

Annual CAIRIBU Meeting Program: December 2-3, 2021

Identifying and Bridging Knowledge Gaps

Program Committee: Jonathan Barasch (Columbia Univ U54), Kelvin Davies (Albert Einstein P20), Maria Hadjifrangiskou (Vanderbilt Univ P20), Indira Mysorekar (Washington Univ P20; now at Baylor College of Medicine), Emily Davidson (MCW P20), Kyle Wood (UAB P20), John Brannon (Vanderbilt P20), LaTasha Crawford (UW-Madison KURc)

Abstracts & Poster Session Committee: Dale Bjorling, Aruna Sarma, Sylvia Suadcani



Meeting at a Glance (times in the table are Eastern Standard Time)

9:45 AM		WELCOME BACK! – 9:45 a.m.
10:00	CAIRIBU TRAINEE/ ESI “PRE-MEETING” 10:00-12:15 p.m.	SESSION 3 - CAIRIBU K12 Scholars & U54 Center Opportunity Pool Awardees 10:00-11:00 a.m.
10:15		
10:30		
10:45		
11:00		
11:15		
11:30		
11:45		SCIENTIFIC SESSION 4 <i>Therapeutic Advances for Benign Urology</i> 11:00-12:30 p.m.
12 noon		
12:15 PM		
12:30		WELCOME – 12:30-1:00 p.m.
12:45		POSTER SESSION 5 12:30-1:15 p.m.
1:00	POSTER SESSION 1 1:00-1:45 p.m.	BREAK – 30 min
1:15		
1:30		
1:45	SCIENTIFIC SESSION 1 <i>Knowledge Gaps in Benign GU Research</i> 1:45-3:15 p.m.	SPEAKER 2 – 1:45-2:15 p.m.
2:00		
2:15		
2:30		
2:45		
3:00		SCIENTIFIC SESSION 5 <i>Collaborative Research in Benign Urology</i> 2:15-3:45 p.m.
3:15	POSTER SESSION 2 3:15-4:00 p.m.	BREAK – 15 min
3:30		
3:45		
4:00	BREAK – 30 min	CAIRIBU INTERACTIONS SESSIONS <i>Select one of 3 options</i> (see descriptions below) 4:00-6:00 p.m.
4:15		
4:30	SPEAKER 1 – 4:30-5:00 p.m.	
4:45		
5:00	POSTER SESSION 3 5:00-5:45 p.m.	
5:15		
5:30		
5:45	SCIENTIFIC SESSION 2 <i>Resources for Benign GU Research</i> 5:45-7:15 p.m.	AWARDS
6:00		SOCIAL NETWORKING (mix of structured & unstructured) 6:15-7:30 p.m.
6:15		
6:30		
6:45		
7:00		
7:15	POSTER SESSION 4 7:15-8:00 p.m.	
7:30		
7:45		
8:00		

Times below are Eastern Standard Time

THURSDAY – DECEMBER 2, 2021 | 12:30-8:00 PM EASTERN TIME

12:30pm **WELCOME:** Julie Barthold, MD & Deepak Nihalani, PhD; NIH/NIDDK Program Officers
OVERVIEW & ANNOUNCEMENTS: Kris Penniston, PhD, PI CAIRIBU Interactions Core

POSTER SESSION 1 – Poster numbers and presenters

1:00pm (1) Odom, Michael; (2) Lim, Chae Hee; (3) Morales, Grace; (4) Wells, Shane; (6) Gonzalez, Eric;
(7) Lim, Tze Yin; (8) Whittemore, Greg; (9) Miles, Hannah; (10) Sandhu, Jaskiran; (43) Liu, Teresa

SESSION 1: KNOWLEDGE GAPS IN BENIGN GENITOURINARY RESEARCH

Moderators **Lauren Baker, PhD, DVM** (UW-Madison KURe Program)
Giulia Lane, MD, MS (University of Michigan KUroEpi Program)



