FLSCC PRESENTS

Sunscreen SYMPOSIUM™

2025

20TH Biennial

2025

PROGRAM DETAILS

Thursday Sept. 18th : FREE Educational Course for all registered attendees*

***Sponsored by the Florida Chapter, Society of Cosmetic Chemists**

9 - 11 AM - Launching a Sunscreen Product: A Brand & Formulator's Guide: **Marisa Furlonge**

1 - 3 PM - Prove It! Making Truthful Claims & Understanding Legal Ramifications : **Ronie M. Schmelz**

4:30 - 6:30 PM Welcome Reception - Exhibits and Posters Open!

Friday Sept. 19th : General Session, Day # 1

Session A - 8:45AM - 10:30 AM

Keynote: Vacation ® Sunscreen, Strategy and Storytelling: **Dakota Green** and **Jessica Matlin**

Viral but not Valid: The Rise of Sunscreen Information: **Ava Perkins**

Oxidative rate of organic UV filters varies with the stability of their carrier oils: **Benjamin Schwartz**

* 10:30 - 11:00 Refreshment Break *

Session B - 11:00 AM - 12:30 PM

Beyond erythema: sunscreen for the remaining billions: **Jeffrey Field**

The impact of external temperature on sunscreen efficacy and safety: **Marcella Gabarra Almeida Leite**

The quest for a mineral sunscreen suitable for all skin tones: **Brian Bodnar**

* 12:30 - 2:30 PM: Lunch in Exhibitor Hall, Exhibits and Posters Open *

Session C: 2:30 - 4:30 PM

How do inorganic sunscreen actives work and what does that mean to me? **Mark Chandler**

Tips to formulating high SPF zinc oxide products: **Yannick Rigg**

Efficacy of "SPF boosters" with physical sunscreens: **Julian P. Hewitt**

Standardized In Vitro and In Vivo scoring methods for measuring white cast of mineral sunscreens to improve sunscreen compliance across diverse skin tones: **Alexandra Maldonado**

Saturday Sept. 20th : General Session, Day # 2

Session D: 9:00 - 10:30 AM

Animal-free safety assessments: modern science to protect human health: **David Allen**

Advancing U.S. sunscreen innovation with bemotrizinol: **Carl D'Ruiz**

Implications of ISO double plate method for zinc oxide-based sunscreens: **Jeroen van den Bosch**

* 10:30 - 11:00 Break *

Session E: 11:00 - 12:30

Weight of evidence: toxicological assessment of UV filters: **Kimberly Norman**

Non-destructive evaluation of cosmetic toxicity on corals: a new test for environmental safety: **Pablo Canamas**

Applying AI molecular discovery methods to develop novel, sustainable ingredients for sunscreen applications: **David Demirjian**

*** Conclusion of the 2025 Sunscreen Symposium™ : thank you for attending! ***

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PROGRAM DETAILS
THURSDAY

EDUCATIONAL COURSE

Educational Course*

DISNEY'S YACHT & BEACH CLUB | THURSDAY SEPTEMBER 18, 2025

Educational Course Morning Session (9am - 11am):

Considerations for Responsibly Launching a Sunscreen Product: A Brand & Formulator's Guide

Marisa Furlonge is the Director of R&D at Cosmetic Solutions. She was the FLSCC Chair from 2018 - 2019, and is a Cosmetic Chemist with 20+ years of experience in OTC and cosmetic product formulation.

Educational Course Afternoon Session (1pm - 3pm):

Prove It! Making Truthful Claims and Understanding Legal Ramifications.

Ronie M. Schmelz is a partner at **K&L Gates**, in the firm's Commercial Disputes practice. She is experienced in FDA and FTC regulatory matters and is passionate about business hygiene and strategic litigation avoidance.

*The Educational Course is hosted by the Florida Chapter, Society of Cosmetic Chemists, and is FREE to all registered attendees (only) of the 2025 Sunscreen Symposium™

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THURSDAY EVENING WELCOME RECEPTION

Welcome to the Sunscreen Symposium™ !

DISNEY'S YACHT & BEACH CLUB | THURSDAY SEPTEMBER 18, 2025

ALL REGISTERED ATTENDEES OF THE 2025 SUNSCREEN SYMPOSIUM

ARE CORDIALLY INVITED TO ATTEND OUR THURSDAY NIGHT

~~ Welcome Reception ~~

4:30 - 6:30PM

Join us in the Grand Harbor Ballroom, connect with our sponsors and exhibitors, visit our poster presenters, and enjoy some hors d'oewres & cocktails, while networking with fellow professionals!

THE THURSDAY NIGHT WELCOME RECEPTION IS CO-SPONSORED BY FLORIDA SKINCARE TESTING, VIZOR SUN AND THE FLORIDA SCC.

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FRIDAY SEPT. 19TH

Friday's Technical Program Moderator

CUBIE LAMB
DIRECTOR OF R&D AND QUALITY
J. STRICKLAND

Cubie Lamb is the Director of Research and Quality Control at J. Strickland & Co., based in Olive Branch, Mississippi, where the company manufactures and distributes multicultural hair and skin care products. In this role, Cubie holds overall responsibility for plant operations related to quality control, product development, consumer engagement, and regulatory compliance.

Cubie began his career in R&D within the pharmaceutical and biotech industries but has found renewed passion over the past 10 years in the personal care sector.

Through his professional network, Cubie actively cultivates relationships with both industry leaders and students, aiming to build lasting connections while sharing knowledge and expertise.

