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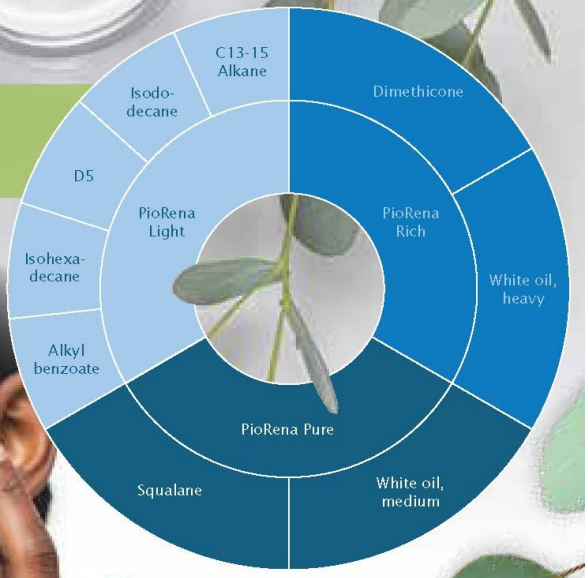

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7h30-08h00 ***Registration desk hosted by***

07h30-08h00 ***Arrival Tea/Coffee***

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Session 1 hosted by Sensetek

9 Sep 2026 - DAY 1

Chairpersons: Beverley Gardner, Skyem, South Africa
Stephanie Gompel-Ratsiane, dsm-firmenich, South Africa

08h15- 08h30 ***Welcome Address***
Stephanie Gompel-Ratsiane, dsm-firmenich, South Africa
President, Coschem 2026

08h30-09h00 ***KEYNOTE SPEAKER, Demystifying Skin Care and Cosmetics for the Next Generation***
Vivey Phasha, CSIR, South Africa

09h00–09h30 ***From Consumer Needs to Clinical Proof: Building an African Beauty Ingredient Toolbox Through Local Skin Research***
Shannon Attwell, Symrise, South Africa

09h30–10h00 ***Multi-Targeted Therapeutic Potential of Medicinal Plants in Skin Ageing and Repair***
Karabelo Theledi, University of Pretoria, South Africa

10h00-10h03 ***Marketing slot***

10h03–10h30 ***TEA/COFFEE BREAK***

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Welcome Address

Stephanie Gompel-Ratsiane, dsm-firmenich, South Africa
President, Coschem 2026

Good morning distinguished guests,

It is my great privilege, to welcome you all to this year's Conference. A special welcome to our international speakers, industry partners, our sponsors and every delegate joining us over the next two days.

This year's programme is more than a collection of presentations, It tells a story. A story that moves through ingredient development, formulation, testing, manufacturing, regulatory excellence, sustainability and consumer understanding. Too often we think about our industry in isolated disciplines (The researcher, the supplier, manufacturer, regulatory specialist, the marketer, the retailer). But the truth is that none of us operates in isolation. Every innovation begins somewhere and succeeds because every part of the supply chain works together. That is where Coschem has always played an important role. We are one of the few organizations that truly connects the entire ecosystem. Our strength has never been in representing one sector of our industry. Our strength lies in bringing the entire value chain together around one shared purpose; to advance cosmetic science.

This year's programme reflects exactly that. Over the next two days we will explore breakthrough ingredient technologies, innovation, consumer behaviour, sustainability, clinical research, regulatory science, entrepreneurship and emerging technologies that are shaping the future of our industry. But perhaps even more importantly, we will explore these topics through an African lens. Africa is no longer simply a market. Africa is becoming a source of innovation. Our continent offers extraordinary biodiversity, unique consumer insights, entrepreneurial talent and scientific excellence. We are seeing world class research emerging from our universities. African ingredients gaining international recognition, local manufacturers competing globally and we are seeing our scientists leading conversations that matter.

As Coschem, we believe the future of cosmetic science should not simply include Africa. It should be shaped by Africa. Our responsibility is to create opportunities where African science can flourish, where collaboration can thrive, where knowledge is shared openly and where innovation can move confidently from laboratory bench to retail shelf. That is what this year's conference represents.

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None of this would be possible without our dedicated members. Your commitment has ensured that Coschem continues to be a respected scientific society, committed to education, collaboration and professional excellence.

And that brings me to an exciting moment. Next year, Coschem celebrates an extraordinary milestone. **Fifty years.** Five decades of advancing cosmetic science. We stand today on foundations built by visionary leaders, dedicated volunteers and passionate members who believed in the value of scientific collaboration.

As we prepare to celebrate this golden anniversary, we also look to the future. The next fifty years call for even greater collaboration, greater innovation and greater inclusivity. Thank you, and I wish you an inspiring, engaging and memorable conference.

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Demystifying Skin Care and Cosmetics for the Next Generation

Vivey Phasha
Council for Scientific and Industrial Research, South Africa

Biography

Vivey is a Senior Researcher at the Council for Scientific and Industrial Research (CSIR), South Africa, and a part-time lecturer for the Postgraduate Diploma in Cosmetic Product Formulation at North-West University. She is currently pursuing a PhD in Medical Sciences at the University of KwaZulu-Natal. She holds a Master of Medical Sciences (Medical Biochemistry) from the University of KwaZulu-Natal, a Postgraduate Diploma in Cosmetic Product Formulation (Cum Laude) from North-West University, an Honours degree in Formulation Sciences from Nelson Mandela University, and a Bachelor's degree in Chemistry from the University of Johannesburg.

At the CSIR's Advanced Agriculture and Food Cluster, Ms. Phasha leads research on the development, formulation, and safety evaluation of cosmetic and cosmeceutical products. Her research focuses on harnessing South Africa's rich biodiversity to develop innovative, high-value products, including cosmetics, nutraceuticals, and African traditional medicines derived from indigenous plant resources. She is also passionate about supporting small, medium, and micro enterprises (SMMEs) by translating scientific research into commercially viable products.

With more than a decade of research experience, having joined the CSIR as a Chemistry intern in 2013, Ms. Phasha has established expertise in natural product research, extraction and characterization of bioactive compounds, cosmetic formulation, and product safety evaluation. She is a published author with a strong commitment to advancing evidence-based cosmetic science, innovation, and skills development within the South African cosmetics industry

Abstract

The skincare and cosmetics landscape is evolving rapidly, driven by scientific innovation, changing consumer expectations, digital influence, and a growing demand for transparency and sustainability. Today's consumers are more informed and engaged than ever before. Yet, they are also navigating an overwhelming volume of information, making it increasingly difficult to distinguish evidence-based skincare from marketing narratives and social media trends. This dynamic presents both a challenge and an opportunity for the cosmetics industry.

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This keynote explores how industry, researchers, healthcare professionals, and consumers can work together to build a future in which cosmetic innovation is underpinned by science, safety, and trust. It will examine the science behind healthy skin, the importance of evidence-based formulation, and the role of responsible product claims and consumer education in supporting informed decision-making. The presentation will also discuss emerging trends, including personalised skincare, biotechnology, artificial intelligence, sustainable formulation, and the growing interest in naturally derived ingredients, highlighting both their potential and the need for scientific validation.

Drawing on South Africa's rich biodiversity and advances in cosmetic research, the keynote will showcase opportunities to develop innovative, globally competitive products while promoting sustainability and value addition. It will also emphasize the shared responsibility of manufacturers, formulators, regulators, retailers, healthcare professionals, and consumers in fostering a cosmetics industry that prioritises efficacy, transparency, and ethical innovation.

Ultimately, demystifying skincare is not about simplifying the science; it is about making scientific knowledge more accessible, enabling consumers to make informed choices, and supporting an industry that earns confidence through evidence rather than hype. By strengthening the connection between cosmetic science, innovation, and consumer understanding, the industry can build lasting trust while inspiring the next generation of responsible skincare and cosmetic innovation.

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From Consumer Needs to Clinical Proof: Building an African Beauty Ingredient Toolbox Through Local Skin Research

Shannon Attwell
Symrise, South Africa

Biography

With over eight years of experience in the hair care and cosmetic formulation industry, Shannon has contributed to the development of innovative and sustainable solutions tailored to curly hair types. In July 2025, she joined Symrise in the Cosmetic Ingredients Division as an Application Technologist, where she focuses on the application of advanced ingredient technologies for the African market.

Abstract

The African beauty and personal care market is experiencing significant growth, driven by increasing urbanisation, rising disposable income, expanding retail access and growing consumer engagement with skincare and beauty products.1 Despite this growth, relatively few published cosmetic efficacy studies have been conducted on African populations, particularly individuals with Fitzpatrick skin phototypes IV–VI residing in Africa. Consequently, a gap remains between the skin benefits most valued by African consumers and the locally generated scientific evidence available to support cosmetic product development and substantiation.

South African consumer research conducted in 2025 identified healthy, comfortable skin (77.3%), even, spotless skin (64.1%), smooth, even skin texture (63.3%) and radiant/glowing skin (61%) as the skin benefits consumers are most willing to pay a premium for.2 These findings highlight the importance of generating clinically substantiated evidence for skin hydration, complexion uniformity and overall skin appearance and feel in populations representative of African consumers.

We conducted series of in vivo studies in South Africa, on subjects with Fitzpatrick skin phototypes IV–VI. The studies investigated key consumer-relevant skin parameters including skin hydration, skin condition, skin tone uniformity, sebum regulation and body odour management. A range of validated instrumental and sensory methodologies were used, including Corneometry to assess skin hydration, Sebumetry to quantify sebum levels, colourimetric and image analysis techniques to evaluate complexion uniformity and visible skin appearance, as well as sensory assessments and consumer self-evaluation to determine perceived product performance and skin feel.

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The studies demonstrated statistically significant improvements across multiple biological skin parameters. Hydration studies showed immediate and sustained increases in skin moisture levels for up to 48 hours following application. A Postbiotic-based formulation demonstrated improvements in both skin hydration and overall skin condition. Skin tone studies showed measurable improvements in complexion uniformity and reductions in uneven skin appearance. Sebum regulation studies demonstrated significant reductions in sebum production, visible oiliness and active pore appearance. Additional body odour studies demonstrated effective deodorant performance together with positive consumer perception outcomes in subjects with darker skin tones.

Collectively, these clinically measured outcomes align closely with the benefits most valued by South African consumers and provide objective evidence supporting improvements in skin comfort, skin appearance and overall skin wellbeing. These findings highlight the importance of generating efficacy data directly on African populations to complement global cosmetic research and ensure local relevance. By linking consumer needs with locally generated clinical evidence, this work demonstrates how African skin research can support the development of scientifically substantiated cosmetic solutions and contribute to a more representative understanding of cosmetic performance in African consumers.

References

1. Euromonitor International (2025) Eyes on Africa 2025: Unlocking Consumer Goods Growth Opportunities in Africa. Webinar presentation, October 2025. Euromonitor International.
2. Consumer Insights and Claims Study (CICS) (2025) For which of the following benefits are you willing to pay more? Up to 5 answers. South Africa consumer survey, 2025. Unpublished internal market research.

