

MMI 291 Seminar Series

Current Theme: Interdisciplinary Research
Spring Quarter 2025 – CRN 47397

Friday Seminar at 12:10-1 p.m.

Genome and Biomedical Sciences Facility, Room 1005

“The highs and lows of enteric infections”

Research Bio

Vanessa Sperandio is a Robert Turell Professor and Chair of Medical Microbiology and Immunology at the University of Wisconsin. Research in the Sperandio lab investigates chemical, stress and nutritional signaling at the interface amongst the mammalian host, beneficial microbiota and invading bacterial pathogens. The main tenant of research in her laboratory is the study of how bacterial cells sense several mammalian neurotransmitters leading to rewiring and reprogramming of bacterial transcription towards host and niche adaptation. She has also identified several bacterial receptors to mammalian neurotransmitters and reported that invading pathogens hijack these inter-kingdom signaling systems to promote virulence expression. She also translated these basic science concepts into strategies to develop novel approaches to anti-microbial therapy.

Publications

Fernando H. Martins, Thibaut Rosay, Anubama Rajan, Hannah E. Carter, Tayah Turocy, Andres Mejia, Jason M. Crawford, Anthony W. Maresso and **Vanessa Sperandio**.

“Enterococcus Faecalis-Derived Adenine Enhances Enterohaemorrhagic Escherichia Coli Type 3 Secretion System-Dependent Virulence”. *Nature Microbiology*, 4 July 2024, pp. 2448–2461, doi:10.1038/s41564-024-01747-1.

Santiago Cuesta, Paula Burdisso, Amir Segev, Saïd Kourrich and **Vanessa Sperandio**.

“Gut colonization by Proteobacteria alters host metabolism and modulates cocaine neurobehavioral responses”. *Cell Host & Microbe*, doi: 10.1016/j.chom.2022.09.014.

Melissa Ellermann, Alline R. Pacheco, Angel G. Jimenez, Regan M. Russell, Santiago Cuesta, Aman Kumar, Wenhan Zhu, Gonçalo Vale, Sarah A. Martin, Prithvi Raj, Jeffrey G. McDonald, Sebastian E. Winter, **Vanessa Sperandio**. “Endocannabinoids Inhibit the Induction of Virulence in Enteric Pathogens”. *Cell*, doi: 10.1016/j.cell.2020.09.022.

May
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Vanessa Sperandio, Ph.D.

Professor and Chair
Medical Microbiology and Immunology
University of Wisconsin-Madison

May 9, 2025
12:10 – 1 p.m.

Genome and
Biomedical Sciences
Facility, Room 1005

In-person presentation

Medical Microbiology and
Immunology
School of Medicine

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We hope to see you there!