Deeply committed to giving back, Cubie has joyfully volunteered and held various leadership roles within the Society of Cosmetic Chemists. Outside of the cosmetic world, he enjoys working out, biking, kayaking, attending car shows with his Mustang club, and is now setting his sights on venturing into bodybuilding for the 50+ age group.

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FRIDAY SEPT. 19TH

Sunscreen Symposium™ Day # 1 Keynote

Sunscreen, Strategy and Storytelling: Building an Iconic Brand from the "Why" to "What's Next?

Dakota Green is a Founding Partner at Vacation®, the award-winning sunscreen brand from Miami, USA, where he is responsible for Product Development and Operations.

Launched in June 2021, Vacation® set out to make sunscreen fun by creating "leisure-enhancing sunscreen" products that bring a sense of joy to the sunscreen aisle—like the whipped cream inspired Classic Whip Sunscreen Mousse, or the nostalgia-inducing Orange Gelée® SPF 30 Sunscreen Gel—all within an immersive brand world that embodies the quintessential Vacation® state of mind.

Dakota Green

Vacation®

An established voice in beauty, **Jessica Matlin** is the Director of Beauty and Home at Moda Operandi. At Moda, she created a destination for the most exciting established and discovery beauty brands. In 2024, she took over the Home category, as well. She currently leads the merchandising strategy and influences the editorial for both divisions at Moda.

Prior to her appointment at Moda Operandi, Matlin was the beauty director of Harper's Bazaar. She is also the co-founder and co-host of the award-winning podcast, Fat Mascara, the category-defining show she launched in 2016.

Jessica Matlin

Fat Mascara

Vacation®
Leisure-Enhancing Sunscreen™

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PROGRAM DETAILS

FRIDAY SEPT. 19TH

AVA PERKINS
PHD STUDENT

UNIVERSITY OF CINCINNATI
JAMES L WINKLE COLLEGE OF PHARMACY

Session A Continues with:

Viral but not Valid: The Rise of Sunscreen Misinformation

In the age of TikTok skincare routines and influencer-driven ingredient trends, misinformation about sunscreen has become increasingly widespread and dangerously persuasive. From claims that SPF disrupts hormone function or prevents vitamin D absorption to the demonization of chemical filters and the glorification of natural alternatives, sunscreen myths are everywhere. These narratives often go viral not because they're scientifically accurate, but because they tap into fear, aesthetic concerns, or distrust in regulatory bodies.

This presentation will explore some of the most pervasive sunscreen myths gaining traction on social media, including the belief that sunscreen is toxic, that sunscreens can and should easily be made at home, that nano-sized mineral filters absorb into the bloodstream, that mineral and chemical sunscreens function differently, and that the United States sunscreen market is inherently inferior. It will unpack where these ideas come from, whether it's misinterpreted studies, outdated data, or fear-based marketing. Along the way, this presentation will examine the role that clean beauty culture, "wellness" influencers, dermatologists, and brand marketing play in the viral spread of misinformation.

Misinformation doesn't just confuse consumers, it undermines the work of formulators, researchers, and regulatory experts. This session will explore how sunscreen myths impact the industry and share real-world examples of how these narratives have been addressed through science communication and content creation. By examining the viral nature of misinformation and the challenges of pushing back, this talk invites attendees to consider how we can collectively shift the conversation away from what's viral and back to what's valid.

Ava Perkins is a third-year PhD student studying Biomembrane Sciences at the University of Cincinnati. She graduated from the University of Toledo with a Bachelor's degree in Pharmaceutical Sciences concentrating in Cosmetic Science and Formulation Design. She is involved within the SCC, where she was the 2025 Future Chemist Workshop Instructor, NYSCC Monthly Meeting Chair, an active member of the OVSCC chapter, and previously served as NextGen SCC Chair. In her free time, she uses her social media platforms to bridge the gap between industry knowledge and consumer understanding by educating about the science behind cosmetic and personal care products.

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BENJAMIN SCHWARTZ

CUSTOMER INNOVATION MANAGER, AAK

Session A Continues with:

Oxidation Rate of Organic UV Filters Varies with the Oxidative Stability of their Carrier Oils in Sunscreens

While it is known that organic UV filters can degrade via exposure to ionic radicals, metals, surfactants, and UV light itself, our study investigated the relationship between the relative oxidative stability of various oils and emollients typically used in sunscreen formulations and the rate of oxidative degradation of the most common FDA-approved UV filters.

Methods for measurement included Oxidative Stability Index via Rancimat, AOCS Peroxide Value, AOCS Free Fatty Acid Percentage, Fatty Acid Composition via GC, OTC sunscreen active assay via HPLC.

Our study shows that the rate of oxidative degradation of organic UV filters can be significantly influenced by the choice of carrier and it's oxidative stability. This work can help sunscreen formulators make more well-informed choices when assembling the oil phase and lipophilic components of their finished products.

Starting his career with Estee Lauder, **Benjamin Schwartz** has spent 20 years as an R&D Chemist working in personal care and cosmetic innovation. Managing the R&D lab for a Bay Area contract manufacturer he oversaw product formulation and scale up for a variety of startups, independents, and global brands. Now as a Customer Innovation Manager for AAK, an international raw material supplier focused on plant-based lipids, he supports the technical and regulatory demands of the world's most influential personal care and cosmetic companies.

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JEFFREY FIELD

PRESIDENT AND CHIEF TECHNICAL OFFICER, FLORIDA SKINCARE TESTING

Session B

Beyond Erythema: Sunscreen for the Remaining Billions

The global sunscreen market has long prioritized testing methodologies that focus predominantly on erythemal responses, such as sunburn, on fair skin types, often neglecting the diverse range of skin tones and their unique responses to UV exposure. This presentation highlights the critical need for testing that accounts for varied skin types and evaluates broader consequences of UV damage beyond erythema.