1:45pm **Alison Huang, MD** (UCSF-Kaiser Permanente KUroEpi Program)
Knowledge gaps related to the burden of non-cancerous genitourinary diseases

1:55 **Jonathan Schmitz, MD, PhD** (Vanderbilt University P20 Exploratory Center)
Integration across disciplines in clinical microbiology and urology

2:05 **Jill Macoska, PhD** (University of Wisconsin-Madison U54 O'Brien Center) Dr. Macoska is at UMass Boston
Health disparities in benign urology: gaps and bridges

2:15 **Don DeFranco, PhD** (University of Pittsburgh U54 O'Brien Center)
Roles of mitochondria in BPH

2:25 **Wenkuan Xin, PhD** (University of Tennessee Health Science Center P20 Exploratory Center)
G protein-coupled bitter taste receptors suppress BK channels and enhance urinary bladder smooth muscle contractility

2:35 **John Knight, PhD** (University of Alabama at Birmingham P20 Exploratory Center)
Sources of urinary oxalate: unknowns and future research directions

2:45 **Ali Gharavi, MD** (Columbia University U54 O'Brien Center)
Opportunities for application of genomic medicine in benign urology

2:55 **Moderated discussion (20 min)** – led by session moderators

Check out the
[CAIRIBU website](#)

POSTER SESSION 2 – Poster numbers and presenters

3:15pm (11) Hayes, Byron; (12) Martino, Jeremiah; (13) Steers, Nicholas; (14) Chaturvedula, Thrishna; (15) D'Arcy, Quentin; (16) Advani, Sonali; (17) Ke, Juntao; (18) Madigan, Caroline; (19) Adrian, Alexis; (50) Binoy Joseph, Diya

4:00 pm **30 MINUTE BREAK**

4:30pm **KEYNOTE LECTURE & DISCUSSION**

Katherine R. Amato, PhD – “*The gut microbiome and health inequities*”



Dr. Amato is an Assistant Professor of Anthropology at Northwestern University in Chicago. She is the Associate Editor of the journal *Microbiome* and a CIFAR Fellow in the Humans and the Microbiome Program. Dr. Amato is a biological anthropologist who studies the gut microbiota in the broad context of host ecology and evolution. Her work has been supported by grants from the National Science Foundation, NIH, and the National Geographic Society. Link to Dr. Amato's 2021 publication in *PNAS*, “[The human gut microbiome and health inequities.](#)”

POSTER SESSION 3 – Poster numbers and presenters

5:00pm (20) Sarna-McCarthy, Marissa; (21) Kisby, Cassandra; (22) Gupta, Yask; (23) Hudson, Chandler;
(24) Zhang, Han; (25) Peterson, Nelson; (26) Steadman, Casey; (27) Davidson, Emily; (28) Pascal, Laura

(Thursday, December 2, 2021, continued – CAIRIBU 2021 Identifying and Bridging Knowledge Gaps)

SESSION 2: RESOURCES FOR BENIGN GENITOURINARY RESEARCH

Moderators **LaTasha Crawford, VMD, PhD** (UW-Madison KURe Program)
Alexis Adrian, PhD candidate (UW-Madison U54 O'Brien Center)



- 5:45pm **Anne-Catrin Uhlemann, MD, PhD** (Columbia University U54 O'Brien Center)
Establishing and sharing microbial genomics resources to support UTI research
- 5:55 **Doug Strand, PhD** (University of Wisconsin-Madison U54 O'Brien Center) Dr. Strand is at UT Southwestern
Human tissue and data resources for benign genitourinary research
- 6:05 **Renee Vickman, PhD** (NorthShore University HealthSystem P20 Exploratory Center)
In vivo modeling of TNF-antagonist therapy for suppressing BPH
- 6:15 **Emily Davidson, MD** (Medical College of Wisconsin P20 Exploratory Center)
Pilot of an EHR-integrated clinical care pathway for women's urinary incontinence
- 6:25 **Kyle Wood, MD** (University of Alabama at Birmingham P20 Exploratory Center)
Kidney stones: resources to answer research questions
- 6:35 **Kevin Wang, PhD** (Duke University P20 Exploratory Center)
Computational modeling of shockwave and laser lithotripsy
- 6:45 **Justin Ziemba, MD, MEd** (Children's Hospital of Philadelphia (CHOP)-University of Pennsylvania P20 Exploratory Center)
The promise of machine learning analysis of diagnostic imaging to augment clinical decision making for the treatment of renal stone disease
- 6:55 **Moderated discussion (20 min)** – led by session moderators

