



Research Sprint

Urobiome Research Interest Group (URIG)

Group Leads: Lisa Karstens and Nicole De Nisco

Investigators in the Urobiome Research Interest Group are interested in understanding how microbes colonize, persist, interact with other microbes and with the host, change over time, interact with other microbiomes (e.g., gut), and contribute to health and disease.

Additionally, we seek to understand where microbes are located throughout the urinary tract, why they are located there, how they function, and influence host health and disease.



Critical Gaps in Knowledge

Factors influencing colonization dynamics

- If we want to develop treatments and diagnostics, need to understand microbial colonization needs
- Could understand how to modify the host environment

Functional characterization of host and microbe

- Who is there is not enough; need to know what they do
- Could better target microbes that are pathogenic and promote those that are beneficial; could also be beneficial for profiling, biomarkers, risk stratification

Clinical applications

- How to translate bench to bedside; make science actionable for clinicians and patients
- Basic science should inform clinical practice

Lack of knowledge for what constitutes health and disease

- What actually needs intervention? All mechanistic studies build upon what is "normal" or healthy
- Could work on a review together to identify what we do and don't know

Research Barriers



Join at
slido.com
#3447 052

Model systems

- Current animal models do not recapitulate the human urogenital environment
- We could better model urobiota interactions in a complex host environment for discovery of therapeutics and functional understanding

References and resources

- The reference databases that underly computational methods often do not include urobiome species, meaning that they will not be correctly inferred/ the results will be inaccurate
- Higher confidence in the findings

Clinical acceptance, collaboration, interactions, advocacy

- Acceptance of the urobiome among clinicians (urine is sterile), understanding of beneficial versus pathogenic microbes in clinicians and patients
- Not misdiagnose and overtreat IUTS

Diagnostic imprecision, heterogeneous expression

- IUTS are highly prevalent but often ill-defined, heterogeneous and clinically challenging to manage
- Better classification and more personalized treatments

Upcoming URIG Sessions

Organizers: Mike Neugent, PhD and Keisha Harrison, PhD

October 17 - **Nicole Gilbert, PhD** (Washington University); **Michael Neugent, PhD** (UT Dallas)
 November 21 - Focused strategy discussion
 December 3-5 - **CAIRIBU Annual Meeting** (in person, Madison, WI)
 December 19 - Knowledge exchange, speakers TBD
 January 16 - Strategic discussion/planning
 February 20 - Knowledge exchange, speakers TBD
 March 20 - Strategic discussion/planning
 April 17 - Knowledge exchange, speakers TBD
 May 15 - Strategic discussion/planning



Calling all trainees

Interested in presenting at an upcoming URIG Session? Let us know!

Available dates for knowledge exchanges:

Fri., December 19
 Fri., February 20
 Fri., April 17

- Mike Neugent and Keisha Harrison will schedule the knowledge exchanges
- If you are interested in presenting, contact CAIRIBU@urology.wisc.edu
 - Your information will be passed on to Mike and Keisha