Darker skin types (Fitzpatrick IV–VI), while less prone to sunburn due to higher melanin content, are still vulnerable to UVA-induced photoaging, uneven pigmentation, and long-term damage. These concerns are often overlooked in conventional testing protocols. Products that are designed for these darker skin tones are under-represented in the marketplace due to the conventional methodology and misconceptions about the need for UV protection for people with darker skin tones. This leads to inadequate protection for significant segments of the global population. Incorporating additional testing parameters into sunscreen efficacy studies such as changes in pigmentation, can help address these gaps.

Furthermore, the cultural and societal preference for lighter skin among billions worldwide—particularly in Asia, Africa, and the Middle East—underscores the need for sunscreen formulations that protect against UV-induced darkening. By expanding the current testing methodology, brands could increase their customer base to tap this unmet market need all while protecting the consumer.

This presentation advocates for a paradigm shift in sunscreen development and testing, urging the adoption of methodologies that reflect the needs of diverse skin tones and the broader spectrum of UV-induced damage. By doing so, the industry can challenge misconceptions to ensure equitable access to effective photoprotection, promote healthier skin across populations, and align with global cultural preferences all while expanding the global photoprotection market.

Jeffrey Field received his B.S. in Biochemistry from the University of Florida and has been in the personal care industry for approximately 20 years. He has held R&D roles for companies such as Hawaiian Tropic and Novamin Technology (a GSK company). He has also spent time on the sales and distribution side of the industry where he held the role of Technical Director and Consumer Care Sales Manager. He is currently the President and Chief Technical Officer at Florida Skincare Testing/IMS. He has extensive experience and knowledge in Sun Care, Skin Care and Oral Care Product Development and has successfully brought to market a number of global consumer products. He also holds a US patent in oral care technology. He is a longstanding member of the FLSCC and has previously been a speaker at three sunscreen symposium events.

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MARCELLA GABARRA ALMEIDA LEITE

TRI-PRINCETON

Session B

The Impact of External Temperature on Sunscreen Efficacy and Safety

Excessive solar exposure triggers a cascade of events which can result in skin cancer causing major public health concerns. The use of sunscreen is our best defense to prevent these damages. While organic UV filters present undeniable cosmetic advantages, they also present serious drawbacks, including frequent re-application, photo-instability, potential skin penetration, and environmental concerns. The rise of temperatures due to climate change should affect the skin penetration of UV filters since the lipid organization inside the stratum corneum is correlated to the temperature. It is important to investigate the impact of high temperatures on the efficacy and safety of these products, particularly during the summer months when consumers tend to apply the most sunscreen.

We investigated the retention and the penetration of UV filters on human skin in function of external temperature. Human skin samples were incubated in Franz cells with skin surface temperature up to 42°C, a temperature validated in real conditions. To simulate a day at the beach, commercial sunscreens were topically applied to the skin and re-applied every 2 hours. After 6 hours, the retention and the penetration of the organic UV filters were evaluated by FTIR and Raman spectroscopies.

Our data shows a clear correlation between the retention of organic UV filters on the skin's surface, their penetration inside the skin and the external temperature. The retention at the skin's surface decreased with high temperature causing efficacy issues. Concurrently, significant penetration of UV filters was observed at high temperatures when the lipid organization inside the stratum corneum is more fluid.

Our research highlights the key role of temperature in both, the efficacy and safety of these products. This parameter should be considered in the development and the regulatory approval of future sunscreen products.

Marcella Gabarra majored in Pharmaceutical Sciences from the University of Sao Paulo, Brazil, and obtained a PhD in Pharmaceutical Sciences on the same University with emphasis on Cosmetic Sciences. Marcella started her journey on cosmetic science research as an undergraduate student, giving her over 10 years of experience in the cosmetic science area. Marcella currently works as a scientist at the Textile Research Institute (TRI Princeton) in Princeton, New Jersey, USA, focusing on ex vivo and in vivo studies for claims substantiation, as well as skin and hair research using spectroscopy, biophysical, and imaging methods. She established herself as a skilled researcher in formulation development, claims substantiation, and advanced skin and hair analysis. Her contributions to peer-reviewed publications, conference presentations, and award-winning research demonstrate her expertise and dedication to advancing the field. Currently at TRI Princeton, she continues to drive innovation through cutting-edge methodologies.

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BRIAN BODNAR

PRINCIPAL SCIENTIST,
L'OREAL USA

Session B

The Quest for a Mineral Sunscreen Suitable for all Skin Tones

The demand for mineral sunscreens has increased significantly in recent years, driven by both regulatory changes and consumer preferences. However, formulating high SPF mineral sunscreens that avoid the undesirable "white cast" on skin remains a major technical challenge, particularly for individuals with darker skin tones. This limitation can hinder proper sunscreen usage and overall adoption.

Herein, we present a disruptive innovative technology that overcomes this challenge, delivering a Broad Spectrum SPF 50+ mineral sunscreen that is invisible on all skin tones. We describe the selection process for determining the optimal mineral sunscreen mixture using a straightforward method. The resulting formula outclasses other comparative mineral systems in SPF and whitening. New microscopic and spectroscopic methodology is presented to characterize and quantify the sunscreen deposit on different substrates, revealing the critical impact deposit homogeneity has on both SPF efficacy and the reduction of whitening effects, and provides a basis for comparison, aid-to-formulation, and future research.

