URO-AGING RESEARCH INTEREST GROUP

Connecting uro-aging interested investigators and trainees to advance uro-aging science

Uro-Aging Monthly Virtual Knowledge Exchanges & Discussions

4th Mondays of each month, 3:00 PM Eastern (2 PM Central | 12 PM Pacific)

Logistics, coordination, and outreach by CAIRIBU Interactions Core staff

Sept. 22, 2025	**Uro-Aging Research Interest Group Launch** • 3:00 – Welcome • 3:05 – Introduction to the group • 3:10 – Short intros from participants • 3:40 – Summarize results of CAIRIBU uro-aging research sprint • 3:50 – Open forum *Follow-up for RIG leaders – What do investigators want from this RIG? What can be achieved over the next 12 months? Who should we invite to speak to the group?*	**Indira Mysorekar, PhD** (Baylor College of Medicine) and **Scott Bauer, MD, MS** (University of California San Francisco)
Oct. 27, 2025	**Speakers** 1. Topic TBD (20 min + 10 min Q&A) 2. Topic TBD (20 min + 10 min Q&A)	Name #1 TBD and name #2 TBD
Nov. 24, 2025	**Speakers** 1. Topic TBD (20 min + 10 min Q&A) 2. Topic TBD (20 min + 10 min Q&A)	Name #1 TBD and name #2 TBD
Dec. 22, 2025	**Discussion**	
Jan. 26, 2026	**Speakers** 1. Topic TBD 2. Topic TBD	Name #1 TBD and name #2 TBD
Feb. 23, 2026	**Speakers** 1. Topic TBD 2. Topic TBD	Name #1 TBD and name #2 TBD
Mar. 23, 2026	**Discussion**	
Apr. 27, 2026	**Speakers** 1. Topic TBD 2. Topic TBD	Name #1 TBD and name #2 TBD
May 25, 2026	**Summary**	

From the Uro-Aging Research Interest Group at the CAIRIBU Research Sprint, July 18-19, 2025

Critical Gaps in Knowledge *(from Day 1 summary slides)*

Framework for uro-aging model development

- Models across the translational spectrum have different degrees of overlap. Knowledge leaps will occur at the intersection of models. So we need to identify where those overlaps occur.

Resilience for age-related declines

- Protective factors that prevent disease, dysfunction, damage
- Relevant to entire translational spectrum, but definitions vary widely depending on level of translation

Heterogeneity in age-related urological syndromes

- Deep phenotyping, heterogeneity in treatment response, overlapping and interacting mechanisms
- Advance analytics likely required (AI, machine learning)

Intervention testing

- Anti-aging and pro-resilience interventions already proven in other diseases/systems. Need urologic-specific targets.
- Leverage advances from other fields, already-established target effects and safety

Research Barriers *(from Day 1 summary slides)*

Lack of investment in conditions affecting older people

- Funding, expertise, inappropriate models, lower visibility science and societal impact, pipeline
- Better treatments for those most affected and in need

Lack of shared language/vocabulary across translational spectrum

- Better cross-disciplinary collaborations and advances
- Faster translation

Lack of engagement from other aging fields

- Missed opportunity to leverage their advances and knowledge
- Multidisciplinary solutions

Sex-specific tools and models

- Different environmental dynamics and susceptibilities, different manifestations, different burden of risk factors
- More personalized interventions and mechanistic understanding

Key Question/ General Mission Statement *(from Day 2 summary slides)*

Develop a Framework for LUT Rejuvenation: The Big Beautiful Pee in P(eace), Pee-s-OUT

Research Questions and Research Needs *(from Day 2 summary slides)*

Research questions:

1. Does aging change male and female bladder-muscle responses?
2. Can it be reversed/ameliorated using:
    a. **KNOWN agonists and antagonists** (e.g. cholinergics, purinergics, muscarinics)?
    b. Hormones, estradiol and testosterone?
    c. Existing entities identified via integrated analyses?
    d. Newly-identified modalities (could be applied iteratively to bladder urethra, prostate) – inclusive of cell types?

Research needs:

1. Prelim data on treatments, outcomes – From urologists and urogynecologists
2. Develop a systematic prioritization pipeline to identify interventions most likely to benefit LUT/bladder function by:
   a. Integrating multi-omics data from other systems (muscle, cardiovascular, gut) (Including exercise/CR/young blood)
   b. Integrating what we know about bladder aging to map shared mechanistic nodes
3. Conduct a Delphi consensus with urology, geroscience, and systems biology experts; rank interventions based on mechanistic overlap, safety profile, and feasibility (need bioinformatics colleagues)
4. MONEY (industry-sponsored trials, NIH, foundations, philanthropy)

Prioritized research questions:

1. **Test Known Treatments**
   a. Mouse models – Chad, Teresa (Lori…)
      - Test cytometry and other functional aspects in mice, VSA, dose response curves (prelim data with Chad)
      - Try to get prelim data from other animals - monkeys, dogs, cats, eg. Roz Anderson
      - Hormone treatments and measurement – Teresa, also include Indira
   b. Cell lines (urothelial and muscle cells in vitro) – Laura Pascal
   c. Organoid/organ on chip models - Indira, Zohreh
   d. Identify new targets via Glycomics, metabolomics, others… – Indira, Zohreh (Doug, Chad)

2. **Human - compare with mice and organ models; bioinformatics and functional tests** (for bioinformatics colleagues, suggest names)
   a. Physiological measures
   b. Molecular measures
   c. Functional aspects
   d. Test cytometry and other functional aspects in mice and compare with humans
   e. Barrier function, (industry sponsored trials or NIH?

3. **Physiological measurements** (Scott, physiologists?)
   a. Treatment response
   b. Sensation and physiology (urodynamics, uroflow, retention – cross connect with UroVoiding group
   c. Efferent activity – voiding dysfunction
   d. Biobank (capture) urine samples; shed epithelial cells; shed immune cells – cross connect with UroVoiding group

4. **Outcomes data** (Alison)
   a. Symptoms improvement
   b. Prioritize measures

5. **Bring in new aging interventions** (all)
   - Nutraceuticals