Multi-Targeted Therapeutic Potential of Medicinal Plants in Skin Ageing and Repair

Karabelo Theledi
Department of Plant and Soil Sciences, University of Pretoria, South Africa

Biography

Karabelo completed her National Senior Certificate (NSC) in 2020, matriculating as one of the top 10 candidates within the science stream. She obtained her qualification in Biotechnology in 2023. During her final year, she served as the student class representative class for a third year phytomedicine module, participated in a 2023 final-year mentorship programme. She also took part in volunteering work in the Plant Pathology Department. She continued with her studies and completed her Honours degree in Medicinal plants in 2024. She is currently a registered second year Master's student in the Department of Plant and Soil Science where her research evaluates the multi-therapeutic potential of medicinal plants in skin allergies, ageing and repair.

Karabelo is also a member of the, "African Plant Scientific Society". To advance her current research, she visited China Medical University, under the College of Chinese Medicine and presented her finding at the 2025 Joint Academic Symposium on Natural Products: Advancing Tradition and Innovation in Chinese Medicine and Natural Products, in October.

She is currently exploring patent opportunities for one of her plants, following promising scientific results. Additionally, she is co-authoring a chapter for the upcoming book titled *Medicinal Plants for Skin Health: Scientific Insights and Home Formulations*. Outside of her academic pursuits, Karabelo was crowned Miss Teen Icon (2018-2019), where she conducted some community service work, and was also part of the University of Pretoria's faculty of Natural and Agricultural Science netball team.

Abstract

The skin is the largest organ of the body that protects the body and is renowned for its role in protection from environmental factors, maintaining homeostasis as well as hydration. Dermal matrix integrity is significantly dependent on the structure of the extracellular matrix (ECM), which is primarily composed of collagen and elastin protein fibres. Elastin and collagen are two important proteins which provide the skin with strength and elasticity. These proteins are broken down by two proteolytic enzymes, collagenase and elastase. The upregulation and secretion of elastase and collagenase are primarily stimulated by inflammatory signalling, tissue injury, and extrinsic environmental stressors such as ultraviolet (UV) radiation, which induces reactive

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oxygen species (ROS) and activates transcription pathways such as activator protein 1 (AP-1) and Nuclear factor kappa B (NF-κB).

The accelerated breakdown of these proteins results in the degradation of the ECM, tissue damage, formation of wrinkles, premature ageing as well as impaired tissue repair. Current conventional cosmetic and dermatological treatments for skin ageing and impaired repair include chemical peeling, topical retinoids and silicon wound dressing. However, prolonged use of these treatments highly compromises the skin barrier. This leads to adverse side effects such as increased UV sensitivity, skin dryness and damage of healthy skin cells. This has led to an increased demand of plant-based dermatological therapies as safer and multi-functional alternatives for skin ageing and tissue damage.

This study aimed to determine the anti-ageing and regenerative potential of two medicinal plant extracts, Punicaceae sp. (PUC) and Nelumbo nucifera (NEL), which have been traditionally used for inflammation and skin hydration. Their anti-ageing efficacy was determined by assessing their inhibitory activity against elastase and collagenase enzymes. Additionally, an *in vitro* scratch wound healing assay was performed to evaluate the capacity of these plant extracts to promote skin repair and regeneration.

An anti-elastase assay was conducted on the ethanolic plant extracts which displayed significant inhibitory activity, yielding a 50% inhibitory concentration (IC50) of 10.49 ± 4.74 µg/mL for PUC and 28.04 ± 9.50 µg/mL for NEL. Thereafter, an anti-collagenase assay was performed where both PUC and NEL displayed IC50 values of 27.99 ± 5.42 µg/mL and 3.62 ± 6.00 µg/mL respectively. A cytotoxicity assay was conducted on the Human Keratinocyte (HaCaT) cell line to evaluate the cytotoxicity of the plant extracts. Both plant extracts had IC50 values above the highest testing concentration (400 µg/mL), thus showing minimal to no toxicity. Finally, a scratch assay was performed at 50 and 25 µg/mL. At these concentrations, NEL produced wound closure percentages of 94.23 ± 1.20% and 90.22 ± 7.50% respectively, while PUC showed wound closure percentages of 81.57 ± 5.90% and 91.34 ± 0.50% respectively.

These results indicate that PUC and NEL are multi-functional and a source of highly promising plant-derived actives, highlighting their potential as natural anti-ageing and skin repair agents.

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Session 2 hosted by Orchem

9 Sep 2026 - DAY 1

ORCHEM
REDA Chemicals Group

Chairpersons: Beverley Gardner, Skyem, South Africa
Ange Lukoki, Chempure, South Africa

10h30-11h00 ***Scalp Barrier Function, Sebum Dynamics, and Fiber Characteristics in Natural hair vs Braided Hair Wearers in South African Women: A Comparative 56-Day Observational Study***
Avuya Gqoba, L'Oréal R&I SSA, South Africa

11h00-12h30 ***Workshop Session***

12h30-13h00 ***Targeting Neuro Pigmentation: A Bio inspired approach to Restore Neuro Cutaneous communication for improved Skin Tone and Longevity***
Sonia Guillaume, SOLABIA, France

13h00-13h03 ***Marketing slot*** L'ORÉAL RESEARCH & INNOVATION SUB-SAHARAN AFRICA

13h03-14h00 ***LUNCH BREAK*** unichem SERVICES (PTY) LTD

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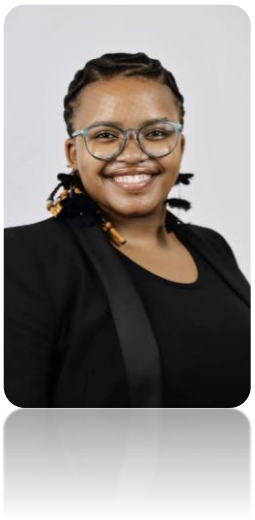
Scalp Barrier Function, Sebum Dynamics, and Fiber Characteristics in Natural hair vs Braided Hair Wearers in South African Women: A Comparative 56-Day Observational Study

Avuya Gqoba
L'Oreal Research & Innovation SSA, Johannesburg, South Africa

Biography



Avuya is an Evaluation Scientist within the Clinical & Physics Science team at L'Oréal South Africa. Holding an MSc in Material Sciences, she brings a strong foundation in physical chemistry to her work. A graduate of L'Oréal's R&I Management Trainee Programme, Avuya gained cross-functional experience spanning formulation, skin and hair evaluation, and consumer insights.

In her current role, she leads clinical studies that bridge objective instrumental data with the subjective consumer experience, with a focus on celebrating the diversity of African and global consumers.

Abstract

Background/Objective: Scalp physiology in Sub-Saharan Africa (SSA) remains poorly characterized, presenting a critical evidence gap with direct consequences for the development of population-appropriate haircare products. The dominant haircare modalities in this region (protective styling and natural hair) impose distinct mechanical and chemical stresses on the scalp; yet no comparable biophysical datasets exist for this population. This study comparatively assessed how these practices influence scalp barrier function, sebum dynamics, hair fibre parameters, scalp appearance, and scalp surface features in South African women.

Methods: Fifty-two healthy African women (18–35 years) were allocated to two cohorts (n=26 each) to reflect their established haircare practice: protective styles, and non-chemically straightened (control). Transepidermal water loss (TEWL; g/m²/h), sebometry (µg/cm²), AI-powered trichoscopy (Hair Metrix), multimodal scalp imaging (SkinCam Pro), colorimetric redness (a*), and consumer journals were assessed at baseline Day 0, Day 28, and Day 56.
Results: Average hair fibre width was the only trichoscopic parameter reaching statistical significance (ANOVA/Cohen's d test): the Protective cohort recorded the narrowest fibres (58.5 µm) versus the Natural cohort (60.8 µm). TEWL differed significantly between Natural vs. Protective where $p<0.001$. The Protective cohort exhibited the greatest proportional TEWL increase (+22.84% ± 15.22). Dandruff prevalence was highest in the Natural cohort (65%) and lowest in the Protective cohort (20%). Universally, the temporal and nape regions showed the highest redness and fibre miniaturization between both groups.

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Conclusion: Each modality generates a distinct scalp typology: Protective styling produces acute mechanical stress with partial recovery, whilst Natural hair confers relative barrier preservation. The temporal and nape regions represent universal scalp vulnerability zones irrespective of modality. These findings provide the first comparative scalp typology dataset for SSA and support modality-specific product development and consumer education.

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Workshop Session

Speed-to-market product concept.

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Targeting Neuro Pigmentation: A Bio Inspired Approach to Restore Neuro Cutaneous Communication for Improved Skin Tone and Longevity

Sonia Guillaume
SOLABIA, France

Biography

Sonia is Export Sales Manager at Solabia Group since March 2026. She has built 25 years of experience in international marketing and sales of cosmetic ingredients. Holding a degree in Political Sciences and a Certificate in Marketing, she has successfully grown businesses through distributor networks. Committed to sustainability, she helps customers develop more eco-friendly formulations.

Abstract

Hyperpigmentation is increasingly recognized not only as a cosmetic concern but also as a key component of skin aging and longevity. Driven by the exposome, including UV exposure, pollution, and increasingly, psychological stress, pigmentation disorders affect nearly one in two adults and represent a rapidly growing segment of skincare innovation.

Recent studies have shifted the perception of skin from a passive target to an active neuro-responsive organ, with the nervous system emerging as a key regulator of pigmentation. Sensory neurons innervating the epidermis directly influence melanocyte survival, morphology, and melanin synthesis, placing neural input at the center of pigment homeostasis.

Neurocutaneous explant and graft models consistently demonstrate that denervation leads to hypopigmentation, reduced melanocyte density, and simplified dendritic structure, whereas reinnervation restores pigmentation. These findings highlight that neural signal acts as essential trophic cues rather than secondary modulators of cutaneous pigmentation.

In parallel, specific neuronal mediators such as Substance P and RGMB have been identified as direct regulators of melanocyte function, reinforcing the concept that sensory neurons shape pigmentation both structurally through innervation and biochemically through their secretome. In this context, stress-induced neurogenic inflammation and secretome-mediated signaling have been identified as major contributors to dysregulated melanogenesis, leading to persistent pigmentation disorders. This emerging concept, referred to as neuro-pigmentation, highlights the importance of neuro-cutaneous communication as a central regulator of pigmentation and a promising upstream target for both prevention and correction strategies.

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MATERIAL & METHODS

To address this challenge, a bio-inspired active ingredient was developed from organic lemon thyme, Thymus citriodorus using green biotechnology. This process maximizes the extraction of rosmarinic acid, a key polyphenol involved in protection against stress, and preserves the plant exosomes, which are naturally involved in biological communication and defense. It reaches over 1 billion extracellular vesicles per mL, quantified by Nanoparticle Tracking Analysis combined with a fluorescent membrane marker enabling selective labeling of exosome lipid bilayer.

A multi-level evaluation strategy was implemented, combining *in vitro, ex vivo*, and clinical models to evaluate Lemon Thyme Extract (LTE) performance.