Brian Bodnar is a Principal Scientist leading the Application Domain for Photoprotection at L'Oreal USA. He completed a Bachelor of Science degree at The College of New Jersey, and later received a PhD in Organic Chemistry at the University of Notre Dame, where he studied the synthesis of mycobactin analog compounds and chemical transformations resulting from nitrosocarbonyl hetero Diels-Alder reactions. He developed new uses for alkali metals on silica gel at SiGNa Chemistry as an Application Scientist, and worked to install, demo, and provide customized automated solutions for customers at Chemspeed Technologies. He joined L'Oreal USA in 2011 within the liquid foundation development lab, has been leading the Photoprotection Application Domain team for the past 6 years. In Photoprotection, Brian has been focused on studying the fundamental science of sun care and developing new sunscreen innovations for the US market and beyond.

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MARK CHANDLER

PRESIDENT
ACT SOLUTIONS

Session C

How do Inorganic Sunscreen Actives work and what does that mean to me? A Surface Level Conversation.

Common thought is that inorganic sunscreen actives, TiO2 and ZnO, work primarily by scattering UVB and UVA light. What if this is not true? This presentation will go into the science of sunscreen actives and how they work, and how this knowledge can help in the selection of actives and then formulation of effective and aesthetically pleasing sunscreen products.

Old/new knowledge about surface absorption and semiconductor properties lead us to change our selection criterion to focus on the total surface area for a given mass of TiO2 or ZnO for maximum UVB protection and transparency on the skin. Grades with high surface areas and unique particle morphology present challenges in formulation which will be identified and solutions addressed. Bonus coverage will be given to grades of inorganic sunscreen actives which straddle the surface absorption/scattering line that present opportunities for new-generation liquid makeup products which have high SPF's without using organic sunscreen actives while still maintaining adequate hiding and skin tone evening attributes.

Mark Chandler is President of ACT Solutions Corp, a formulation design consultancy and laboratory founded in 2012. ACT Solutions Corp provides application support to ingredient technology companies and formulation training for brands and contract manufacturers. Mark has 40 years in the industry with roles in Technical Sales, Marketing, Strategic Planning, and Research. He has taught continuing education courses in cosmetic science for over 20 years and is a frequent lecturer in the Cosmetic Science program at the University of Toledo. Mark was awarded Fellow status by the Society of Cosmetic Chemists in 2014 and was National President in 2023.

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FRIDAY SEPT. 19TH

YANNICK RIGG

GENERAL MANAGER
VIZOR

Session C

Tips to formulating high SPF Zinc Oxide products

This presentation focuses on the use of Zinc Oxide (ZnO) in sunscreens and ways to increase SPF by selecting the correct starting ZnO, and the structure of the incorporating formulation. Developing aesthetically pleasing sunscreens using mineral filters is challenging to the most experienced formulators who are not proficient in making mineral sunscreens. Even the most experienced sun-care chemists who typically use organic sunscreens find it challenging to work with minerals. This is because formulating with these compounds differs significantly from working with the “organic” molecules that are traditionally used for sun-care.

Formulation of high SPF products is a comprehensive process. The UV Filter, emulsion system, rheology and film formers are among the many factors to be considered. Here we will explore how these features impact the final SPF of the product. Selection of ZnO based on particle size distribution and surface properties is an essential step. The formulation type and structure that incorporates the ZnO will either enhance or diminish the best properties of ZnO. Factors such as the phase of ZnO incorporation, rheology and structure of the product when applied to skin will determine whether a high SPF is achieved or not. Data obtained from in-vivo testing will demonstrate that optimizing the particle size and surface properties of ZnO along with a rheologically well-balanced formulation will lead to higher SPF.

Yannick Rigg is one of the Technical Leads at Vizor, the Zinc Oxide company that has delivered several innovations in the sun care space. At Vizor, he was one of the earliest employees and was responsible for the research and development that went into creating the two patents that the company currently holds. He continues to lead the innovation efforts and supports both research and data initiatives in partnership with 3rd party testing laboratories, as well as researchers globally. His experience spans 15 years across various R&D functions, including but not limited to material coating technology. He is a Scientist by discipline and has a Master’s degree in Atmospheric Science. When he is not pouring through data or putting in long hours in the lab, he enjoys travel, classic cars, and NY sports.

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FRIDAY SEPT. 19TH

JULIAN P. HEWITT

DIRECTOR
JPH SUNCARE
TECHNOLOGIES LTD.

Session C

Efficacy of "SPF Boosters" with Physical Sunscreens

As regulatory hurdles create substantial barriers to development and adoption of new UV filters, recent sunscreen development has instead focused on two main objectives: improving the aesthetic properties of formulations, and improving the efficacy of the existing active ingredients to achieve high SPF values with lower levels of actives. The latter aim has prompted the introduction of a number of excipients that are claimed to be "SPF Boosters".

This talk will examine how these ingredients work and examine their compatibility and efficacy in formulations based on physical (inorganic) sunscreen actives. Mechanisms of action for SPF boosters include:

- Achieving a more even film on skin;
- Scattering light to increase optical path length;
- Modifying electronic transitions to increase light absorption.

Different SPF boosters were incorporated into O/W and W/O emulsions containing titanium dioxide or zinc oxide. Results show that the optimum SPF booster to use depends on the type of active, the type of emulsion, and in which phase the active is incorporated. In some cases, SPF can be as much as doubled compared to the base formulation. Some of the SPF boosters also have significant effects on skin feel, and this too can influence the optimum choice for a given type of formulation.

