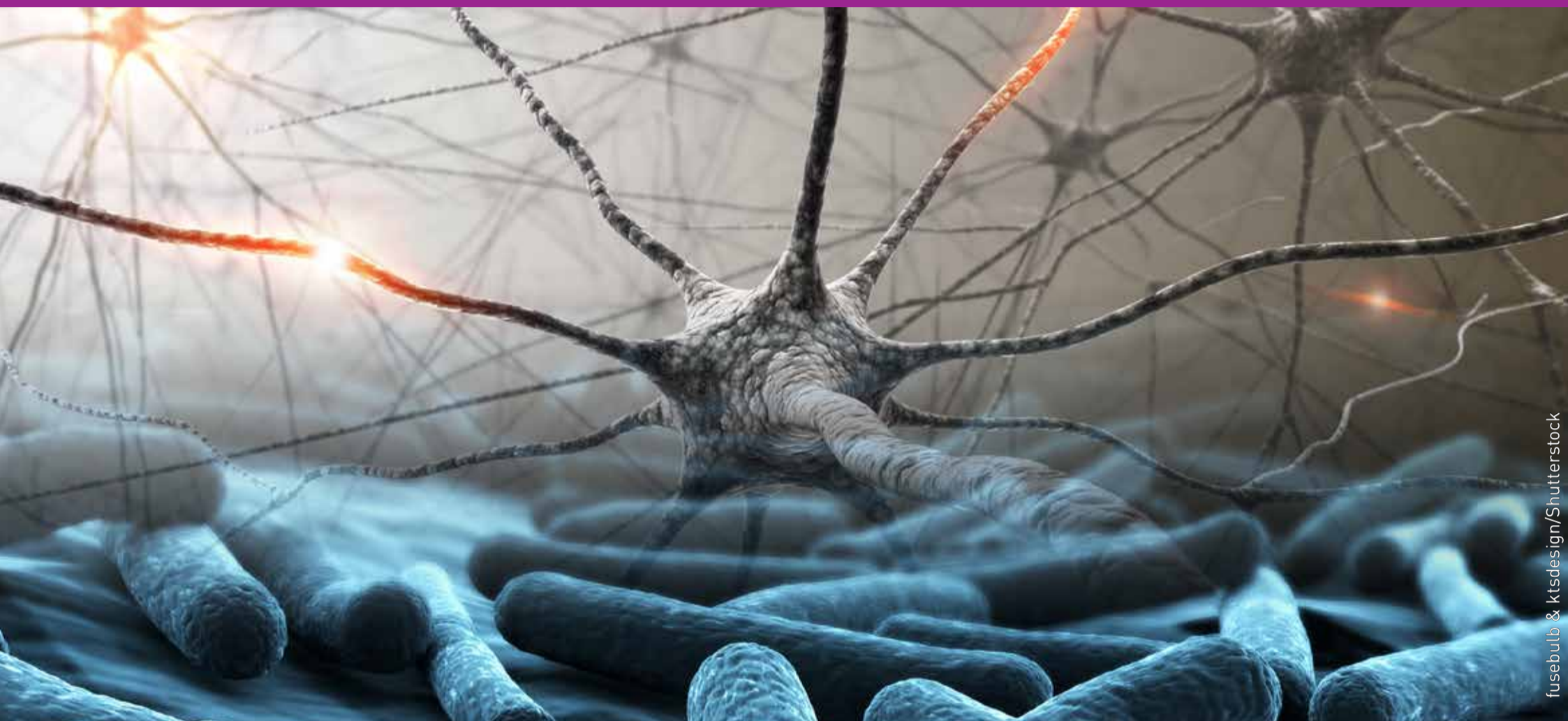




# November 13<sup>th</sup> | 6pm – 7pm

Center for Molecular Biosciences, Am Botanischen Garten 11



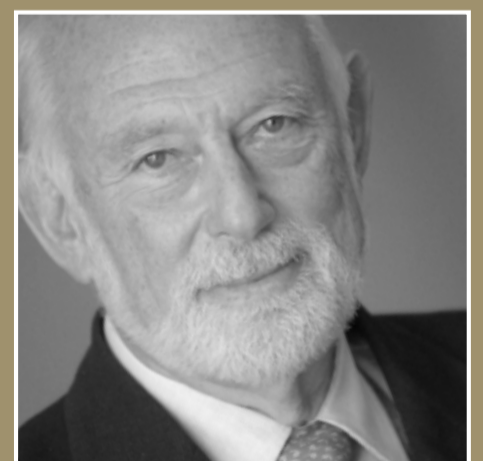
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keynote lecture, Kiel Life Science

## Crossing the borders

an interkingdom examination of the microbiome-gut-brain axis

Significant attention has begun to be paid in the last few years to the complex and diverse microbial communities with which both eukaryotes and prokaryotes partner. Evidence now exists for the importance of the gut microbiome in regulation of metabolic activity which has high relevance to obesity and Type 1 diabetes. The intestinal bacterial ecosystem also is involved in the regulation of the endocrine system at least as far as the hypothalamic pituitary adrenal axis is concerned, and we now have evidence that this “forgotten organ” is responsible for the maturation and development of the immune system. It is therefore not surprising to find that it promotes the development of the peripheral and central nervous systems, and regulates the function of the enteric nervous system and even animal behavior. As a consequence, the so-called microbiome-gut-brain axis is now the subject of intense scrutiny. Indeed it may hold a key to the health, and several diseases of the brain, such as depression and anxiety, and even autism.



by **John Bienenstock**  
The Brain-Body Institute,  
Hamilton, Canada

The lecture will attempt to describe this body of work. It will offer examples of how multiple disciplines need to come together to help further exploration of this burgeoning field. It will suggest some mechanistic and functional explanations of how these effects are occurring, which may offer new therapeutic approaches to the maintenance of health and the prevention and treatment of disease.