POSTER SESSION 4 – Poster numbers and presenters

7:15pm **(29) Townsend, Justin; (30) Lavery, Thomas; (31) Baker, Lauren; (32) Luebke, Marie; (33) Nnamdi, Ihejirika; (34) Schroeder, Elise; (35) Keil Stietz, Kimberly; (36) Mora, Eduardo; (37) Everett, Ross; (49) Igarashi, Taro**

FRIDAY – DECEMBER 3, 2021 | 9:45-6:15 PM EASTERN TIME

9:45am **WELCOME BACK** - Kris Penniston, PhD, PI CAIRIBU Interactions Core
- Introduction to new CAIRIBU P20 Center (Bernadette Zwaans, PhD)

SESSION 3: K12 SCHOLAR “FLASH TALKS”

Moderator – **Jim Hokanson, PhD** (Medical College of Wisconsin P20 Exploratory Center; former Duke KURe Scholar)

10:00-11:00 am

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|---------------------------------|------------------|--|
| 1. Scott Bauer, MD, ScM | K12 Scholar alum | UCSF-Kaiser Permanente KUroEpi Program |
| 2. Tanya Sysoeva, PhD | K12 Scholar alum | Duke University KURe Program |
| 3. David Bayne, MD, MPH | K12 Scholar | UCSF-Kaiser Permanente KUroEpi Program |
| 4. Casey Steadman, PhD | K12 Scholar | Duke University KURe Program |
| 5. Heidi Wendell Brown, MD, MAS | K12 Scholar alum | UW-Madison KURe Program |
| 6. Eva Raphael, MD, MPH | K12 Scholar | UCSF-Kaiser Permanente KUroEpi Program |
| 7. LaTasha Crawford, VMD, PhD | K12 Scholar | UW-Madison KURe Program |
| 8. Petra Popovics, PhD | K12 Scholar alum | UW-Madison KURe Program |
| 9. Matt Grimes, MD | K12 Scholar | UW-Madison KURe Program |
| 10. Teresa Liu, PhD | K12 Scholar alum | UW-Madison KURe Program |
| 11. Maryellen Kelly, DNP, MHSc | K12 Scholar alum | Duke University KURe Program |
| 12. Giulia I. Lane, MD, MS | K12 Scholar | University of Michigan KUroEpi Program |

(Friday, December 3, 2021, continued – CAIRIBU 2021 Identifying and Bridging Knowledge Gaps)

SESSION 4: THERAPEUTIC ADVANCES IN BENIGN GENITOURINARY RESEARCH

Moderators **Tanecia Mitchell, PhD** (University of Alabama at Birmingham P20 Exploratory Center)
Connor Beebout, PhD candidate (Vanderbilt University P20 Exploratory Center)

- 11:00am **Jonathan Barasch, MD, PhD & Cathy Mendelsohn, PhD** (Columbia University U54 O'Brien Center)
Repair of the healthy and diseased urothelium
- 11:10 **Chad Vezina, PhD** (University of Wisconsin-Madison U54 O'Brien Center)
Beyond alpha blockers and 5ARIs: do anti-fibrotics have potential?
- 11:20 **Naoki Yoshimura, MD, PhD** (University of Pittsburgh U54 O'Brien Center)
NGF-targeting therapy for prostatic inflammation and LUTS
- 11:30 **Kelvin Davies, PhD** (Albert Einstein College of Medicine P20 Exploratory Center)
Topically delivered nitric oxide acts synergistically with an orally administered PDE5 inhibitor in eliciting an erectile response in a rat model of radical prostatectomy
- 11:40 **Udai Singh, PhD** (University of Tennessee Health Science Center P20 Exploratory Center)
Role of microRNAs in the experimental autoimmune cystitis
- 11:50 **Indira Mysorekar, PhD** (Washington University P20 Exploratory Center) Dr. Mysorekar now at Baylor College of Medicine
New frontiers in therapeutic regimens for treatment of UTI
- 12:00 **Zachary Dionise, MD** (Duke University P20 Exploratory Center)
Advances in in vitro laser lithotripsy research: role of cavitation and the development of a novel kidney phantom model
- 12:10 **Moderated discussion (20 min)** – led by session moderators