At the heart of the neuro-pigmentation, we studied the expression of several cytokines (IL-6, IL-1β, TNF-α and PGE2) released by human keratinocytes after a UVB exposure, known as central drivers of neurogenic inflammation. Following the collection of the supernatants and the dosage of these molecules, we developed an exclusive model in partnership with a French company specialized in organ-on-a-chip system. In a microelectrode array containing sensory neurons, we treated the neurite endings with the supernatants, enabling a unique exploration of keratinocyte-neuron communication exclusively through the secretome. Using microelectrodes, neuronal electrical activity was quantitatively measured, revealing neurogenic inflammation-driven neuronal hyperactivity induced by UVB and its attenuation by LTE. These results support the potential of this active ingredient to protect the skin against post-inflammatory hyperpigmentation (HPI) in which neurogenic inflammation is a key driver.

Inspired by plant exosome communication, we also explored the miRNA (micro-RNA) expression in exosomes from keratinocytes exposed or not to UVB radiation. Three miRNAs were identified, specifically involved in the melanogenesis process or melanogenesis disorders. At the protein level, on a model of PIH (alpha-MSH + Endothelin-1), we study the ability of LTE to modulate melanin production (Fontanna Masson) and transfer (Rab-27a) through image analysis.

Subsequently, a clinical study was performed to quantitatively evaluate melanin content using reflectance confocal microscopy (Vivascope), a non-invasive imaging technique, and to assess both the number of visible and underlying spots using the VISIA-CR imaging system (image analysis).

RESULTS

LTE showed significant reductions of the four cytokines. It reduces the expression of IL-6 by 43%, IL-1β by 51%, TNF-α by 37% and PGE2 by 27%, all these results have comparable efficacy to a pharmaceutical reference (dexamethasone). Using an innovative compartmented model, LTE lowers UV-induced neuronal electrical signature by 88%, restoring signaling levels close to physiological conditions, indicating a direct modulation of neuro-cutaneous communication.

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LTE modulates miRNA expressions within keratinocyte exosomes by upregulating miRNA-25 and mi-RNA-145 respectively by 71% and 29% while protecting miRNA-203 expression under UVB stress condition by 547%. These results demonstrate an epigenetic regulation of melanogenesis via intercellular communication pathways.

At the protein level, LTE. decreases the melanin synthesis and distribution by 38% versus Placebo in pro-neurogenic hyperpigmented conditions and reduces Rab-27a expression by 25% versus Placebo under pro-melanogenic conditions.

Finally, in vivo on a female panel with phototype III to IV, LTE demonstrated a significant decrease of melanin content by 7% vs. Placebo after 14 days. After 28 days, the number of dark spots and underlying spots significantly decreases by 12% and 6% respectively. The results demonstrate that the product effectively reduces visible dark spots and contributes to preventing the formation of new pigmented disorders.

DISCUSSION - CONCLUSION

This study demonstrates that targeting neuro-cutaneous communication represents a novel and effective strategy for pigmentation management. By combining plant exosomal biology with green biotechnology, the investigated active acts upstream of melanogenesis, modulating neurogenic inflammation, and intercellular signaling. This dual mechanism, preventing neuro-pigmentation while reducing established pigmentation, supports a paradigm shift in cosmetic approaches, moving from pigment inhibition toward restoration of cellular communication networks within the skin.

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Session 3 Hosted by Evonik

9 Sep 2026 - DAY 1

Chairpersons: Beverley Gardner, Skyem, South Africa
Lesego Malepe, Croda, South Africa

14h00-14h30 ***Green Empire: From Traditional Plants to Thriving Entrepreneurships***
Namrita Lall, University of Pretoria, South Africa

14h30-15h00 ***The Mechanics of Makeup: The Art of Technology in Application***
Tiffany Wilson, MakeUpSkill, South Africa

15h00-15h03 ***Marketing slot***

15h03 – 15h30 ***TEA/COFEE BREAK***

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Green Empire: From Traditional Plants to Thriving Entrepreneurships

Namrita Lall
University of Pretoria, South Africa

Biography

Namrita is a Research Chair at the University of Pretoria and a globally recognized scientist in Pharmacology and Toxicology. She is listed in the top 1% of researchers by citation (Essential Science Indicators) and among the top 2% scientists globally by Stanford University. She holds adjunct professorships at the University of Missouri, USA, and JSSAHER, Mauritius. Her research into medicinal plants has led to the development of internationally commercialized products targeting skin hyperpigmentation, ageing, liver protection, and more, with over 25 products nearing commercialization. She has also supported the formation of start-ups such as Valoren, Blyde Botanics, Scholareview, and Looksci through her mentorship of young postgraduates.

Namrita has published over 200 research articles, contributed to more than 91 book chapters, registered 41 patents, and edited five books with leading publishers like Elsevier and Springer. She has received several prestigious awards, including South Africa's highest honour, The Order of Mapungubwe, and the UNESCO-L'Oréal Award for Women in Science. With an H-index of 57 and a ResearchGate score in the top 5%, she recently earned a B1 NRF rating. Prof Lall also serves as an executive board member and Past President of the International Society of Ethnopharmacology and is the founder and President of the African Phytomedicine Scientific Society.

Abstract

Africa is widely recognised for its wealth of exotic oils; however, the continent offers a far broader spectrum of botanical resources with significant potential for the wellness industry. As the third most biodiverse country in the world, South Africa is home to an extraordinary diversity of plant species, many of which hold immense promise for applications in the beauty and health sectors. This exceptional botanical richness, combined with deep-rooted traditional knowledge, represents a largely underexplored opportunity for the development of novel treatments for diseases and conditions ranging from cancer and tuberculosis to acne and gum disease.

Our research group has sought to unlock this potential through the scientific validation of selected indigenous South African plants. We have developed prototypes and commercial products targeting skin conditions such as hyperpigmentation, hypopigmentation, wrinkles, and

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photoaging, as well as health supplements with hepatoprotective and immunomodulatory properties. In each case, both the biological targets and mechanisms of action identified have been novel. These innovations have led to the establishment of several spin-off companies originating from the group's research efforts. Notably, only approximately 2% of screened plant extracts demonstrate sufficient efficacy to advance to clinical development, underscoring the significance of these findings.

This presentation will provide a comprehensive overview of bioactive compounds isolated from South African plants, alongside their associated biological activities. In addition, ethical and equitable frameworks for benefit-sharing with local communities—whose traditional knowledge has guided plant selection—will be discussed, highlighting pathways to foster both scientific innovation and meaningful social impact.

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The Mechanics of Makeup: The Art of Technology in Application

Tiffany Wilson
MakeUpSkill, South Africa

Biography

Tiffany is a hair and makeup artist, creative consultant and educator. She has been working as a hair and makeup artist in the South African fashion, beauty, and media industries since 2010. After multiple requests for lessons, she developed a protocol teaching complete freedom in makeup application, based on fine art and patternmaking principles, in order to easily accommodate any learner in the same class, regardless of differences, aspirations, skill level or concerns. 6 years of working refinement led her to opening her company, MakeUpSkill.

Previously a qualified fashion designer, Tiffany soon realised her curiosity lay in the modulation of the physical appearance at the base of identity design, and the intricate undercurrents of the human internal/external interface, which she has intimately worked with for over two decades. Having completed the COSCHEM Education course in 2022, her interest has expanded to the broader human experience, specifically within the context of rebuilding and reinforcing the bridges between art, science and perception. Her layered interests, experience, vision and outlook enable her clients to uncover and encapsulate a more meaningful story in the spaces between marketing requirements and business development.

Abstract

It goes without saying that fundamentally good product design comes from a full understanding of product requirements, and proper motivation behind all formulation components. Trends and consumer demands are often at the helm of development, especially in colour cosmetics, but multiple other practical factors need to be considered for a colour cosmetic to successfully facilitate the application of different makeup methods and styles with ease.

Some of these factors include the chromophores and colour sensation of the complexion, especially in the South African market; coverage and correction requirements for the desired skin finish; pearl requirements for varying use cases; challenges in layering different product textures, and specific performance requirements for the particular product in question. Personal identity, consumer mentality and confusion in selection further increases the range of error in consumer-product disharmony, especially when the line development is trend focused. Past market awareness, these user challenges fundamentally need to be addressed in order to establish product confidence and brand trust - consumers often mark product incompatibility

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down to their own shortcomings, such as their perceived inadequate appearance, technical ability or excluded demographic, and become increasingly hesitant to gamble on another mismatch.

Demonstrated from the standpoint of a professional end user, the mechanics of makeup artistry are laid out through a pragmatic and technical lens, rather than traditional prescriptions, in order to deliver a holistic mandatory understanding. Application technique and optical interplay is explained from an analytical point of view, using fine art as a basis, addressing potential challenges, as well as other options for different skins, faces or finishes. Chosen methods are matched with technological applications in order to more easily achieve the varying consumer's personal beauty aspirations.

The presentation delivers a deepened understanding of the scientific requirements for successful makeup artistry, a broadened view of how to best make their own product choices, and inspiration for potential new directions in resonating with their markets. The question section will also invite a technical expert to additionally address any specific queries surrounding formulary elements and raw materials.

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Session 4

9 Sep 2026 - DAY 1

Chairpersons: Beverley Gardner, Skyem, South Africa
Percy Sibanda, African Cosmetic Regulatory Intelligence, South Africa

15h30- 16h00 ***Ethical and Traditional Dimensions in Sustainable Cosmetic Innovation***
Evonne Malefo, Croda, South Africa

16h00-16h30 ***Petroleum Jelly, A New Perspective with Synthetic and Natural South African Raw Materials***
Alicia Lutchman,Cirebelle Fine Chemicals, South Africa

16h30-16h33 ***Marketing slot*** CRODA SMART SCIENCE TO IMPROVE LIVES™

END DAY 1

16h33 onwards ***Industry Mixer hosted by*** AECI® SPECIALTY CHEMICALS

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Ethical and Traditional Dimensions in Sustainable Cosmetic Innovation

Evonne Malefo
Croda, South Africa

Biography

Evonne has a degree in Chemical Engineering and Biotechnology from Dimitry Mendeleyev University of Chemical Technology, Russia and an MBA from Mancosa. She has over 18 years experience in Sales ranging from Petrochemical & Lubricants, Pharma and Consumer Care servicing customers in Southern and East African countries bringing an understanding of diverse cultures.

Abstract

In the contemporary cosmetics industry, sustainability is expanding beyond environmental metrics to encompass ethical responsibility and the preservation of traditional knowledge. This shift is illustrated by a new plant-derived active ingredient developed from *Zingiber zerumbet*, a botanical resource cultivated in Mauritius, within the broader African and Indian Ocean region. Rich in terpenoids (mainly sesquiterpenoids) and polyphenols, *Zingiber zerumbet* has long been used in traditional medicine to cure pain, inflammation, indigestion, poisonous injuries, etc.
This approach demonstrates how modern cosmetic innovation can be rooted in biodiversity valorization while respecting cultural heritage and local ecosystems.

The ingredient is obtained from ginger rhizomes using supercritical CO_2 extraction, an advanced and environmentally responsible technology. This solvent-free process operates in a closed-loop system, where carbon dioxide is continuously recycled, minimizing waste and eliminating harmful residues. Beyond its ecological performance, this method preserves the natural integrity of the extracted molecules, aligning with a philosophy that values authenticity and minimal transformation—principles often associated with traditional plant use.

