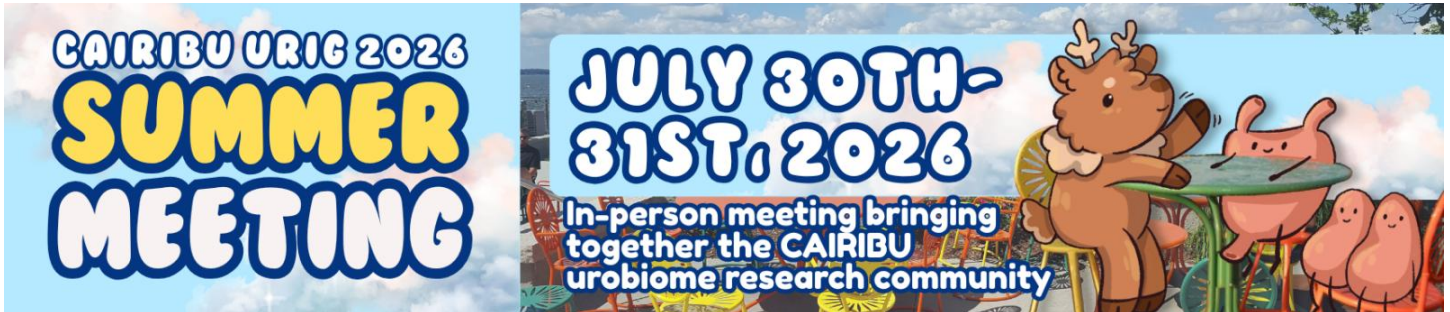




CAIRIBU Urobiome Research Interest Group Summer Meeting

Goals: Review discussions held during break-out sessions pertaining to clinical outreach and research barriers: the need for microbial, animal, and non-animal models, and a review of organ-specific microbiomes

Summary of Small Group Meetings on Wed. and Thurs., July 30-31, 2026



Clinical Outreach Meeting

Clinical Education and Implementation of Knowledge

- Participants agreed that **education of the urinary microbiome (urobiome) should extend beyond urologists**, as many clinicians and scientists still are unfamiliar with its existence and clinical relevance.
- Participants noted that established clinicians are skeptical of the urobiome. Even those who acknowledge its existence do not change the way they practice medicine and consider additional testing unnecessary.
- Often clinicians are overtreating urinary tract infections (UTI) with unnecessary antibiotics. Quick antibiotics can do more harm than good.

Conveying Message

- Find a way to balance academic rigor and ease of understanding to ensure messages are understood efficiently.
- Patients are their best advocates; they should be educated on urobiome for UTIs, not just clinicians.
 - Educate young females in particular as they often experience higher UTI rates.
- **Target a younger audience while they are still trainees** as they'll be easiest to influence and can help initiate change. Target age was identified as <30 years old.
- **Create a coordinated campaign with a clear message**, possibly using social media (TikTok, YouTube) or existing podcasts and journals.
- Link social media posts (images and short-form content) to resources for more in-depth information.
- **Publish a paper describing not only the existence of the urobiome** but also the experience of editors not thinking it's important.
- Create a community statement using plain language to make the knowledge more accessible.
- **Apply for grants in science communication** to find funding to get the message created and spread.

Reduce Stigma and Correct Myths

- Participants agreed upon a list of “bad advice” and “did you know” statements for a slide presentation.
 - **Bad advice included:** wipe differently, you're dirty if you have a UTI, and if you do not pee after sex, you will get a UTI. These comments were more appropriately classified as “myths” rather than advice.
 - **Did you know section included:** not everyone's UTIs are the same, antibiotics are sometimes needed but starting them too early can cause harm, UTI symptoms can self-resolve – 40% of women clear UTIs on their own, not all bacteria are bad – most are beneficial, and we need bladder bacteria in balance.
- Many patients are afraid of hospitalization from UTIs if they do not immediately get antibiotics, yet less than 2% of patients with UTIs end up being hospitalized.

Barriers: Microbial Models

- ***MSystems was identified as a target journal for a review paper.***
- There is a need for microbiologists to consider the microbes and individual microbial strains they use with respect to their appropriateness as model microbes to answer their desired research questions.
- Need to promote awareness that many microbes in urobiome are present in other environments.
- ***Across microbial niches, researchers should consider the selection of strains, how representative they are, and how they are modeled.***
- If a study's purpose is to conduct basic research to understand microbes' functions and translate that to biologically relevant conditions, there are currently no existing models.
- Based on a study's purpose, researchers must identify which microbial species to study based on the demographics of the intended population.
- Existing data sets should quantify dominant taxa across studies and populations.
 - ***Populations lacking existing data are areas to further characterize***
 - In groups with existing data – prevalent species need to be identified
- Choosing representative strains should be systematic and not based on historic or random selection. Phylogenetic analysis can be helpful for finding dominant clades/types.
 - But lack of genomes available to conduct phylogenetic analysis points to the need for more genomic information.
- Finally, experimental methods should reflect the study's purpose; unfortunately, defined media are not available.

Barriers: Host Models (Animal and Non-Animal Models)

- The group mapped out a plan to generate a ***review paper aimed at urobiome researchers and clinician-scientists*** to review the pros and cons of various models that have been used to study urogenital diseases.
 - The introduction will provide an overview of what is broadly known about the human urobiome in health and disease and why models are needed.
- Components to be reviewed for each model include:
 - How the model has been used broadly (e.g., what disease / urological conditions?)
 - What information is known about the model's urobiome and similarity to humans?
 - Basic biology
 - Logistics
 - Key pros and cons
- The paper will close with future perspectives and key challenges.
- The group selected several models to write about; different group participants will write about different models following the component outline. The group will reconvene in October.

Barriers: Review of Organ-Specific Microbiomes

- The group's goal was to ***inform the urobiome research community of biological concepts, tools, and technologies in other microbiome spaces.***
- The paper would start with a brief overview of how research in different microbiome spaces (gut, vaginal, etc) started and progressed over time.
- The next section would discuss commonalities and unique features between microbiomes: characteristics at the bug and host interface levels, microbial ecology, and effects of environmental exposures on different microbiomes.
- ***The focus of the article would be to review the model systems and technologies prevalent in different microbiome fields and identify unique challenges of the urobiome field.***
- Finally, the article would end with an overview of the cross-organ studies that have been done and the broader health relevance of urobiome research.

Trainee Writing Group

- ***There is a need for intentional microbiome outreach to recruit trainees.***
- Participants worked on personal statements, fellowships, papers, CVs.
- Trainees were able to ask the facilitators for career advice.
- Trainees were advised that they will develop their distinct writer's voice over time as they write more.
- Trainees were challenged to learn to write with the reader in mind. Writing in active voice makes it more understandable to a reader.
- Regarding AI usage in writing – Dr. De Nisco warned of erasing or stifling one's human voice when using AI.