

Innovative solutions as main source for growth

A conversation with David Hérault, Global R&D Director Bioactives, BASF

David Hérault graduated from the chemical engineering school CPE in Lyon, France and holds a PhD in Organic Chemistry from the Heidelberg University, Germany. During the last 20 years, he has been working in the cosmetics raw materials industry (Henkel, Cognis, BASF) in various management positions from R & D to Business Management through Operations, with only a one-year break to get his MBA at INSEAD in 2002. Since about 4 years he is in charge of the development of cosmetic active ingredients for BASF as Global R & D Director Bioactives.



EURO COSMETICS: *BASF is leading the cosmetic ingredients business globally. What have been the recent major accomplishments that BASF has produced which have impacted the cosmetic industry?*

David Hérault: We innovate in all categories of functional ingredients. Within the bioactives world, we are a pioneer in anti-pollution bioactives with moringa proteins (Purisoft®) and, for example, from 2005 we began establishing a fair-trade program for supplying Argan by-products (Argan range).

We have also demonstrated our technical expertise in delivery systems with Filling Spheres® and Patch₂O®. In 2016, we launched our first bioactive, inspired by the rapidly emerging science of epigenetics (Dermagenist®), and we also take part of the increasing awareness of the importance of a well-balanced skin microbiome that is required to have a healthy skin with Relipidium®.

Thanks to a partnership with Poietis, on 3D-bioprinted skin models, we also have had the opportunity to be the first compa-

ny to test a bioactive on a laser bioprinted skin. Finally, we recently made a breakthrough in skin biology mechanisms around oily skin by using innovative 3D *ex vivo* sebaceous gland model, developed in collaboration with CTIBiotech.

EURO COSMETICS: *What is BASF's major strength that makes the company the leader that it is now?*

David Hérault: Speaking for the active ingredients business, the diversity of our team, coming from the successful integration of three past leaders of our industry (Laboratoires Serobiologiques/Coletica/Collaborative Laboratories), is a strong basis for launching creative and efficacious products. Being leader in the cosmetic ingredient market opens up many possibilities for intimate collaborations with the key cosmetic producers. We also benefit from the impressive scientific capabilities of the leading chemistry company that is BASF.

EURO COSMETICS: *Where is your main business and which growth areas are there?*

David Hérault: Anti-aging within Skin Care continues to be the main business driver, but we expect significant growth in the premium Hair Care and make-up segments.

Taking up the trends that modern consumers demand, and their growing environmental consciousness, has empowered us to continue developing sustainable and greener solutions.

Ensuring positive social or environmental impacts along the value chain and developing environmental-friendly extraction technology for plant extracts, will provide an opportunity to answer to the 2020 beauty consumers concerns.

EURO COSMETICS: *Prerequisite for innovations are effective and efficient research and development. What areas are the most interesting for BASF science exploration related to active ingredients?*

David Hérault: We identified three main science exploration territories for the future:

Epigenetics: to understand how individu-



al lifestyles influence the conditions and needs of human skin,

Microbiome: to explore the skin microflora and to develop bioactives that are capable of supporting a healthy skin microflora,

Innovative extraction and processes: to select the richest sources, and to precisely extract relevant molecules required to enhance the efficacy of our active ingredients.

To this end, we have reinforced our research facilities by creating specific innovation platforms on these three topics, and we have entered into partnerships with recognized scientific experts from both public and private research institutes.

EURO COSMETICS: *What is your main focus for the next 5 years around to direct the research towards new personalized cosmetics?*

David Hérault: Regarding our active ingredients business, we will further develop our three strategic innovation platforms and in particular monitor very closely the technological advances in the epigenetic and microbiome fields, our main entry doors towards more personalized cosmetics.

EURO COSMETICS: *Microbiome research is one of the most dynamic fields. What can*

you tell us about the new developments in this area?

David Hérault: As BASF strategy is to develop ingredients enabling the optimization of the cutaneous microbiota, we pursue our efforts to understand the switch from healthy to disturbed skin microbiote conditions thanks to clinical trials and metagenomic approaches. Moreover, we strongly believe that part of the solutions for an optimized skin microbiote resides in microbial virulence and communication management coupled with ingredients of probiotic origin, particularly living ones.

EURO COSMETICS: *Last year you've attended the 6th Microbiome R&D Business Collaboration Forum in San Diego with a talk in the skin microbiome session. Please tell us more about it.*

David Hérault: I have presented the main goals and capabilities of our Interdisciplinary Innovation Platform on skin microbiota established 2 years ago to better understand the role of each micro-organism in skin beauty. We particularly developed clinical protocols and in vitro models to study the complexity of skin microflora and skin ecosystem to help design more specific solutions adapted to each and every skin condition. To illustrate the

knowledge generated through this platform, I have also presented some results of the 6 active ingredients launched over the 2 last years. Many attendee's questions were related to the origin and detailed results of these products.

EURO COSMETICS: *What is your vision for the future of R&D at BASF?*

David Hérault: We are in an age of technological disruptions – epigenetics, microbiome, devices, social networks, big data, artificial intelligence ...

Our vision is to anticipate what they could mean for consumers. R&D will continue to play a central role in creating value from these and other emerging technologies. We have to embrace these trends as they emerge, as well as creating them ourselves. By the production of new scientific knowledge, we will support the elaboration of future marketing concepts. However, as we cannot be specialist in all topics and to shorten the time to market, we also have to rely more and more on external partners for their scientific excellence.

EURO COSMETICS: *Thank you for speaking with us.*