However, the most distinctive aspect of this innovation lies in its ethical framework. Full traceability is ensured across the value chain, from cultivation to final ingredient, allowing transparency and accountability at every stage. The sourcing model is based on defined social and environmental commitments integrated into its agricultural activities and a wider responsible management framework. These practices are aligned with, and where relevant supported by, recognized third-party reference standards such as Fair for Life, For Life and Ecocert organic certification.

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Equally important is the emphasis on local economic empowerment. By establishing fair pricing mechanisms and long-term partnerships with producers, the initiative contributes to sustainable livelihoods. It actively supports rural communities and participates in development funds that reinvest in local infrastructure and social programs. This model reflects an ethical vision of sourcing that goes beyond compliance, aiming to create shared value between stakeholders.

Agricultural practices further embody the intersection between tradition and sustainability. Cultivation takes place in high-biodiversity environments using agro-ecological methods inspired by traditional land stewardship. These practices help maintain soil health and ecological balance, ensuring that resource use does not compromise future generations. Additionally, the selected plant species is not part of local food chains, avoiding competition with essential community resources.

By bridging modern technology with the richness of African biodiversity and traditional practices, it offers a compelling pathway toward a more responsible and inclusive vision of beauty.

Zingiber zerumbet Extract has demonstrated its ability to act on both hyperpigmented and vascular dark circles, operating across biological pathways
This suppresses melanogenesis via MITF downregulation (through Akt and ERK1/2 phosphorylation). It reduces tyrosinase and melanin production by up to 29% and 28.6% respectively.

In vitro studies show a reduction of oxidative stress (−55% ROS) and pro-inflammatory mediators (−88% NF-κB nuclear transfer; −89% PGE2 in fibroblasts)
These factors together, limit the pigmentogenic and vascular damage triggered by UV and environmental stress.

Zingiber zerumbet activity also stimulates HO-1 (Haeme oxygenase-1) production up to +556%, this clears haeme degradation toxins released by capillary leakage. Capillary leakage contributes to the redness and bluish discolouration characteristic of vascular dark circles.
Zingiber zerumbet extract aids the preservation of capillary wall integrity through inhibition of MMP1 synthesis (−51%), restoration of elastin (+154% under oxidative stress conditions), and reduction of nitric oxide-driven vascular permeability (−84%), collectively preventing the fluid leakage and under-eye puffiness associated with weakened periorbital vasculature.

In four independent clinical studies across Caucasian, Chinese and Indian volunteers, application at 1.5% over two months produced an average reduction in melanin pigmentation of 10% (up to −35%), an average reduction in colour saturation of 3% (up to −7.9%), and in the Indian cohort a 15.9% decrease in melanin index (up to −83%) alongside a 9.58% reduction in deltaE, the measurable colour difference between the dark circle area and adjacent cheek skin.

On the vascular side, periorbital oxygen saturation increased by an average of 13.6% (up to +69%), and eye bag volume reduced by a mean of 40.1 mm^3 (up to −188 mm^3). Self-assessment data further demonstrated that 94% of respondents felt they looked less tired after

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15 days, and in the Indian cohort 100% of participants confirmed both a visible reduction in dark circles and absence of irritation at two months, with all results statistically significant versus placebo.From a performance perspective, the ingredient has demonstrated efficacy in improving the appearance of dark circles through multiple biological pathways. Yet its true significance lies in its holistic design: combining effectiveness with environmental responsibility, ethical sourcing, and respect for traditional knowledge systems.

In conclusion, this innovation exemplifies a new model for cosmetic ingredients—one that integrates advanced science with ethical sourcing and cultural awareness.

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Petroleum Jelly, A New Perspective with Synthetic and Natural South African Raw Materials

Alicia Lutchman
Cirebelle Fine Chemicals, South Africa

Biography

Alicia is a Product and Formulation Development Chemist at Cirebelle, where she focuses on developing innovative ingredient technologies for the personal care industry.

With a hands-on approach to formulation development, Alicia combines practical laboratory experience with a strong understanding of the relationship between raw material functionality, product performance, and consumer expectations. Her work spans both naturally derived and synthetic ingredient technologies, with a particular interest in developing high-performance products.

Her current research explores the use of South African sourced raw materials in the personal care industry , natural waxes,oils, and locally produced Fischer-Tropsch waxes, to create sustainable, high-performing petrolatum alternatives. Alicia is passionate about unlocking the value of local resources and believes that African innovation and manufacturing have an important role to play in the future of the global personal care industry.

Abstract

Petroleum jelly remains one of the most popular ingredients used in personal care products due to its excellent properties such as barrier protection, moisturization, stability, and sensory appeal. However, growing interest in sustainability and locally sourced raw materials has inspired the development of alternative petrolatum systems that can deliver comparable performance while reducing reliance on conventional petroleum-derived ingredients.

This study considers two different pathways to developing petrolatum alternatives using South African sourced and produced materials. The first approach is rooted in the nature. It explores the use of natural materials such as *Saccharum officinarum* (sugarcane) wax, a renewable agricultural by-product rich in long-chain fatty acids, alcohols, esters, and hydrocarbons, together with homegrown natural carrier oils to formulate a fully naturally derived petrolatum alternative. The second approach evaluates a synthetic petrolatum system based on specialized low- and medium-melting Fischer-Tropsch (FT) waxes, produced and fractionated in South Africa, as highly refined and consistent alternatives to conventional petroleum jelly raw materials.

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Formulation development focused on replicating the characteristic texture, spreadability, stability, skin feel, and barrier performance associated with traditional petroleum jelly. Both systems were subjected to the same experimental testing and comparative performance evaluations to assess their functionality as emollient and barrier-enhancing ingredients. In addition, their suitability for applications where petroleum jelly is commonly used, including creams and lotions, was investigated.

The findings demonstrate the potential of both natural and synthetic South African raw materials to produce high-performance petrolatum alternatives. While the natural system offers a renewable and sustainable solution through the valorization of agricultural by-products, the synthetic FT wax system provides exceptional consistency and formulation control. Together, these approaches highlight viable pathways for developing next-generation petrolatum and traditional raw material alternatives that combine performance, sustainability, and local resource utilization for the personal care industry.

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Session 5 hosted by L'Oréal R&I SSA

10 Sep 2026 - DAY 2

L'ORÉAL
RESEARCH
& INNOVATION
SUB-SAHARAN AFRICA

07h00-07h40 ***Registration desk hosted by*** chempure

07h00-07h50 ***Arrival Tea/Coffee***

Chairpersons: Beverley Gardner, Skyem, South Africa
Shannon Attwell, Symrise, South Africa

07h50-08h00 ***Welcome***

08h00-08h30 ***Hydrolyzed Hyaluronic Acid - Amino Acid Complex: Targeting 'Neuro Skin Ageing' to restore Skin Youth and Sensory Perception***
Anuradha Jurbandhan, The CareCo, South Africa

08h30–09h00 ***The Change Factory: A Systematic Behavioural Design Methodology for Sustainable Beauty Product Experiences — A Method with Global Relevance for the African Beauty Blueprint***
Poonam Sewraj, L'Oréal R&I SSA, South Africa

09h00–10h00 ***Debate Session***

10h00–10h30 ***From Research to Retail: Integrating Regulatory and Scientific Valorisation Considerations into the Cosmetic Product Lifecycle***
Percy Sibanda, African Cosmetic Regulatory Intelligence, South Africa

10h30-10h33 ***Marketing slot*** PETERS Paper and Chemical Suppliers

10h33–11h00 ***TEA/COFFEE BREAK***

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Hydrolyzed Hyaluronic Acid - Amino Acid Complex: Targeting 'Neuro Skin Ageing' to restore Skin Youth and Sensory Perception

Anuradha Jurbandhan
The Care Co, South Africa

Biography

Anuradha Jurbandhan brings over 25 years of expertise in cosmetic product development, formulation science, and packaging innovation to her role as Product Manager at The Care Co. With a career spanning global and local cosmetic brands, she has worked across key categories including skincare, suncare, personal care, and fragrance.

Her academic foundation in ND Analytical Chemistry, Diploma in Packaging Science, and Cosmetic Science empowers her to bridge technical formulation with market-driven strategy. At The Care Co, Anuradha leads technical sales and marketing, offering clients tailored formulation support, troubleshooting guidance, and ingredient-driven innovation.

Her hands-on experience as an R&D chemist allows her to optimize product performance using our diverse ingredient portfolio — ensuring stability, efficacy, and sensory appeal. She is a trusted partner to formulators and brand owners seeking to accelerate development timelines and elevate product quality.
Outside of work, Anuradha enjoys yoga, reading, and exploring the richness of Sanskrit language — a reflection of her curiosity and commitment to lifelong learning.

Abstract

Hydrolyzed Hyaluronic Acid - Amino acid complex
Targeting 'Neuro Skin Ageing' to restore skin youth and sensory perception.
Givaudan Active Beauty presents a **Hydrolyzed Hyaluronic Acid – Amino acid complex**, an innovative complex based on low molecular weight hyaluronic acid and amino acids designed to address a recently identified skin ageing pathway defined by Givaudan Active Beauty as 'Neuro Skin Ageing'. By restoring nerve fiber function and neuronal communication, the **Hydrolyzed Hyaluronic Acid - Amino acid complex** opens a new frontier in skin health and well-ageing, where sensory perception becomes a new dimension of youthful-looking skin.

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Beyond its protective barrier function, the skin is a living sensory network. With age, the skin's nerve fibers become fewer, shorter and less functional, leading to decreased sensory perception, but also to impaired cellular communication and accelerated skin ageing. This process has been highlighted by Givaudan Active Beauty's research and recognized among the IFSCC 2025 scientific contributions.

To address this new longevity pathway, Givaudan Active Beauty has leveraged the skin's natural affinity for very low molecular weight hyaluronic acid as a vector to optimize the delivery of selected amino acids within the skin. Inspired by microneedling delivery concepts described in cosmetic and pharmaceutical literatures, the **Hydrolyzed Hyaluronic Acid - Amino acid complex** is a unique HA-base amino- acid complex designed to enhance skin bioavailability and the biological relevance of the amino acids.

Clinical studies conducted on more than 120 volunteers demonstrate that **Hydrolyzed Hyaluronic Acid - Amino acid complex** delivers visible and measurable anti-ageing benefits, including:

- Apparent skin age reduced by over 5 years
- Visible reduction in wrinkles and fine lines
- Improvement in dermal tension and skin firmness
- Touch perception restored by up to 30 years
- Perceivable improvement of pleasant sensations

In addition to the biological evaluations, these benefits were also perceived by 145 female beauty consumers who participated in Givaudan Active Beauty's Home Usage Test, proven by a disruptive implicit methodology.