Julian Hewitt graduated from Oxford University in 1988 with a BA Honours Degree in Chemistry. After graduating, he joined Tioxide, working on new product development. In 1991, he joined Tioxide's physical sunscreens business, remaining with the business as it moved from Tioxide to ICI, Uniqema, and finally Croda. During this time, Julian represented Uniqema and Croda as a technical expert for sun care products, developed and delivered training programmes for both internal and external audiences, and guided the development and launch of innovative new sun care ingredients. Julian left Croda in October 2011 and formed JPH SunCare Technologies, providing technical consultancy services, regulatory advice, and training to manufacturers of UV protection products and ingredient suppliers. He has been a frequent speaker at international conferences and is member of the Editorial Advisory Board for the International Journal of Cosmetic Science.

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FRIDAY SEPT. 19TH

ALEXANDRA MALDONADO LOPEZ

SCIENTIFIC WRITER
GOOD MOLECULES

Session C

Standardized In Vitro and In Vivo scoring methods for measuring white cast of mineral sunscreens to improve sunscreen compliance across diverse skin tones

Using broad-spectrum sunscreen is an effective practice for preventing skin cancers caused by ultraviolet (UV) radiation. Mineral sunscreens, using zinc oxide (ZnO) and titanium dioxide (TiO2) as physical UV filters, are a preferred choice for users with sensitive skin or allergies to chemical UV filters. However, the white cast they can leave on the skin is a significant cosmetic concern. This cosmetic elegance issue often discourages users from using sunscreen correctly, leading to poor sunscreen compliance and a higher risk of developing skin cancer. Despite this, no official method exists to quantify white cast and help formulate sunscreens for diverse skin tones. To address this gap, we developed validated in vitro and in vivo protocols for measuring and scoring white cast by combining objective L* measurements (whiteness) determined after sunscreen application with subjective consumer feedback on formulations containing ZnO concentrations ranging from 0–30%. Our findings demonstrate a strong correlation between increasing ZnO percentages and higher L* values ($p < 0.001$), corresponding to a more visible white cast. White cast scores for the ZnO formulations were substantially consistent across both in vitro and in vivo methodologies, with higher ZnO concentrations producing unacceptable levels of white cast. this study provides in vitro and in vivo white cast scoring systems as quantitative tools for evaluating and refining mineral sunscreen formulations, allowing the early selection of formulations with a reduced white cast. These findings contribute to the development of more cosmetically elegant sunscreens suitable for diverse skin tones, improve user experience, and, therefore, encourage better sunscreen compliance.

Alexandra M. Maldonado López[1], Emily Gallagher[1], Aiden Curry[1], Kylie Q. Sahloff[1] and Ivan Domicio da Silva Souza[1]
[1]R&D, Good Molecules, Philadelphia, PA 19104

Dr. Alexandra Maldonado López is a scientific writer at Good Molecules, where she translates complex dermatological research into accessible, evidence-based content. She earned her Ph.D. from the Perelman School of Medicine at the University of Pennsylvania. She conducted her thesis research in the dermatology department, focusing on skin health and genetic/epigenetic disease mechanisms. With a strong background in biomedical research and science communication, Dr. Maldonado López bridges the gap between research and consumer education, ensuring scientific accuracy in skincare-related content. Her work supports product development and helps make cutting-edge skincare science understandable to a broad audience. Dr. Maldonado López is passionate about making science accessible and believes in the power of clear, evidence-based communication to empower both consumers and professionals in the skincare industry.

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SPEAKEASY GALA EVENT

FRIDAY SEPT. 19TH

ALL REGISTERED ATTENDEES WELCOME*

*NO SNITCHES ALLOWED

TOP SECRET LOCATION TO BE REVEALED AT CHECK-IN

Join our

Roarin' 20's

Gala Celebration

It's a Prohibition-Era Speakeasy, all Registered Attendees are invited to join us for music, food, fun, a few shenanigans and a smart cocktail!

(or mocktail)

GALA CO-SPONSORED BY UVIVA TECHNOLOGIES AND THE FLORIDA SCC

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SATURDAY SEPT. 20TH

Saturday's Technical Program Moderator

DANIELLE WHEELER
AMERICAS DIRECTOR, TECHNICAL AND BUSINESS DEVELOPMENT BEAUTY & PERSONAL CARE IMCD

With over two decades of experience working with leading companies such as J&J, Hawaiian Tropic, Harcros, DSM, and IMCD **Danielle Wheeler** has established herself as a leader in the beauty and personal care industry.

Currently, Danielle serves as Americas Director of Technical and Business Development for Beauty & Personal Care and leads IMCD's Global Trends Taskforce. She joined IMCD in 2016, playing a key role in building the Beauty & Personal Care business in the United States and contributing to the commercial, technical, and marketing strategy across the Americas. She was also part of Women in Leadership program.

Throughout her career, she has made significant contributions to the industry, successfully leading global product development and launch initiatives, resulting in the commercialization of more than 30 sun care products.

With over 10 years of experience in R&D and more than a decade in commercial roles spanning sales, technical marketing, and business development, Danielle brings a unique and well-rounded perspective to her work. She takes pride in her ability to develop technical concepts and approaches tailored to the Americas while fostering creativity across teams.

A long-time supporter of the Florida Chapter of the Society of Cosmetic Chemists (FLSCC), Danielle has been actively involved for over ten years, first as a volunteer, then as a board member, and eventually serving as Chair of the Board (and National Area IV Director) . She continues to support the organization to this day.

Outside of work, Danielle lives in Florida with her husband Jeff and their 14-year-old daughter, Dylan. She enjoys traveling, outdoor activities, and spending quality time in Key West.