POSTER SESSION 5 – Poster numbers and presenters

12:30 **(5) Skalitzky, Kegan; (38) Jaumotte, Juliann; (40) Spiegelhoff, Audrey; (41) Grimes, Matthew; (42) Crivelli, Joe; (44) Ambrogi, Marcela; (45) Stangis, Maggie; (46) Ruthig, Victor; (47) Maxwell, Sarah; (48) Flores, Viktor**

1:15 pm **30 MINUTE BREAK**

1:45pm KEYNOTE LECTURE & DISCUSSION

Carl Kesselman, PhD – “*Translational computer science to support system-level biomedical science*”

Dr. Kesselman is the University of Southern California Dean's Professor in the Viterbi School of Engineering Epstein Department of Industrial and Systems Engineering and Professor of Computer Science and Preventative Medicine at Keck School of Medicine. He is the Director of the USC Center for Discovery Informatics and an Information Sciences Institute Fellow. Link to Dr. Kesselman's 2021 publication in *J Comput Sci*, “[Translating the grid: how a translational approach shaped the development of grid computing.](#)”



SESSION 5: COLLABORATIVE RESEARCH IN BENIGN GENITOURINARY RESEARCH

Moderators **Hannah Miles** (UW-Madison U54 O'Brien Center) & **Michael Odom, PhD** (Duke University KURe)

- 2:15pm **Kris Penniston, PhD** (UW-Madison CAIRIBU U24 Interactions Core)
Collaborative research in benign urology – challenges and potential
- 2:25 **Laura Pascal, PhD** (University of Pittsburgh U54 O'Brien Center)
Cdh1+/- mouse as a model for BPH and LUTS
- 2:35 **Simone Sanna-Cherchi, MD** (Columbia University P20 Exploratory Center)
Collaborative framework for studying the genetics of urinary tract malformations
- 2:45 **Grace Morales, PhD candidate** (Vanderbilt P20 Exploratory Center)
Collaboratively-developed pipeline for analysis of microbial genomes
- 2:55 **Katie Fischer, MD & Yuemeng Li, PhD candidate** (CHOP-UPennsylvania P20 Exploratory Center)
Collaborative approach to building a machine learning model for clinical urology

Check out the
[CAIRIBU website](#)

(Friday, December 3, 2021, continued – CAIRIBU 2021 Identifying and Bridging Knowledge Gaps)

3:05pm **Joan Neuner, MD** (Medical College of Wisconsin P20 Exploratory Center)
Developing a women's incontinence registry: collaboration between primary care, subspecialty, and informatics researchers

3:15 **Jonathan Pollack, MD, PhD** (Stanford University U54 O'Brien Center)
Stanford O'Brien Center update

3:25 **Moderated discussion (20 min)** – led by session moderators



3:45pm **15 MINUTE BREAK**

CONCURRENT CAIRIBU INTERACTIONS SESSIONS 4:00-6:00 pm (select one)