The **Hydrolyzed Hyaluronic Acid - Amino acid complex** reverses the neuro-ageing pathway, enabling neuronal growth and density-related parameters (with a +28% increase in nerve fiber count and a +29% increase in their length), enhancing neuronal communication pathways through NGF-like activity, reactivating neuronal mitochondria energetic efficiency. By supporting the skin's neuro-sensory environment and helping to preserve skin homeostasis, the **Hydrolyzed Hyaluronic Acid - Amino acid complex** contributes to stronger-looking, healthier and more comfortable skin, while enhancing the perceived capacity of the skin to sense and interact with its environment.

"Beyond aesthetics, the **Hydrolyzed Hyaluronic Acid - Amino acid complex** redefines skin ageing from a skin health perspective" explains Romain Reynaud, R&D Director at Givaudan Active Beauty. "By addressing 'Neuro Skin Ageing', it offers new perspectives for the positioning of silver age, prejuvenation and skin resilience concepts, where neurological health becomes a key pillar of youthful skin."

The Change Factory: A Systematic Behavioural Design Methodology for Sustainable Beauty Product Experiences – A Method with Global Relevance for the African Beauty Blueprint

Poonam Sewraj
L'Oreal Research & Innovation SSA, South Africa

Biography

Poonam holds a Bachelor of Science (Honours) in Microbiology and Biotechnology from the University of the Witwatersrand and a Diploma in Cosmetic Science from COSCHEM.

Her scientific career bridges rigorous clinical research, highlighted by vaccine trials and a scientific assignment at the CDC, USA, with advanced clinical method development and patent generation. Leveraging her extensive experience in clinical research focused on African hair and skin and multi-brand claims substantiation.

Poonam currently leads the Cognitive Sensory Science team in Sub-Saharan Africa (SSA). In this role, she combines her strong scientific foundation with behavioural insights to decode the complex emotions and sensory drivers influencing consumer behaviour and purchasing decisions.

Abstract

Background

For decades, the global beauty industry has grappled with the persistent gap between what consumers say they value — sustainability, authenticity, responsible consumption — and what they actually do at the point of purchase and use. Addressing this gap is not only a commercial imperative; it is an ethical one, requiring rigorous, evidence-based methodologies rooted in science,

The Challenge: The Intention-Action Gap in Sustainable Beauty

Despite growing consumer awareness around sustainability, a well-documented intention-action gap continues to hinder meaningful behavioural change across the global beauty industry. Consumers who express genuine commitment to sustainable beauty practices frequently fail to act on those intentions consistently. This gap is driven by deeply ingrained cognitive biases — including status quo preferences, familiarity with established routines and low salience of sustainable alternatives — that subtly override conscious decision-making at critical touchpoints.

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To help remove these cognitive barriers, a more behaviour-driven design approach is required — one that embeds behavioural science principles from the earliest stages of product and development.

Objective

This paper presents the Change Factory, a systematic behavioural design methodology developed at L'Oréal R&I, designed to bridge the intention-action gap in sustainable beauty experiences. Drawing on behavioural economics, cognitive science, and nudge theory (Thaler & Sunstein, 2008), it provides a structured, four-step CODE framework — Change, Obstacles, Design, and Experimentation — to generate gentle interventions, or nudges, that make desired sustainable behaviours intuitive and effortless. The methodology is illustrated through its application to fragrance refill adoption, a sustainability challenge of direct relevance to the global beauty industry, including the growing African beauty innovation ecosystem.

Methodology: The CODE Framework

C — Change: Granular, observable target behaviours are defined using behavioural mapping and the Silent Movie Trick, anchoring ideation in specific, visible physical actions rather than broad aspirational goals — for example, "the consumer retains the empty bottle for future refilling" rather than "the consumer is more sustainable."

O — Obstacles: Deep qualitative interviews and behavioural audits systematically uncover cognitive, practical, and social barriers impeding desired actions, mapped against a structured taxonomy of 19 cognitive biases across five families: Overconfidence, Cognitive Load, Limited Willpower, Social Biases, and Analytical Framework. Key barriers identified in the fragrance refill context included limited awareness of bottle rechargeability, perceived inconvenience, insufficient emotional appeal relative to new products, and Beauty Advisors' limited confidence in proactively recommending refill options.

D — Design: Expert-facilitated collaborative brainstorming generates targeted nudges, guided by driver cards organized across three categories inspired by the EAST behavioural model — Make it Easy (reducing friction, establishing sustainable defaults), Make it Attractive (leveraging emotional storytelling, sensory experience, and visible environmental impact), and Make it Social (activating social norms, trusted messengers, and peer commitment). Each concept is formalized into a Nudge ID Card detailing the target behaviour, barriers addressed, touchpoint, and behavioural drivers. An ethical screening step — the Newspaper Headline Test — ensures all interventions align with consumer well-being and societal benefit.

E — Experimentation: Nudges are strategically prioritized using the Nudge Map, a two-dimensional ‘Impact × Feasibility’ matrix classifying interventions into four territories: Gems (high impact, high feasibility), Known Territories (complementary easy wins), Quests (high impact, longer-term horizon), and Quicksand (deprioritized). High-potential nudges are validated through A/B testing and rigorous real-world observation.

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Results

Implemented across four collaborative half-day workshops (September 2023 – March 2024) with 40 cross-functional L'Oréal participants from Marketing, Operations, and R&I, the methodology delivered measurable outcomes across three defined behavioural challenge categories: at-home refilling, in-store refilling, and Beauty Advisor ambassadorship. The process generated 33 gentle intervention ideas, grouped into five strategic clusters: Make Refill Visible, Streamline Access to Refill, Empower Beauty Advisors as Ambassadors, Make Refill the Default, and Make Refill a Memorable Experience. Prioritization identified 9 high-impact "gem" nudges, of which 6 were successfully implemented within 12 months. Beyond this case study, the Change Factory has been applied across 15 innovation projects at L'Oréal, generating over 250 behavioural intervention ideas to date.

Conclusion

The Change Factory demonstrates that the intention-action gap in sustainable beauty is methodologically bridgeable through rigorous behavioural design. As the global cosmetic industry evolves and the African beauty blueprint asserts its place as a scientific and cultural force on the world stage, robust methods such as the Change Factory offer a transferable, scalable toolkit for any cosmetic science ecosystem seeking to embed behavioural intelligence into product development, packaging design, and retail experience. The principles of this methodology — systematic behavioural diagnosis, ethically grounded intervention design, and evidence-based experimentation — are universally applicable and hold significant promise for advancing sustainable beauty innovation wherever it is born.

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Debate Session

Debate Format & Team Structure
Two competing teams of three speakers each, with a total of six participants taking part in the debate. The rest of the audience will have the opportunity to vote for the winning team.

Get ready for a lively and engaging debate**!** A PRO team will go head-to-head with a CON team, tackling a relevant and thought-provoking industry topic. Expect strong opinions and compelling arguments.

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From Research to Retail: Integrating Regulatory and Scientific Valorisation Considerations into the Cosmetic Product Lifecycle

Percy Sibanda
African Cosmetic Regulatory Intelligence (ACRI) Pty Ltd, South Africa

Biography

For nearly two decades, Percy has occupied a fascinating space within the cosmetic industry, working at the intersection of science, law, cosmetic regulatory policy, and the commercial realities of taking products to market across Africa. A cosmetic chemist with industry, institutional, and legal experience, he has built a career shaped not only by technical expertise but by years of contribution to technical & executive committees, working groups, and regulatory taskforces that influence the industry's direction.

This career journey has given him a big picture perspective on African cosmetic regulatory systems, one informed by scientific understanding, evolving global regulatory systems, the practical realities of regulatory cooperation and mutual recognition, and, importantly, the commercial consequences these systems create for cosmetic businesses.

Percy holds a Bachelor of Science (Honours) in Applied Chemistry, a Bachelor of Laws (LLB) (with distinction) Bachelor of Commerce in Law (First Class Pass), and a Diploma in Cosmetic Science. His academic training in science and law has shaped a practical, interdisciplinary approach to cosmetic regulation and compliance. Percy began his career in cosmetic contract manufacturing at SDK Agencies, where he gained hands-on experience across product development, quality control, and production. He later joined the Cosmetic, Toiletry & Fragrance Association (CTFA) as a Technical & Regulatory Affairs Advisor, contributing to industry self-regulation and supporting compliance initiatives.

He subsequently spent 13 years with the L'Oréal Groupe as Scientific & Regulatory Affairs Advisor for Sub-Saharan Africa, where he worked closely with local and international stakeholders to translate regulatory and public affairs developments into practical guidance for cosmetic businesses. His work supported product stewardship across the full product lifecycle, from development through to market and post-market oversight.

In 2026, after stepping away from a fulfilling corporate career, Percy established African Cosmetic Regulatory Intelligence (ACRI), a regulatory consultancy focused on regulatory and public affairs support for the cosmetic industry across Africa. Percy works with companies to develop regulatory strategies that seek to balance compliance, risk management, and commercial realities across diverse and evolving markets. He participates in a range of

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stakeholder platforms, including standards bodies, professional and trade associations, advocacy and NGO forums, and government engagement structures, and currently serves as the National Chairperson of SABS TC 217 – Cosmetics. He is also committed to skills and capacity development within the South African and broader African cosmetics industry, contributing as a cosmetic science educator for the Society of Cosmetic Chemists (COSCHEM), where he teaches modules in Product Safety, Cosmetic Legislation, and Hair Care.

Percy continues to collaborate with a wide network of local and international regulatory and public affairs professionals, aiming to deliver practical, context-appropriate regulatory solutions that support business needs while contributing to the growth and competitiveness of the African cosmetics industry. He regularly shares insights as an industry speaker and writer, with a particular interest in the intersection of science, law, and ethics in cosmetic innovation, and has published opinion pieces in industry publications, including the Pharmaceutical & Cosmetic Review of South Africa.

Abstract

In an increasingly complex and competitive cosmetics landscape, the successful journey of a product from a consumer research insight or marketing product concept to retail shelf is no longer determined by formulation excellence alone. Scientific evidence, regulatory acceptability, and the ability to translate technical outputs into meaningful and defensible commercial product value have become critical determinants of commercial success. Yet regulatory and scientific valorisation considerations are often introduced late in the development process, resulting in reformulation after launch, weak claims substantiation, delayed market entry, and avoidable compliance risks.

This presentation proposes a lifecycle-based framework for integrating regulatory and scientific valorisation considerations across the cosmetic product development pathway from ideation to retail and post-market oversight. The framework positions these functions not as end-stage compliance activities, but as continuous and interconnected decision-making tools that influence ingredient selection, formulation technology strategy, evidence generation, product positioning, and market readiness throughout development.

Beginning at the research phase, the presentation explores how ingredient selection and formulation architecture are increasingly shaped by evolving regulatory requirements, toxicological considerations, safety thresholds, and market-specific restrictions. It examines how early regulatory screening and strategic ingredient evaluation can mitigate downstream risk, avoid costly redevelopment, and support more efficient product design. The discussion further highlights the growing need for cosmetic scientists to consider not only whether an ingredient or formulation is technically feasible, but whether it can support credible product narratives and future claims opportunities.