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SATURDAY SEPT. 20TH

Saturday Keynote: Session D

DAVID ALLEN

SENIOR DIRECTOR OF HUMAN HEALTH SCIENCES AND OPERATIONS, ICCS

Animal-Free Safety Assessments: Modern Science to Protect Human Health

David Allen, Ph.D. is the Senior Director of Human Health Sciences and Operations at the International Collaboration on Cosmetics Safety (ICCS). In this role he is responsible for the strategic development and management of the organization's human health program and overall operations of ICCS.

Prior to joining ICCS, Dave was the President of Integrated Laboratory Systems (ILS) and then Vice President of Inotiv, Inc., after they acquired ILS in 2022. Among his responsibilities at ILS and Inotiv, he was Principal Investigator of the National Toxicology Program Interagency Center for the Evaluation of Alternative Toxicological Methods (NICEATM) support contract.

He's been a member of international Validation Management Teams for in vitro alternative test methods, during which he provided input on validation study design, data analyses, and test method recommendations. He also has participated on international expert consultations for new and revised OECD Health Effects Test Guidelines for alternative test methods. Dave has served as the President of the American Society for Cellular and Computational Toxicology, President, Society of Toxicology – In Vitro and Alternative Methods Specialty Section and received the 2017 SOT Enhancement of Animal Welfare Award. He received his PhD from North Carolina State University.

The **International Collaboration on Cosmetics Safety** (**ICCS**) is a global initiative, headquartered in New York, focused on advancing the adoption of animal-free assessments of cosmetics, and their ingredients, for human health and environmental safety.

ICCS brings together scientists and experts from cosmetics manufacturers and suppliers, industry and research associations, and animal protection organizations to drive greater global awareness and confidence in animal-free science through research, education, and regulatory engagement. Building on nearly four decades of progress in the development, evaluation, and use of animal-free approaches, ICCS aims to accelerate the transition to animal-free safety science through widespread adoption and use.

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SATURDAY SEPT. 20TH

CARL D'RUIZ

SENIOR MANAGER, NORTH AMERICA BEAUTY & CARE BUSINESS DEVELOPMENT
dsm-firmenich

Session D Continues with:

Advancing U.S. Sunscreen Innovation with Bemotrizinol

The recent Over-the-Counter Monograph Order Request (OMOR) submission to the U.S. Food and Drug Administration (FDA) for Bemotrizinol represents a significant milestone in the evolution of sunscreen active ingredients within the U.S. market. Bemotrizinol, a globally recognized UVB and UVA filter, is celebrated for its superior photostability, broad-spectrum protection, and compatibility with diverse formulations. Its anticipated Generally Recognized as Safe and Effective (GRASE) determination by mid-March 2026 marks a pivotal opportunity to address a critical gap in the U.S. sun care market, where the limited number of approved UV filters restricts innovation and the ability to meet the needs of diverse skin tones and types.

The introduction of BEMT will provide formulators with a powerful tool to develop innovative, effective, and consumer-friendly sunscreen products. This advancement promises to displace less efficient legacy filters, modernizing U.S. sunscreen offerings to better align with global standards and evolving consumer preferences.

FDA's final order, expected after GRASE designation, will also involve the establishment of a new United States Pharmacopeia (USP) monograph for BEMT, ensuring the chemical's identity and quality specifications.

Beyond its immediate benefits, the approval of BEMT sets a regulatory precedent, paving the way for other innovative sunscreen actives. Subsequent steps, including obtaining FDA drug listings and National Drug Code (NDC) numbers, will enable the rapid integration of BEMT into over-the-counter sunscreen formulations, empowering the U.S. sun care industry to innovate and deliver advanced photoprotection solutions that meet today's consumer demands. This landmark development will not only elevate the quality of sun protection in the U.S. but also create new opportunities for enhanced public health and safety.

With over three decades of expertise spanning regulatory affairs, scientific strategy, advocacy, and business development, **Carl D'Ruiz** is a recognized thought leader in sunscreens, cosmetics, and consumer skincare products that enhance beauty and well-being. Currently serving as Senior Manager, Beauty & Care Business Development for dsm-firmenich North America, Carl specializes in navigating the complexities of bringing groundbreaking innovations to market. His work includes spearheading DSM's FDA OMOR submission for PARSOL® Shield (Bemotrizinol), advancing sunscreen standards in the U.S., and leading advocacy campaigns for safer sun care and sustainability. A skilled strategist, Carl delivers tailored solutions that accelerate product commercialization and drive growth. Carl's impactful career reflects a deep commitment to public health, innovation, and industry leadership. He has previously presented at the Sunscreen Symposium, where his insights continue to shape the future of sun protection and skincare.

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PROGRAM DETAILS

SATURDAY SEPT. 20TH

JEROEN van den BOSCH

MANAGING DIRECTOR
UVIVA TECHNOLOGIES

Session D Continues with:

The Implications of the new ISO Double Plate In-Vitro SPF Method for Zinc Oxide based sunscreens - an overview of new studies and updated EU Sunscreen Regulations

Early in 2025, two new SPF test methods have been officially published as ISO standard: The so-called Double Plate method (ISO23675) and HDRS (Hybrid Diffuse Reflectance Spectroscopy ISO 23698). Both methods are designed to allow for a reduction of invasive in-vivo SPF testing.

Over the past decades, the mineral suncare category has grown significantly, driven by specific consumer demands and expectations for more natural and (skin) safe ingredients. One of the main drawbacks of mineral suncare products is the traditional white cast associated with TiO2 and ZnO use, which makes products less suitable for most skin tones. To overcome this, quite a few innovations in both raw material and formulation technologies have been established. Along with a preferential choice for ZnO over TiO2, mineral suncare products have become more inclusive and on par in usability with chemical sunscreens.

