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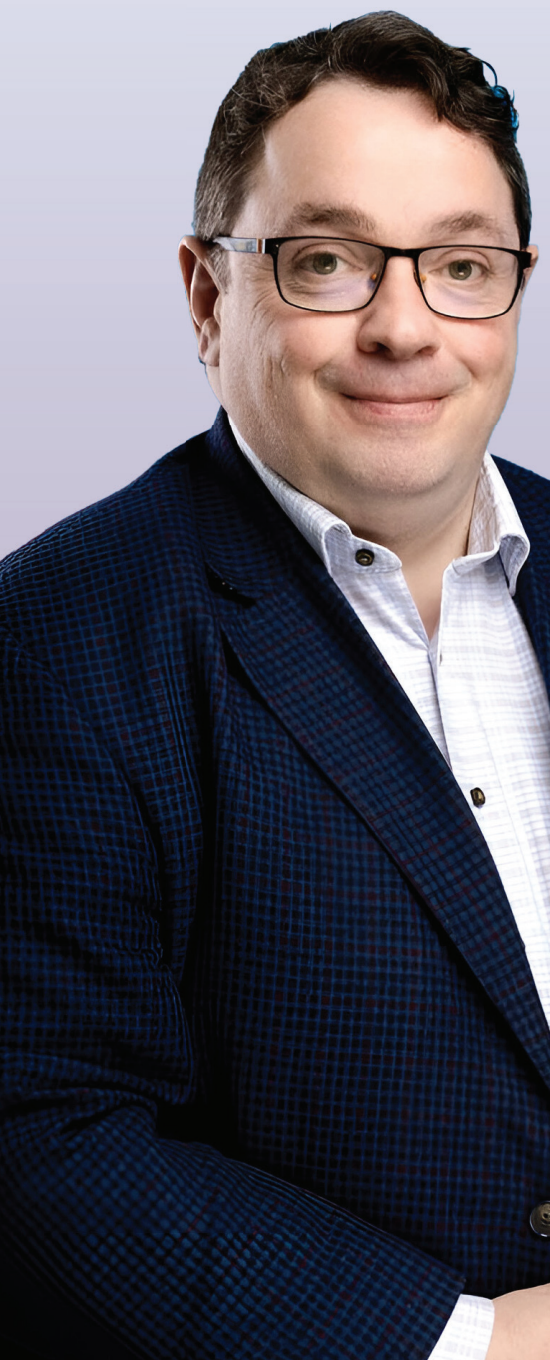
# Gut Feelings

## The Microbiome as a Key Regulator of Brain & Behaviour Across the Lifespan

The microbiota-gut-brain axis plays a critical role in neurodevelopmental, age-related, and neuropsychiatric disorders through communication pathways like the vagus nerve, immune system, tryptophan metabolism, enteric nervous system, and microbial metabolites.

Early-life factors, including birth mode, antibiotics, nutrition, infection, stress, and genetics, influence the microbiota and shape neurodevelopment and stress responses. Stress impacts this axis throughout life, with animal models highlighting the microbiome's regulation of key processes like neurogenesis, myelination, and microglial activation in the brain. Ongoing research aims to translate findings to humans, uncover mechanisms, and develop psychobiotic interventions to target the microbiota-gut-brain axis across the lifespan.



**Public Lecture by**

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**Hosted by**

**Dept of Biological Sciences & ASET Colloquium**

**Mumbai**
**February 20, 2025 at 4 PM**

**Homi Bhabha Audotorium, Tata Institute of Fundamental Research, Navy Nagar, Colaba, Mumbai 400005.**

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