



## CADI™ Discovery, the BMSystems' Mechanisms-Based Medicine Research platform, passed two major milestones to address products safety issues.

PRESS-RELEASE: Paris July 24, 2014: CADI™ Discovery, the BMSystems' [Mechanisms-Based Medicine](#) Research platform, passed two major milestones to address products safety alternative testing issues:

1. Contact allergy alternative testing: First major milestone achieved: The Phase 1 program: CADI™\* model construction was successfully finalized in June 2014.
2. Toxicology alternative testing: First feasibility confirmation that "Mechanisms-based Medicine" research can be applied to toxicology and more specifically to endocrine disruptors issues.

*1-First major milestone achieved: The Phase 1 program: CADI™\* model construction was successfully finalized in June 2014.* It means that we successfully described:

- All the relevant mechanisms necessary to address potential allergens, including weak allergens, be it singly or in complex combinations,
- The patterns of cytokines that constitute mechanism-associated signatures.
- The differential effects of modulatory/regulatory feedback mechanisms.
- The necessary experimentations needed to enter into the validation phase.

Please download a [non-confidential program description paper](#), an alternative testing US institution asked us to write in order to present why and how we could harness systems-level modeling to effectively alleviate the needs for animal testing in contact allergy issues. BMSystems and its partners are now ready to meet industrial and academics partners/clients for collaborations and/or deals to develop the future systems that will combine non-animal experimentations to generate data and systems-biology simulation tool to get a viable result.

*2-First confirmation that "Mechanisms-based Medicine" research can be applied to toxicology and more specifically to endocrine disruptors issues.*

- These issues can be regarded as "non-requested activation of mechanisms" within multi-systems that are interconnected (immunology, metabolism, neurology, psychiatry, etc...).
- Understanding the relevant mechanisms and their cross-talks should be the first priority before developing the tests ensuring identification of the actual culprits.

We thank the companies (skincare, consumer goods, chemical, pharma) that contacted us after our previous announcement to ask if our CADI™ approach could be implemented on chemical pollutants, more specifically endocrine disruptors issues. The answer is definitively yes.

With these contributions, BMSystems confirms its scientific & business leadership in systems biology applied to skin physiology, a strategic domain in terms of business and R&D investments, as demonstrated by our [R&D alliance with Persistent Systems](#) (India) to propose the first integrated alternative to animal testing for contact allergy, addressing complex formulas (natural plant extracts) and low-level allergens issues and the novel potential of business the alternative toxicology testing.

BMSystems is also proud to announce *that the first reference book on Computational Biophysics of the Skin was presented during the International Society for Biophysics and Imaging of the Skin (ISBIS) World Congress in June and is now available for order on July 25, 2014\*\**. BMSystems' team and Prof. Bernard Querleux (l'Oréal Research & Innovation, ISBS\*\*) wrote the chapter *"Heuristic Modeling Applied to Epidermal Homeostasis of the Skin"*, based on CADI™ modeling and joint research program outputs.

Should you wish more specific information: [click on this link](#)

Do not hesitate to visit [our website](#) to discover our [latest news](#) in other therapeutic areas and [download our company's presentation](#)

Best regards

Manuel GEA  
Co-founder & CEO Bio-Modeling Systems

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About the Editor:

Prof. Bernard Querleux is senior research associate at the Worldwide Advanced Research center of L'Oréal Research & Innovation, France. He obtained his doctorate in electronic engineering and signal processing from the University of Grenoble, France, in 1987 and his habilitation in biophysics from Paris-Sud University, France, in 1995. Since 2005, Prof. Querleux is serving as scientific chairperson of the International Society for Biophysics and Imaging of the Skin. Apart from being an expert in functional brain imaging for the objective assessment of sensory perception, his main research interests concern the development of new non-invasive methods, including numerical modeling for skin and hair characterization.

About Bio-Modeling Systems

BIO-MODELING SYSTEMS, a disruptive innovative company founded in 2004, is the first and, to date, the only company to successfully create in-silico heuristic models validated in-vivo. BMSystems' heuristic models, built by its biologists using an integrated IT solution called CADI™ (Computer Assisted Deductive Integration), have led to discoveries, patents, and operational businesses in the fields of infectious diseases, immunology, neurology, psychiatry, oncology, dermatology cosmetics and innovative bioprocesses for industrial biotech. BMSystems' models describe the biological phenomena involved in pathological states and provide new mechanisms to explain the cause of certain diseases, identify and select predictive biomarkers, offer new combinations of molecules and new therapeutic strategies contributing to the development of Mechanism-Based Medicine. For more information, please visit <http://www.bmsystems.net>.

CADI Applications: • Multiple-Systems Multiple-Scale Mechanisms understanding • Discovery of Causal disease mechanisms • New therapeutic strategies • New associations / combinations of existing molecules • Identification of pertinent Biomarkers • R&D project evaluation: Next phase GO / NOGO decisions. • Drug re-positioning / re-profiling / rescue • New industrial biotech processes discovery

Latest news • New approach to the analysis and understanding of autoimmunity. • R&D aging programs: skin, neurology, & a novel Parkinson therapy ready for human validation • BMSystems contributes to the "Computational Biophysics of the Skin" book • R&D Project with Persistent Systems (India) to reduce the Use of Animals in Contact Allergy Testing for cosmetics • BMSystems proposes a new oncology therapeutic paradigm to address the cancer resistance issues • BMSystems becomes a global player in the digital health business with Persistent Systems. • BMSystems & Aepodia collaborates in Fibromyalgia & Facial pain.

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\* CADI (Computer Assisted Deductive Integration)

\*\* This book is available from both [CRC Press](#) and [Amazon](#)

\*\*\* ISBS: International Society for Biophysics and Imaging of the Skin