The irony is that the newly developed ISO methods, in particular ISO23675, are jeopardizing the position of such mineral formulations. Both new ISO methods have been developed after a thorough ring-test study, however, one major category of products was left out of scope: those that are predominantly based on zinc oxide as UV filter. This is a rather unfortunate situation, as it was already commonly known that zinc oxide-based systems tend to produce lower SPF results in-vitro than they do in-vivo.

Several mechanisms and explanations for this have been reviewed in various peer-reviewed publications over the past decade, yet it was not included in the development of new ISO methods. This has lead to various issues already in the market place where authorities or consumer agencies test products off the shelf using the new Double Plate method, only to find very low SPF numbers that are nowhere close to actually measured in-vivo results.

As a result, a group approximately 20 companies started a consortium to perform a ring test study for zinc oxide based sunscreens early 2025. The purpose is to better identify and investigate the suitability of the current ISO methods for zinc oxide based sunscreens and propose a path forward to improve the method for a **larger scope of sunscreen products.**

Along with these new methods coming available, the European Commission is working on revising the current Sunscreen Recommendation (2006/647/EC) that dates back to 2006 already, where the new ISO standard will play an important role.

The presentation will focus on some of the explanations for why standard test methods do not work for zinc oxide-based sunscreens, providing an overview of the work done in the consortium and the results, as well as summarizing the status of the updated Sunscreen Recommendation of the European Commission.

Jeroen van den Bosch has been involved in the development of ultrafine zinc oxide products and their applications in suncare for over 25 years. He started his career in an R&D capacity at Umicore where he focused on the development of a range of zinc oxide products for sunscreens and industrial applications and started a dedicated dispersion lab focusing on dispersing and sizing techniques for nano-sized materials. From R&D he moved into various business development roles with a focus on sunscreen applications and is now heading up Uviva Technologies to bring to the market new and innovative ingredients in the suncare space. Jeroen was one of the driving forces in the Cosmetics Europe consortium responsible for the approval of zinc oxide as UV filter in Europe back in 2012 and is a member of the ISO Working Group 217 on Cosmetics.

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SATURDAY SEPT. 20TH

KIMBERLY NORMAN

SENIOR DIRECTOR, SAFETY & REGULATORY TOXICOLOGY, PCPC

Session E

Weight of Evidence: Toxicological Assessment of UV Filters

A comprehensive review of existing toxicity and human exposure data for the UV filters avobenzone, ensulizole, homosalate, octinoxate, octisalate, octocrylene, and oxybenzone was conducted to assess their safety as currently used in sunscreen formulations. Research was conducted to identify clinical and nonclinical studies that evaluated toxicity of each UV filter. Studies were primarily identified through expert state, federal, and international regulatory electronic databases to identify substance-specific information, and these results were supplemented with peer-reviewed published literature.

Relevant unpublished toxicity information generated by manufacturers, mostly obtained from the European Chemicals Agency (ECHA) database, was included. Dossiers for each UV filter were compiled, containing data on pharmacokinetics, acute and repeat dose toxicity, genotoxicity, developmental and reproductive toxicity (DART), immunotoxicity, neurotoxicity, endocrine effects, and local effects, including skin sensitization, skin irritation, photoirritation / photoallergy, and photocarcinogenicity. Importantly, these UV filters have no structural alerts for DNA reactivity and are non-genotoxic in standard in vitro/in vivo studies. These data were used to establish a point of departure for each UV filter and margins of safety (MoS) were calculated using conservatively estimated systemic doses which showed a good safety profile with MoS values generally interpreted to be acceptable and protective for non-genotoxic and non-carcinogenic assessments. Although individual animal data from some study reports are unavailable for all the UV filters evaluated, and some of the studies were conducted before GLP regulations were established, the overall data support the continued safe use of these UV filters in sunscreens to mitigate the risk of acute and chronic damage to the skin, including skin cancers.

Kimberly Norman[1], Lewis Kaufman[2], Carl D'Ruiz[3], Alexandra Kowcz[1], J F. Nash[4]

[1]Personal Care Products Council, Washington, DC, USA. [2]Scripterra Scientific LLC, Wooster, OH, USA

[3]dsm firmenich, Princeton, NJ, USA. [4]The Procter and Gamble Company, Mason, OH, USA

Kim Norman is a U.S. board-certified toxicologist, European Registered Toxicologist and serves on the Board of Directors for the American Board of Toxicology. Kim joined the Personal Care Products Council (PCPC) as Senior Director, Safety and Regulatory Toxicology, in May 2022. In this role, she supports safety related issues for cosmetic ingredients and products, leading technical committees and engaging with domestic and international science and regulatory organizations. Kim previously served as an Associate Research Fellow in Global Stewardship at the Clorox Company, and as a Senior Toxicologist and Study Director at the Institute for In Vitro Sciences (IIVS). She has worked collaboratively on the development and regulatory acceptance of numerous assays replacing animal use in the personal care industry. Kim obtained her Ph.D. from Vanderbilt University in Cell and Developmental Biology studying the increased incidence of non-melanoma skin cancer in organ transplant recipients and DNA biomarkers in aging skin.

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SATURDAY SEPT. 20TH

PABLO CANAMAS

R&D ENGINEER
HELIOSCIENCE

Session E

Non-Destructive Evaluation of Cosmetic Toxicity on Corals: A new test for Environmental Safety

The objective of this research was to develop an innovative test to evaluate the toxicity of cosmetic formulas -like suncare products- on corals without causing irreversible damage to the organisms. It is adapted to raw materials as well. The new test presented evaluates the stress response of the organism with more sensitivity, following the recommendations of the ANSES [1].