The presentation then examines the role of scientific valorisation within product development, specifically the process through which scientific data is transformed into substantiated,

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consumer-relevant, and commercially meaningful value propositions. Emphasis is placed on designing fit-for-purpose testing strategies, including but not limited to stability, microbiological, safety, instrumental, clinical, neurological, cognitive, sensory and other efficacy assessments that align with intended product positioning and claims architecture. The talk will explore how evidence generated during development can be strategically leveraged to create claims that are both scientifically defensible and regulatory compliant.

Attention is given to claims substantiation as a critical intersection between science, regulation, and business ambition. As scrutiny of cosmetic claims intensifies both locally and globally, the presentation examines how varying levels of evidence from literature and ingredient data through to instrumental, clinical, consumer and sensory studies support different categories of claims and influence regulatory risk. Practical examples will demonstrate how robust substantiation frameworks can strengthen product credibility while reducing exposure to misleading advertising challenges and consumer protection concerns.

The presentation further considers the realities of operating within diverse and often fragmented regulatory environments, particularly across African markets where harmonisation remains limited and regulatory approaches continue to evolve. It discusses how globally developed products often require local adaptation and how scientific and regulatory considerations must be balanced to support successful market entry.

Using applied industry examples and common product development failure points, the session will illustrate how delayed consideration of regulatory and scientific valorisation principles can undermine otherwise strong research and innovation driven product ideas. Conversely, it will demonstrate how their early integration can accelerate innovation, strengthen product integrity, improve market agility, and build consumer trust.

Ultimately, this presentation reframes regulatory and scientific valorisation functions as strategic enablers of innovation and commercial success, offering cosmetic chemists, product developers and marketing managers a practical framework for creating products that are not only effective and compliant, but scientifically credible, commercially relevant, and retail ready.

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Session 6 Hosted by Velden Botanicals

10 Sep 2026 - DAY 2

VELDEN

Chairpersons: Beverley Gardner, Skyem, South Africa
Nontokozo Masuku, AECI Specialty Chemicals, South Africa

11h00-11h30 ***Bond Aid and Scalp vitality with Yeast-Derived Peptide Complex***
Viviana Sanchez, dsm-firmenich, Dubai, UAE

11h30-12h00 ***Arabica Peptide: From Coffee grounds to Scalp Care, Discover an Upcycled, AI-Designed biological Active with Clinical Proof***
Anup Thakur, Syensqo, India

12h00–12h30 ***From Desert to Skin Repair: Kalahari Tsamma Melon as an emerging African Botanical for Skin Health***
Andile Marima, University of Pretoria, South Africa

12h30-13h00 ***Top 2 W/shop Teams Winning presentations***

13h00-13h03 ***Marketing slot*** VELDEN

13h03-14h00 ***LUNCH BREAK*** EVONIK Leading Beyond Chemistry

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Bond Aid and Scalp Vitality with Yeast-Derived Peptide Complex

Viviana Sanchez
dsm-firmenich, Dubai, UAE

Biography

Viviana is a Colombian Chemical Engineer with an MBA and a specialization in Sales and Marketing. She has more than 17 years of experience in the personal care industry, combining technical expertise in formulation with a strong commercial and business development background.

She began her career in Colombia as a cosmetic formulator, developing hands-on experience in product development and cosmetic formulations. In 2012, she joined Croda Colombia, where she held commercial roles supporting the growth of the personal care business. In 2016, she relocated to Dubai and joined Croda Middle East, managing customers and business development activities across the Middle East region until 2024.

Since 2024, Viviana has been part of dsm-firmenich as Senior Account Manager for Beauty & Care, leading commercial activities across the Africa, Middle East, and Turkey (AMET) region. Her work focuses on driving sustainable growth, developing strategic partnerships, and bringing science-based innovations to market.

Passionate about innovation and sustainability, Viviana is dedicated to helping customers create differentiated beauty solutions that address evolving consumer needs while delivering meaningful value across diverse regional markets.

Abstract

Bond Aid with Yeast-derived peptide complex redefines bond repair by moving beyond generic claims toward a science-driven approach that clearly demonstrates how multi-peptide technology enhances cohesion and resilience within the hair fiber while also supporting scalp vitality.

Developed through advanced biotechnology, the Yeast-derived peptide complex contains a complex of 743 post-biotic natural peptides, forming a versatile multi-peptide toolkit that helps strengthen and reinforce damaged hair structures.

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Mechanistically, these peptides associate with keratins in the amorphous regions of the hair fiber, where they accumulate in weakened areas and help re-establish internal cohesion through hydrogen bonding, van der Waals forces, and hydrophobic interactions, while simultaneously smoothing the hair surface to provide immediate sensorial benefits.
Instrumental testing confirms the Yeast-derived peptide complex strengthening performance, with tensile measurements showing a 7% increase in Young's Modulus and a 22% increase in break stress, alongside a reduction in combing force of 22% in wet hair and 18% in dry hair.
When incorporated into bleaching mixtures, the Yeast-derived peptide complex helps preserve hair integrity, demonstrated by reduced combing and split-end force by 13% and 41% respectively, as well as an increase of 1.9°C in denaturation temperature, indicating enhanced structural stability.

Additional benefits have also been observed when the Yeast-derived peptide complex is used as a post-additive in commercial formulations, delivering a 16% reduction in dry combing force and significantly improved sensorial perception, as confirmed by a 30-person panel across masstige, premium, and mass market products. Hair surface smoothing has been further validated using micro-computed tomography.
Beyond fiber strengthening, the Yeast-derived peptide complex contributes to scalp vitality by enhancing cellular oxygen uptake by up to 750% and improving cell viability by up to 10%, supporting a healthier scalp environment.

The ingredient is cost-efficient and easy to incorporate into both existing formulations and new product developments, making it a versatile solution for formulators.
It aligns strongly with current consumer expectations by addressing three key trends: structural reinforcement, biotech beauty, and oxygenating scalp care. Visible results can be seen after just one application, supported by a comprehensive study dossier, while a sensory panel confirmed significantly smoother hair fibers when using only 1% active.

Aligned with sustainability and compliance standards, this yeast-derived peptide complex is 98% of natural origin (ISO 16128), preservative-free, biodegradable, China-listed, and suitable for Halal and vegan formulations. As a postbiotic peptide derived from yeast fermentation, it fully aligns with modern ethical and environmental standards, offering a scientifically proven and clean beauty solution for advanced hair and scalp care.

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Arabica Peptide: From Coffee Grounds to Scalp Care, Discover an Upcycled, AI-Designed Biological Active with Clinical Proof

Anup Thakur
Syensqo, France

Biography

Anup is a Technical Leader in the Home & Personal Care sector with 18 years of industry experience, including 12 years at Syensqo (formerly Solvay). He has extensive expertise in surfactants and cationic guar, complemented by strong formulation and application capabilities across home care, hair care, and skin care.

Before joining Syensqo, Anup held technical roles with India-based multinational companies supporting the personal care and home care industries. In his current position, he partners with customers and internal stakeholders across Southeast Asia (SEA) and South Asia (SA), working closely with regional and global R&D teams to address technical issues, support product optimization, and accelerate the deployment of new technologies. He collaborates with cross-functional teams to translate market insights into customer-relevant solutions and ensure robust execution across the region.

Abstract

Coffee plants are deeply woven into the history and daily life of many African countries, where coffee cultivation is both an economic pillar and a cultural tradition. Beyond the cup, coffee has long been used in beauty rituals—valued for its aroma and energizing perception—appearing in home-made and commercial products such as exfoliating scrubs, tonics and cleansing treatments. Today, as “skinification” reshapes hair care and consumers seek scalp solutions that mirror facial skincare benefits, coffee is being reimagined through science and circularity.
In this frame, during this conference, we would like to present the brand new biological active, coming from upcycled coffee grounds, and transformed into a high-performance scalp care active ingredient. This next-generation, science-backed soothing active, derived from upcycled coffea arabica coffee grounds, has been developed using AI-assisted peptide design to identify optimal peptide sequences that target and inhibit key biomarkers involved in scalp inflammation and sensitivity. By acting on these specific biological mediators, it helps address the underlying causes of scalp discomfort and imbalance.

During this conference, we will present some of the clinical test results performed, to prove the positive impact of the use of this peptide on scalp: redness reduction, strengthening scalp barrier function (i.e.,TEWL reduction), scalp softness and comfort improvement, etc. On top of

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that, we will also emphasize that the regular use of this peptide in serum and/or shampoo have a significant and positive impact on hair loss reduction.

This active ingredient, presented as a water-soluble liquid (light brown), is suitable for broad scalp and hair care formats including shampoos, conditioners (rinse-off and leave-on), masks, treatments, serums and styling products. This brand new biological active positions coffee, historically rooted in beauty traditions and strongly associated with coffee-growing African regions, as a modern, upcycled, AI-designed and clinically supported solution for sensitive scalp soothing, redness reduction, hydration, scalp skin barrier reinforcement, and improved scalp comfort, aligned with the evolving expectations of scalp care. This conference will also reinforce the principle that a healthy scalp is the foundation of healthy Hair!

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From Desert to Skin Repair: Kalahari Tsamma Melon as an Emerging African Botanical for Skin Health

Andile Marima
Department of Plant and Soil Sciences, University of Pretoria, South Africa

Biography

Andile completed her high school education at E.P.P High School, with five distinctions and in recognition of her academic excellence, she was awarded the University of Pretoria Vice Chancellor's as well as an Achievement award in 2018. She obtained her Bachelor of Science degree in Human Physiology, followed by an honours degree specializing in Medicinal Plant Science in 2024 at the University of Pretoria.

Andile is currently a MSc candidate in Medicinal Plant Science at the same institution, with her research focusing on the therapeutic potential of African orphan crops, alongside the identification and evaluation of their bioactive compounds for medicinal applications. Furthermore, she is contributing a book chapter for an upcoming book, entitled; *Medicinal Plants for Skin Health: Scientific Insights and Home Formulation*. She assists in the "Natural Products from Plants for Medicine, Cosmetics and Agriculture" short course and serves as member of the African Phytomedicine Scientific Society (APSS). Outside of her academic pursuits, she enjoys reading fictional novels, writing poetry and following Formula One.

Abstract

Skin inflammation and barrier dysfunction contribute to erythema, irritation, impaired wound healing, increased sensitivity, and premature skin ageing. Persistent cutaneous inflammation disrupts epidermal homeostasis and enhances oxidative stress, ultimately compromising skin appearance, texture, and resilience. Conventional topical anti-inflammatory agents, including non-steroidal anti-inflammatory drugs (NSAIDs), primarily target downstream cyclooxygenase pathways and do not directly modulate upstream innate immune mediators such as Toll-like receptor 4 (TLR-4) nor do they actively promote wound healing. In response, research is increasingly focused on multifunctional plant-derived therapies capable of regulating inflammatory signalling, oxidative stress, and epidermal repair to support both skin health and dermatological appearance.

The Kalahari Tsamma melon (Citrullus lanatus (Thunb.) Matsum. & Nakai), an indigenous drought-tolerant orphan crop and progenitor of the cultivated watermelon, has been traditionally

used by San communities for hydration and skin protection in arid environments. Despite its ethnobotanical relevance and ecological resilience, the species remains underutilized in cosmetic applications. As orphan crops gain recognition for their phytochemical richness and sustainability value, they present promising opportunities for the development of novel African skin-care functional ingredients.

