UC DAVIS HEALTH | SCHOOL OF MEDICINE

**Medical Microbiology and Immunology**
MMI 291 Seminar Series
Emerging Challenges in Microbiology and Immunology

# MMI 291 Seminar Series

Current Theme: Interdisciplinary Research
Fall Quarter 2025 – CRN 38614

## Friday Seminar at 12:10-1 p.m.
## GBSF Auditorium, Room 1005

## "Gut dysbiosis: ecological causes and causative effects on human disease"

### Research interests

**Bäumler's** laboratory performed pioneering work on understanding the dynamics of gut-associated microbial communities during inflammation and the regulation of the composition and function of our microbiota by the cells of the intestinal epithelium. His group was able to show that cellular respiration by intestinal cells and their energy metabolism play essential roles in this homeostatic response. If, for example, intestinal cells change their metabolism during inflammation, the composition of the microflora changes, resulting in so-called dysbiosis, which can have a decisive influence on the course of the underlying disease state, such as in the case of intestinal inflammatory conditions, but also in the setting of cancer, cardiovascular disease, or cognitive dysfunction (and many others). Bäumler's research provides completely new and original starting points for restoring the balance between microbiota and the human body in these diseases.

### Publications

Sebastian E. Winter, and **Andreas J. Bäumler**. "Gut dysbiosis: Ecological causes and causative effects on human disease". *PNAS* 2023 Dec https://doi.org/10.1073/pnas.2316579120

Jee-Yon Lee, Renée M. Tsolis, **Andreas J. Bäumler. "**The microbiome and gut homeostasis". *Science* 377, 2022 July https://doi.org/10.1126/science.abp9960

Oct. 17

**Andreas Bäumler, Ph.D.**
**Distinguished Professor**
**Vice Chair of Research**
**Medical Microbiology and Immunology**
**University of California, Davis**

**Oct. 17, 2025**
**12:10 – 1 p.m.**
**GBSF Auditorium**
**Room 1005**
**In-person presentation**

Medical Microbiology and Immunology
School of Medicine

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We hope to see you there!