The study was conducted in collaboration with Planktovie, a laboratory specialized in aquaculture, with the aim of reusing the coral cuttings. The novel testing protocol monitors simultaneously 2 key biological responses of corals: bleaching and growth rate. Repeated observations and measurements of the weight of the cuttings allow to attest if cosmetic formulas are harmful to corals in an acute (72h) and chronic (21 days) duration, as presented in Figure 1. The test can be performed on one or three well-chosen (to limit the number of animals used) tropical reef-building coral species.

Several formulations were tested, revealing a spectrum of toxicity levels. Some products exhibited a significant stress response in the corals, manifesting in physical changes such as growth rate inhibition, and sometimes bleaching. This innovative approach allows a more accurate assessment of suncare formulas toxicity on reef-building corals. Testing both acute and chronic toxicity is essential to fully understand the immediate and long-term impacts of cosmetic formulas on corals, ensuring comprehensive environmental safety.

This test marks a major step forward in ecotoxicology, providing cosmetic industrials a method to evaluate the safety of suncare formulas and raw materials on corals in a more robust and ethical manner. It could serve as a basis for the homogenization of testing methods with a standardization purpose [2].

[1] Anses. (2022). Évaluation des risques des substances chimiques sur les récifs coralliens. (saisine 2018- SA-0241). Maisons-Alfort : Anses, 158 p. https://www.anses.fr/fr/system/files/REACH2018SA0241Ra.pdf [2] Moeller M., Pawloski S., Petersen-Thiery M. Miller I. B. Nietzer S., Heisel-Sure Y. Kellermann M. Y., and Schupp P. J., Challenges in Current Coral Reef Protection – Possible Impacts of UV Filters Used in Sunscreens, a Critical Review, *Front. Mar. Sci*, 2021; 8. DOI: 10.3389/fmars.2021.665548

Pablo Canamas is a doctor and engineer in the field of suncare products, and a great enthusiast of marine biology. After his graduation from ESPCI-PSL Paris, he acquired solid skills in physics, chemistry and biology, before leading a research project at the University of Hawaii on coral bleaching 5 years ago. After an applied PhD on the encapsulation of UV filters, Pablo now works at HELIOSCIENCE in Marseille as an R&D engineer. Since 2024, he has been setting up an ecotoxicity test on corals, with partners specializing in marine aquaculture. He is keen to propose appropriate solutions to cosmetics manufacturers and consumers and continues to raise awareness of marine biodiversity issues.

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SATURDAY SEPT. 20TH

DAVID DEMIRJIAN

PRESIDENT
MIDWEST BIOPROCESSING CENTER

Session E

Applying AI molecular discovery methods to develop novel sustainable ingredients for sunscreen applications

The development of new molecules for sunscreen formulations is a critical area of research, driven by the need to enhance protection against UV radiation while addressing safety, stability, and environmental concerns. There is a growing demand for improved absorption profiles that cover a broader range of the UV spectrum and target improved UVA/UVB critical factors. Additionally, the stability of sunscreen agents under sun exposure is crucial, as many ingredients degrade rapidly when exposed to UV light, reducing their effectiveness over time. Improvements to molecules such as sunscreens, SPF boosters, photo- protectants and antioxidants can all be effective ways of enhancing sunscreen formulations.

Designing new molecules has typically been an expensive, time-consuming approach. AI-driven molecular discovery has the potential to accelerate the design of next-generation molecules for sunscreen formulations, overcoming traditional barriers. Machine learning models and computational tools can analyze vast chemical datasets to identify promising compounds, predict their UV absorption profiles, and optimize their stability under sunlight exposure.

For example, we first utilized various training datasets and multiple regression-based deep learning architectures to predict the maximum UV absorption wavelength of various molecules accurately. This then became the basis for developing a more robust, interpretable, and generalizable predictive model based on additional information have been integrating it into a guided generative framework. We also adopted an approach that allowed AI to help design biobased molecules derived from natural, renewable sources. Integration of other relevant properties considered include toxicity, solubility, octanol-water partition, coefficient (logP), synthetic accessibility score, natural product-likeness score, molar extinction coefficient and others. Here we will discuss the promises and pitfalls of these methods and potential impact of these tools on creation of next generation molecules for sunscreen applications.

Dr. David Demirjian is President at the Midwest Bioprocessing Center, a bioprocess company developing bio-based ingredients for human health and personal care. He also serves as CEO of zuChem, Inc which focuses on the biobased production of xylitol and mannitol. Dr. Demirjian was previously President and co-founder of ThermoGen, Inc. a bioprocessing company for pharmaceutical and food industry. He is a previous winner of the Research Director's Association of Chicago "Entrepreneur of the Year Award" (1997) and recipient of the U.S. SBA "Tibbets Award" for successful commercialization of technology developed under the Federal SBIR grant program. Dr. Demirjian became VP of Technology Strategy for MediChem Life Sciences after their acquisition of ThermoGen (May 2000) and Demirjian helped lead their IPO (Oct. 2000) as VP of Technology Strategy. He holds a Ph.D. in Genetics from The University of Chicago and a B.S.A. from the University of Michigan.

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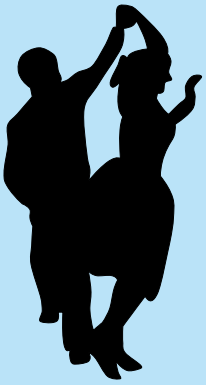

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