschem takes pride in giving their current members and the cosmetic industry a platform for networking, gaining insights into the industry and providing scientific knowledge.

The theme for this year's conference was Beauty Kaleidoscope, the new dawn. When we look at the word "kaleidoscopic" it simply means multicoloured, and it refers to a product that reflects images off tiny mirrors to create dazzling patterns. I can therefore say what a multicoloured and dazzling scientific conference we had this year. We had some exciting Scientific Panel Discussion, Exploring the Trends and Innovations in Cosmetics, an interview with an industry expert and some wonderful scientific presentations to bring insights into this colourful cosmetic industry.

A huge thank you to Beverley Gardner who is the chair of the scientific conference for once again being an excellent MC, organiser, and host. Thank you to Wayne van Wyk who co-chairs the scientific committee for his valuable input at the conference by overseeing all the presentations. Thank you to the sponsors for their contributions.

We would also like to thank Linbro Park Focus rooms for allowing us to host this event at their premises.

Thank you to every local and international presenter for sharing their valuable time and scientific knowledge with us over the past two days.

Finally thank you to Bridget Macdonald who is the monarch of the Coschem Society. She truly brings us all together.

We are also very excited to inform you, that we have started with organizing the IFSCC 2029 congress which was awarded to South Africa earlier this year. Coschem has many exciting years ahead and I as the current Vice President look forward to being part of this kaleidoscopic journey and by welcoming the new dawn.



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