1) What does benign GU research need to advance?	2) Building psychologically safe teams (Betsy Rolland, PhD)	3) Translational teams (Allan Brasier, MD)
<p><i>THIS SESSION WILL BE RECORDED FOR FUTURE VIEWING & ORGANIZED VIRTUAL DISCUSSION</i></p> <p>Thought leaders in various areas of benign urological research will address, <i>“What the field of benign GU research needs is ...”</i>:</p> <ul style="list-style-type: none"> • A clinical/translational approach to benign prostate research • A bench-to-bedside pipeline for benign prostate research • A comprehensive genome atlas program for benign bladder research • Diversity in genitourinary genetics research • A standardized approach to using big data techniques in urinary microbiome research 	<p>Dr. Betsy Rolland, Director of Team Science & Research Development at the University of Wisconsin Institute for Clinical and Translational Research, will introduce participants to the concept of psychological safety, a key predictor of and contributor to team effectiveness. As defined by Dr. Amy Edmondson, a safe psychological environment is one in which team members feel safe taking risks and speaking up without fear of reprisal. A psychological safe environment promotes equity and belonging. Participants will understand what psychology safety is and isn't, recognize signs for when it is and isn't present on a team, understand why psychological safety is important to science teams, learn strategies to build psychological safety, and learn to measure the climate of science teams using a validated instrument.</p> <p><i>THIS SESSION IS “LIVE” ONLY</i></p>	<p>Dr. Allan Brasier, Executive Director of the University of Wisconsin Institute for Clinical and Translational Research, will discuss the “Multidisciplinary Translational Team” model* for training and developing translational research investigators. Core concepts of leadership behaviors and skills for building, managing, and leading multidisciplinary translational teams across the project lifecycle will be addressed. Translational Teams, a hybrid of product development and academic research, have unique characteristics that include multidisciplinary personnel that change frequently as the project progresses and the likely involvement of patient, community, or industry stakeholders.</p> <p><i>THIS SESSION IS “LIVE” ONLY</i></p>

*Check out Dr. Brasier's publications on multidisciplinary translational teams [HERE](#)

CONCLUSION & SOCIAL NETWORKING

6:00pm - Poster awards, concluding comments, and adjournment
6:15 - Get to know each other; structured networking and social event

CAIRIBU PARTNERS AND COLLABORATORS

NIDDK PROGRAM OFFICERS: Julie Barthold, MD; Deepak Nihalani, PhD; and Chris Mullins, PhD

UROLOGY CENTERS PROGRAM INTERACTIONS CORE

Kristina Penniston, PhD; PI, NIH/NIDDK U24 UW-Madison Urology Interactions Core (U24-DK-127726);
Betsy Rolland, PhD, MLIS; Co-Investigator; Jennifer Allmaras, MPH, Researcher; and Catherine Davis, Administrative Specialist

CONSORTIUM MONITORING BOARD for CAIRIBU O'BRIEN UROLOGY CENTERS & CAIRIBU INTERACTIONS CORE

Mark Nelson, PhD, University of Vermont (chair); Shuk-Mei Ho, PhD, University of Arkansas; Dean Assimos, MD, University of Alabama at Birmingham; Cecelia Lo, PhD, University of Pittsburgh; Craig Peters, MD, University of Texas Southwestern

CAIRIBU CENTERS AND PROGRAMS

George M. O'Brien Urology Cooperative Research Centers Program

Stanford University (2021-26); Columbia University (2020-25); University of Wisconsin-Madison (2019-24); University of Pittsburgh (2016-21)

Exploratory Centers for Interdisciplinary Research in Benign Urology

2018-2020: Columbia University, Beth Israel Deaconess Medical Center-Harvard University, University of Alabama at Birmingham, Washington University. 2019-2021: NorthShore University HealthSystem-Purdue University, Duke University, University of Tennessee, Vanderbilt University, Albert Einstein College of Medicine. 2020-2022: Medical College of Wisconsin, Children's Hospital of Philadelphia-University of Pennsylvania. 2021-23: Beaumont Hospital/ Oakland University William Beaumont School of Medicine and Michigan State University

K12 Career Development Programs

- Urological Epidemiology (KUroEpi) Institutional Research Career Development Programs: University of Michigan; and University of California San Francisco-Kaiser Permanente
- Multidisciplinary Urologic Research (KURe) Career Development Programs: Duke University; and University of Wisconsin-Madison