In this study, the ethanolic extract of the aerial parts of C. lanatus was evaluated for cytotoxicity, wound-healing and anti-inflammatory activities relevant to topical application. Cytotoxicity was assessed using human keratinocyte (HaCaT) and human histiocytic lymphoma (U937) cell lines. The half-maximal inhibitory concentration (IC_{50}) was 310.85 ± 0.63 µg/mL in HaCaT cells and 223.07 ± 8.57 µg/mL in U937 cells. Wound healing potential was assessed using a scratch assay on HaCaT cells, with cell migration serving as an indicator of tissue regeneration. The extract exhibited potential wound repair activity: following 24 hours of treatment at 50 µg/mL and 25 µg/mL, the percentage wound closure in HaCaT cells reached 62.88 ± 2.75% and 82.40 ± 9.70%, respectively ($p < 0.01$). Separately, U937 cells were differentiated into macrophages and are being prepared for use in a TLR-4-mediated inflammatory model to evaluate immunomodulatory activity.

The potential involvement of prostaglandin E2 (PGE2)-mediated inflammatory and nociceptive pathways relevant to skin sensitivity remains under further investigation. This study underscores the value of indigenous African plant resources and demonstrates the multifunctional bioactive potential of Citrullus lanatus in targeting inflammation, epidermal barrier dysfunction, and skin repair. These findings support its potential application in next-generation formulations for sensitive and inflamed skin conditions.

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Session 7 Hosted by Mane

10 Sep 2026 - DAY 2

Chairpersons: Beverley Gardner, Skyem, South Africa
Lee-Ann Raaff SMU, South Africa

14h00-14h30 ***Optimized Synergistic Interaction Gel (SIG) Technology: A Method-Driven Evaluation of a High-Performance Natural Gelling System***
Sonia Guillaume, SOLABIA, France

14h30-15h00 ***Beyond Cleansing: Multifunctional Glycolipids for Advanced Personal Care Formulations***
Jacques Strydom, Evonik, Africa

15h00-15h30 ***Targeting Neurogenic Inflammation in Climate-Stressed Skin: A Neurocosmetic approach based on organic Scutellaria Alpina***
Viviana Sanchez, dsm-firmenich, Dubai, UAE

15h30-15h45 ***Winning Debate Team Announcement & Closing Address***
Lee-Ann Raaff, SMU, South Africa
Vice President, Coschem 2026

END DAY 2

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Optimized Synergistic Interaction Gel (SIG) Technology: A Method-Driven Evaluation of a High-Performance Natural Gelling System

Sonia Guillaume
SOLABIA, France

Biography

Sonia is Export Sales Manager at Solabia Group since March 2026. She has built 25 years of experience in international marketing and sales of cosmetic ingredients. Holding a degree in Political Sciences and a Certificate in Marketing, she has successfully grown businesses through distributor networks. Committed to sustainability, she helps customers develop more eco-friendly formulations

Abstract

Context

The development of high-performance gelling systems for personal care applications is increasingly driven by the need to reconcile functional efficiency with natural origin and sustainability. Conventional formulation approaches rely on synthetic polymers, such as carbomers, which exhibit strong rheological control and reproducible viscoelastic behavior, or natural polysaccharides, which are limited by weaker structuring ability, poor electrolyte tolerance, and suboptimal sensory properties. This gap has led to the development of optimized Synergistic Interaction Gel (SIG) systems, designed to enhance intermolecular structuring through controlled modification of polysaccharide interactions.

The present work aims to characterize the physicochemical, rheological, and functional performance of this SIG system using a combination of structural analysis, rheological measurements, and application-driven benchmarking protocols against conventional natural thickeners.

Materials and Methods

The SIG system, composed of modified natural polysaccharides, was evaluated over a concentration range of 0.05% to 0.5% (w/w), corresponding to typical use levels in personal care formulations. All samples were prepared by direct dispersion in deionized water under controlled stirring conditions, without pre-hydration or premixing, to assess ease of processing and reproducibility.

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Microstructural characterization of the resulting hydrogels was performed using electron microscopy (MEB) and cryomicroscopy techniques to visualize network organization, pore size distribution, and structural homogeneity. These analyses aimed to correlate macroscopic rheological behavior with network architecture.

Additionally, rheological properties were evaluated using oscillatory and steady shear measurements. Frequency sweep tests were conducted to determine storage modulus (G') and loss modulus (G''), providing insight into viscoelastic balance, while stress sweep and flow curve analyses were used to assess yield stress, shear-thinning behavior, and viscosity breakdown under applied stress.

Functional performance was assessed through a series of standardized application tests. Thickening efficiency was determined by viscosity measurements at controlled shear rates and compared directly to xanthan gum at equivalent concentrations.

Electrolyte tolerance was assessed by incorporating increasing concentrations of ionic species into the gel matrix and measuring viscosity retention. Additionally, pH stability studies were performed across a range from pH 4 to pH 10 to evaluate network robustness under varying formulation conditions.

Emulsion stabilization capacity was evaluated using model oil-in-water emulsions subjected to centrifugation and accelerated stability protocols, including thermal cycling and extended storage.

Particle suspension capability was investigated using dispersions containing insoluble pearlescent particles, with sedimentation behavior monitored over time.
Finally, sensory evaluation was conducted using a trained expert panel applying standardized descriptive analysis methods, focusing on parameters such as tackiness, stringiness, spreadability, freshness, and after-feel.

Results and Discussion
Microstructural analysis revealed that the SIG system forms a dense and homogeneous three-dimensional network with a characteristic honeycomb-like morphology. This architecture is markedly more organized than that observed in conventional polysaccharide systems and is associated with enhanced mechanical strength and elasticity.
Rheological measurements confirmed a dominant elastic behavior, with storage modulus consistently exceeding loss modulus (G' > G''), indicating the formation of a solid-like gel structure. Under increasing shear stress, a sharp transition from elastic to viscous behavior was observed, accompanied by a rapid decrease in viscosity. This pronounced shear-thinning behavior is indicative of a structured network capable of resisting deformation at rest while flowing readily under application conditions.

In terms of thickening performance, viscosity measurements demonstrated that the SIG system achieves up to twenty times higher viscosity than xanthan gum at equivalent concentrations. Notably, stable and coherent gels were obtained at concentrations as low as 0.05%,

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highlighting the exceptional efficiency of the system and its potential to reduce overall polymer load in formulations.

The system also demonstrated strong robustness to formulation constraints. Viscosity measurements across a pH range of 4 to 10 confirmed minimal variation in rheological properties, indicating high pH tolerance. Similarly, the addition of electrolytes resulted in limited viscosity loss, confirming the network's resistance to ionic disruption, which is a known limitation of traditional polysaccharide-based systems.

Emulsion stability tests further demonstrated the robustness of the SIG network. At a concentration of approximately 0.1%, emulsions structured with the SIG system remained stable under centrifugation and accelerated aging conditions, with no visible phase separation. In contrast, emulsions prepared with xanthan gum or glucomannan at the same concentration exhibited clear instability. This behavior can be attributed to the increased yield stress and microviscosity around dispersed droplets, which limit mobility and coalescence.
Particle suspension studies showed that insoluble particles remained uniformly dispersed within the SIG gel matrix over time, even at low concentrations. This contrasts with conventional natural thickeners, which require significantly higher dosages to achieve similar suspension performance, often at the expense of texture quality.

Sensory evaluation results were consistent with instrumental findings. The SIG-based gels were characterized by low tackiness, absence of stringiness, and a pronounced "water-release" effect upon application, reflecting rapid structural breakdown under shear. These attributes closely resemble those of carbomer-based systems, suggesting that the SIG technology successfully replicates the sensory performance of synthetic polymers while maintaining natural origin.

Conclusion
The methodological evaluation of the optimized Synergistic Interaction Gel system demonstrates that controlled molecular engineering of polysaccharide interactions can significantly enhance the structural and functional performance of natural gelling agents. Through combined microstructural analysis, rheological characterization, and application-based testing, the SIG technology has been shown to deliver high thickening efficiency, strong viscoelastic properties, and robust stability under challenging formulation conditions.

The ability to achieve these results at very low concentrations, while maintaining desirable sensory attributes and compatibility with a wide range of formulation parameters, represents a major advancement in the design of natural-origin gelling systems. This approach provides a scientifically validated pathway to bridge the gap between synthetic performance and natural sustainability in personal care formulations.

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Beyond Cleansing: Multifunctional Glycolipids for Advanced Personal Care Formulations

Jacques Strydom
Evonik Africa

Biography

Jacques is a Chemical Engineer with a career dedicated to cosmetic R&D, formulation science, and product development. He currently serves as Business Manager for Care Solutions at Evonik, where he leads innovation and growth initiatives across Sub Saharan Africa.

A Praesidium Member of the IFSCC, and Past President of Coschem, Jacques remains actively involved in advancing cosmetic science through education. Historically, he served as a lecturer in Surface Chemistry and Basic Chemistry for the Coschem education course. With a background spanning R&D leadership, formulation development, technical marketing, and commercial strategy, he is passionate about translating scientific advancements into impactful personal care solutions for the region.

Jacques recently emigrated to New Zealand and plans to expand his knowledge and experience into the Asia Pacific region in the near future.

Abstract

Surfactant technology in personal care formulations is undergoing significant advancement, with recent innovations increasingly leveraging biotechnological processes to enable the development of next-generation ingredients, notably glycolipid biosurfactants. These ingredients are produced via microbial fermentation. This biotechnological production pathway enables scalable and consistent manufacturing of high-performance surfactants while substantially reducing environmental burden compared to conventional petrochemical routes. As a result, glycolipid-based surfactants align with both formulators' technical requirements and evolving consumer expectations, offering naturally derived, biodegradable, and intrinsically mild alternatives produced under sustainability-oriented conditions.

From a functional perspective, glycolipids demonstrate effective cleansing efficacy against lipophilic soils such as sebum and decorative cosmetics, while maintaining a favorable irritation profile, as evidenced by *in vitro* red blood cell (RBC) hemolysis assays. In addition, these biosurfactants can synergistically enhance the deposition efficiency and functional performance

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of cationic conditioning polymers and lipid (refatting) components, thereby contributing to improved overall formulation performance.

Deposition behavior was monitored using streaming potential measurements (Charge Analyzing System) in comparison to a sensorial hair swatch test. Sensory performance was assessed on standardized, pre-damaged human hair tresses by trained panelists evaluating combability, disentangling, and wet feel following treatment with test formulations under controlled conditions.

Another example for deposition effects from rhamnolipids is the deposition of refatting agents like Glyceryl Oleate. Deposition and efficacy on skin were investigated in a controlled panel study using standardized pre-treatment, application, and sampling procedures, with lipid deposition quantified before and after rinse-off application by LC–MS analysis.
Preliminary investigations into skin microbiome interactions further indicate that glycolipid-based surfactants exert minimal perturbation on the resident microbial communities. This suggests their suitability for incorporation into microbiome-conscious formulations, supporting the development of next-generation personal care products with enhanced skin compatibility and holistic performance profiles.

