



This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 825033

**BMSYSTEMS is invited to the Polepharma Microbiota conference to present its novel, ready for validation, CADI-T2011 microbiota treatment for alleviating gastrointestinal dysfunctions and attenuate the socio-cognitive consequences of ASD. .**

ANNOUNCEMENT: Paris December 9, 2022: Following its invitation to speak at *Biofit-Event 2022*, BMSYSTEMS is invited to the 3rd edition of *the PolePhamra microbiota conference on December 14-15, 2022* to present its novel, ready for validation, CADI-T2011 microbiota treatment for alleviating gastrointestinal dysfunctions and attenuate the socio-cognitive consequences of ASD.

Many thanks to *PolePharma*, the leading European Pharma cluster, for this unique opportunity to explain how BMSYSTEMS is successfully combining since 2004, Human intelligence and Artificial intelligence to generate with its Integrative biologists CADI Discovery first in class therapeutic solutions.

Following the announcement of the publication of the world's first integrative model of ASD development outlining the mechanisms and dynamics of ASD pathogenesis from pregnancy to infancy. "*Autism Spectrum Disorders pathogenesis: Toward a comprehensive model based on neuroanatomic and neurodevelopment considerations*" ([pdf](#)), we invite you to discover our 2nd publication with Harvard Medical School presenting **a Novel Microbiome-Host Interaction Mechanistic Hypothesis**. "*Autonomic Nervous System Neuroanatomical Alterations Could Provoke and Maintain Gastrointestinal Dysbiosis in Autism Spectrum Disorder (ASD)*" ([pdf](#)),

The key conclusions of this publication: The novel host-microbiome interaction hypothesis embodied by this work can be summarized as follows:

- The neuro-anatomical alterations that underlie ASD provoke autonomic nervous system (ANS) functioning abnormalities characterized by an over-activation of the sympathetic branch of the ANS on a background of parasympathetic activity deficits;
- This induces deregulation of the gut-brain axis;
- This results in attenuation of the humoral and cellular components of the intestinal immune system, together with dysregulation of intestinal osmotic homeostasis and mucus production, with ensuing, persistent dysbiosis, which then sets-up a vicious cycle where immune and osmotic functioning abnormalities maintain a dysbiotic state which, in turn, maintains immune and osmotic dysregulation.

Taken globally, the mechanisms implemented in the context of this hypothesis can, for the first time, adequately explain:

- One of the possible origins of ASD-associated dysbiosis;
- Its persistence;
- Why improvements achieved by microbiota transfer therapy are generally transient;
- Why, in spite of persistent dysbiosis, ASD is not associated with systemic chronic low-grade inflammation (as opposed to neuro-inflammation), while all other psychiatric disorders also associated with persistent dysbiosis are;
- The origins of the unusually high incidences of gastrointestinal dysfunctions;



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- The high frequency of comorbidities such as sleep disorders, anxiety, and depression;
- Perhaps most importantly, the reasons for the very high heterogeneities in terms of forms and types of dysbioses as well as in frequencies of comorbidities associated with clinical ASD.

With a world's first in the field of neurodegenerative diseases, [1 therapeutic start-up](#), and [the launch of Telesphore-Pharma](#), BMSystems' 2nd therapeutic start-up project in 2022, this announcement confirms the excellence of BMSystems in delivering value to patients and shareholders.

Created in 2004, profitable since 2006, thanks to our recurrent clients, BMSystems addresses two complementary business targets:

- For R&D, Translational Medicine & Digital Health Executives, we offer *robust alternative decision-making to de-risk, save time and costs* of R&D and Digital Health programs,
- For Business Developers, Patients Groups & Investors, we discover *novel low-risk, highly effective and cost-effective* diagnostic, therapy, nutrition, cosmetic, bioprocess solutions for spin-offs or out-licensing.

We warmly invite you to attend [the PolePhamra microbiota conference on December 14-15, 2022](#) to meet us and [visit our new website](#) to discover our achievements in diagnostics, therapeutics, cosmetics, digital-Health and bio-processes.

Do not hesitate to contact us for more information or any business request. [Download our latest presentation](#).

Manuel GEA  
CEO Bio-Modeling Systems

#### About Bio-Modeling Systems

Bio-Modeling Systems is the world's first Mechanisms-Based medicine company that changed the discovery paradigm to create novel medical meanings from unreliable heterogeneous sources of data to generate validated & directly exploitable first in class heuristic non-mathematical mechanistic CADI™ models. Bio-Modeling Systems is a 100% biology driven company focused on discovery, and critical high impact decisions making and address the following Markets: Pharma, Cosmetics, Nutrition, Health Technologies, Connected health with its dual business model: Contractual or Collaborative R&D programs. [For all details and presentations, visit our new website](#).

For more information and access to presentations & publications, please visit <http://www.bmsystems.net>.

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