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Targeting Neurogenic Inflammation in Climate-Stressed Skin: A Neurocosmetic Approach Based on Organic Scutellaria Alpina Extract

Viviana Sanchez
dsm-firmenich, Dubai, UAE

Biography

Viviana is a Colombian Chemical Engineer with an MBA and a specialization in Sales and Marketing. She has more than 17 years of experience in the personal care industry, combining technical expertise in formulation with a strong commercial and business development background.

She began her career in Colombia as a cosmetic formulator, developing hands-on experience in product development and cosmetic formulations. In 2012, she joined Croda Colombia, where she held commercial roles supporting the growth of the personal care business. In 2016, she relocated to Dubai and joined Croda Middle East, managing customers and business development activities across the Middle East region until 2024.

Since 2024, Viviana has been part of dsm-firmenich as Senior Account Manager for Beauty & Care, leading commercial activities across the Africa, Middle East, and Turkey (AMET) region. Her work focuses on driving sustainable growth, developing strategic partnerships, and bringing science-based innovations to market.

Passionate about innovation and sustainability, Viviana is dedicated to helping customers create differentiated beauty solutions that address evolving consumer needs while delivering meaningful value across diverse regional markets.

Abstract

The increasing intensity and frequency of climate-related environmental stressors, including heat waves, ultraviolet radiation, and pollution, are emerging as critical determinants of skin health. These factors trigger complex biological responses that extend beyond classical dermatological pathways and involve bidirectional communication between the skin and the nervous system, known as the skin–mind axis. This neurocutaneous interface integrates environmental signals, immune responses, and sensory perception, contributing to both physiological skin alterations and subjective sensations such as discomfort, irritation, and stress.

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Exposure to environmental stressors induces oxidative stress and activates neurogenic inflammation, characterized by the release of neuropeptides and cytokines. Key mediators involved in this process include calcitonin gene-related peptide (CGRP), interleukin-33 (IL-33), and thymic stromal lymphopoietin (TSLP), which promote vasodilation, pruritus, and immune activation. In parallel, activation of transient receptor potential channels such as TRPV1 amplifies nociceptive signaling, leading to heightened skin sensitivity and discomfort. These responses are linked to central nervous system signaling through peripheral nerve activation, reinforcing a feedback loop between skin condition and emotional state. The resulting cycle contributes to barrier dysfunction, increased transepidermal water loss (TEWL), premature aging, and reduced skin resilience.

Neurocosmetic approaches aim to disrupt this cycle by targeting both inflammatory and neurosensory pathways. In this context, plant-derived bioactives offer a promising strategy due to their multifaceted chemical composition and adaptation to environmental stress. Alpine plants represent a unique source of bioactive compounds, as they thrive under extreme conditions such as high UV exposure, temperature fluctuations, and dehydration. These stressors stimulate the production of secondary metabolites, notably flavonoids with potent antioxidant and anti-inflammatory properties.

The organic Scutellaria alpina extract investigated in this study is derived from the aerial parts of a high-altitude skullcap plant sustainably produced using certified organic cultivation. It supports biodiversity in alpine regions and fair-trade practices through Fair for Life certification, including long-term partnerships and minimum guaranteed income for farmers. Under these conditions, the plant develops a distinctive phytochemical profile enriched in flavonoids, including scutellarin, apigenin-7-O-glucuronide, luteolin derivatives, chrysin conjugates, and wogonoside. These compounds are known for their capacity to neutralize reactive oxygen species, modulate inflammatory pathways, and interact with neuronal signaling systems.
Experimental data demonstrate that Scutellaria alpina responds adaptively to simulated climate stress. Under elevated temperature conditions, the plant increases the synthesis of key flavonoids such as chrysin-7-O-glucuronide and wogonoside, reinforcing its antioxidant and protective capabilities. This adaptive metabolic response provides a scientific rationale for its application in climate-responsive skincare formulations.

At the cellular level, the organic Scutellaria alpina extract exhibits a dual mechanism of action targeting both inflammatory and neurosensory pathways. *In vitro* studies using co-culture models of keratinocytes and neuronal cells demonstrate significant inhibition of neurogenic inflammation markers, including CGRP, IL-33, and TSLP, following TRPV1 activation. This indicates a capacity to modulate neuroinflammatory cascades and reduce neuronal hypersensitivity.

Concurrently, the extract activates γ-aminobutyric acid (GABA-b) receptors at low concentrations, suggesting a direct interaction with cutaneous neuroreceptors involved in sensory perception. This activation is associated with a calming effect on the skin and contributes to the inhibition of TRPV1-mediated signaling. Furthermore, the extract significantly

enhances the production of β-endorphin in keratinocytes, a neuropeptide associated with pain modulation and improved mood perception. Together, these effects support a neurocosmetic mechanism that alleviates discomfort while promoting positive sensory experiences.
Additional *in vitro* analyses confirm strong antioxidant activity, with the extract demonstrating superior free radical scavenging capacity compared to reference botanical antioxidants, as well as protection against lipid peroxidation. At the gene expression level, the extract upregulates markers associated with barrier integrity and innate defense, including claudin-7 and beta-defensin, indicating reinforcement of epidermal cohesion and resilience.
The biological relevance of these mechanisms is supported by in vivo findings in subjects with sensitive skin exposed to controlled heat stress. Clinical evaluations show significant improvements in parameters associated with skin resilience, including reductions in TEWL, erythema, and microcirculatory reactivity. The extract reduces heat-induced redness and normalizes blood flow responses, reflecting attenuation of neurovascular inflammation. Furthermore, it accelerates thermal recovery following stress, suggesting enhanced homeostatic regulation.

Beyond physiological effects, emotional wellbeing was assessed using nonverbal methodologies designed to capture neuropsychological responses. The findings indicate significant improvement in perceived comfort, safety, and calmness, supporting the concept that modulation of the skin–mind axis can translate into measurable psychological benefits.
In conclusion, the organic Scutellaria alpina extract represents a novel neurocosmetic approach to addressing climate-induced skin stress. By combining antioxidant, anti-inflammatory, and neuromodulatory activities, it effectively targets the biological and sensory dimensions of skin health. This integrative mechanism highlights the relevance of plant adaptogens in the development of next-generation skincare solutions designed to enhance resilience in an era of environmental and emotional challenges.

This innovative and scientifically substantiated bioactive was recently recognized for its sustainability profile, receiving the Gold Award for Best Sustainable Ingredient at in-cosmetics Global 2026.

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Closing Address

Lee-Ann Raaff, SMU, South Africa
Vice President, Coschem 2026

On behalf of the Society of Cosmetic Chemists, we would like to extend our sincere gratitude to everyone who attended and participated in this year's conference. Your presence, enthusiasm, and commitment to advancing the cosmetic science industry played a significant role in making the event a remarkable success.

We would like to offer special thanks to all our exhibitors, speakers, and industry partners, whose innovation and expertise continue to drive progress within the cosmetics and personal care sector. The valuable knowledge, technologies, and solutions showcased during the conference provided attendees with insights into the latest industry developments and future trends. Your participation helped create a dynamic platform for knowledge exchange, professional development, and business growth. The success of the conference would not have been possible without your dedication and involvement.

A special thank you to our Scientific Committee, and especially to our Chairperson, Beverley Gardner (who also served as the MC), and Co-Chair, Wayne van Wyk, for your incredible hard work and commitment to making the Conference a success. We truly appreciate the time, energy and dedication you have given to the Society. Your commitment and passion are what help make our Conference such a success, and we are incredibly grateful for all that you do.

As we reflect on this successful gathering, we are encouraged by the strong sense of collaboration and innovation demonstrated by all attendees. Thank you for being part of this outstanding event. We look forward to welcoming you to the 50th Anniversary of Society of Cosmetic Chemists Association next year, as we continue to advance cosmetic science together.

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Natural Emulsifying with Biomimetic Clinical Benefits

Janine Fitzpatrick
The Care Co, South Africa

Biography

Janine is a passionate cosmetic chemist who achieved a MSc in Chemistry from the University of the Witwatersrand. During her 15 years in industry she has worked in various aspects of the FMCG industry both locally and internationally. Having experience in R&D, regulatory, sales, business development and academia. Currently she is fortunate to be leading the growth and development of new opportunities within our industry at the Care Co. On a personal level, her key focus is her family, having been married 9 years and has three beautiful children. In her spare time she enjoys cooking and doing yoga.

Abstract

Choosing the right emulsifier remains a decision formulation chemists face at the onset of each project. The natural origin, global regulatory acceptance, functionality, robustness and compatibility with skin and hair structures are all parameters that need to be carefully analyzed when selecting an emulsifier.

The impact of the emulsifier on the sensorial properties of the final formulation remains a key factor. This parameter often determines the acceptance of the cosmetic product by end consumers. Even though oils, emollients and thickeners may influence the emulsion characteristics, emulsifiers remain the cornerstone of a formulation's aesthetics and functionality. Other key parameters include pH, electrolyte and active tolerance.
Polyglycerol-based emulsifiers are not new in the field of cosmetics, however by fine tuning the chemistry this has led to unique polyglycerol o/w emulsifier. It is manufactured using highly purified building blocks such as diglycerol and stearic acid. The glycerol moiety and the fatty acid are linked together in a solvent-free system while respecting a very precise molecular stoichiometry. Furthermore, the reaction is controlled to avoid the presence of free diglycerol to

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maintain optimal sensorial properties in the final emulsion. The patent technology of the polyglycerol-based emulsifier thus emerges from a unique knowledge of the polyglycerol molecularity combined with a meticulously controlled manufacturing process.
This all naturally derived COSMOS approved O/W emulsifying technology is non-ionic and has self-emulsifying properties meaning it works independently of the HLB system and can create stable emulsions on its own without the need of co-emulsifiers whilst supporting with large pH, electrolyte and varying active tolerance.

The molecularity and structural characteristics of the polyglycerol-based emulsifier make it a highly versatile emulsifier that align to support liquid crystal formation. These unique properties support low addition concentrations between 1% and 5% in the water phase as well as in the oil phase when formulating O/W systems. This feature of the polyglycerol-based emulsifier is advantageous to create formulations with different viscosity levels without the addition of rheology modifiers. Allowing for the development of unique textures and emulsion formats, from lower viscosity to viscous butters and even gels.

A key benefit of this polyglycerol emulsifier system is the skin benefit especially toward the epidermal barrier function. The clinical results obtained with this polyglycerol emulsifier could be interpreted as a biomimetic action of its components improving and repairing the skin barrier lipid matrix. Optimising the skin barrier function integrity would help reducing skin dehydration and skin hypersensitivity upon external aggressions. In case the skin barrier lipid matrix is already impaired, the polyglycerol-based emulsifier will merge with the barrier lipid matrix fixing damage.

Combining the benefits of green processing with clinical science to support a new generational multifunctional emulsifying system for hair and skin care formulations.

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Orchem	Host session 2
Peters Chemicals	Marketing slot session 5
SAFIC Alcan	Delegate bags
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The CareCo	Mini stand on 9 Sep 2026
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