
Duke Multidisciplinary Benign Urology Research Symposium

April 28 and 29, 2022 (1-5 PM)

Duke Multidisciplinary K12 Urologic Research Career Development Program (KURe)



Thursday, April 28 and Friday, April 29, 2022

1:00 PM to 5:00 PM

Presented Virtually from Duke University Medical Center

Durham, North Carolina

- 12:50 pm **CHECK IN:** Test your audio, video, chat box, and raising hands for asking questions.
Obtain the link to the Symposium Program Booklet
- 1:00 pm **WELCOME AND INTRODUCTIONS:**
Cindy L. Amundsen, MD, Duke KURe PI and Program Director
- 1:10 pm **ORAL PLATFORM PRESENTATIONS:**
Moderator: Todd Purves, MD, KURe Mentor
- Basic Science Award*** ***Matrix-Metalloproteinase-9 plays a key role in the secretion of nerve growth factor from rat bladder cells***
Aya Hajj, MSc, McGill University, Montreal, Quebec
- KURe Scholar*** ***Transcriptome analysis of mouse dorsal root ganglia following recurrent urinary tract infection reveals potential therapeutic targets for pain relief***
Byron Hayes, PhD, Pathology, Duke University
- Clinical Science Award*** ***Rural for-profit hospitals are associated with higher reported prices for ureteroscopy with laser lithotripsy among commercially insured patients***
Ian Berger, MD, MSHP, Surgery, Division of Urology, Duke University
- 1:55 pm **ORAL ABSTRACT PRESENTATIONS – Concurrent Sessions**
- Session A: Clinical Outcomes & Health Services Research**
Moderators: Jonathan Routh, MD, MPH, KURe Scholar Alumnus
Hayley Premo, BS, Medical Student
- Session B: Voiding Dysfunction & Underactive Bladder**
Moderators: Gabrielle McNary, MD, Urology Resident
Karl Kreder, MD, MBA, KURe Advisory Committee
- Session C: Nephrolithiasis & Infection**
Moderators: Derek Ho, PhD, KURe Scholar Alumnus
Charles Scales, Jr., MD, MSHS, KURe Mentor
- 3:10 pm **BREAK**
- 3:20 pm **CHRONIC UROLOGIC PAIN DISORDER KEYNOTE SPEAKER:**
J. Curtis Nickel MD, FRCSC, Professor of Urology, Queen's University, Kingston, Ontario
Managing Urologic Chronic Pelvic Pain Syndromes: Re-evaluating Old Treatments in New Paradigms
Moderator: Cassandra Kisby, MD; KURe Scholar
- 4:00 pm **PANEL DISCUSSION: CHRONIC UROLOGIC PAIN DISORDERS**
Moderators: Byron Hayes, PhD, KURe Scholar
Anissa Cervantes, BS, Medical Student
- Panelists:**
Michael Chancellor, MD - Director of Neurourology, William Beaumont Hospital
Susan Lutgendorf, PhD - Professor, Psychological and Brain Sciences, Univ. of Iowa
J. Curtis Nickel MD - Professor of Urology, Queen's Univ. at Kingston Canada
Andrew Schrepf, PhD - Professor, Anesthesiology, University of Michigan
- 4:50 pm **CLOSING & PREVIEW OF FRIDAY EVENTS:**
Cindy L. Amundsen, MD, Duke KURe PI and Program Director
- 5:00 pm **THURSDAY ADJOURNMENT**

- 11:30 am **SMALL GROUP DISCUSSIONS WITH EXPERTS** (signup required)
- 12:50 pm **CHECK IN:** Test your audio, video, chat box, and raising hands for asking questions.
Obtain the link to the Symposium Program Booklet
- 1:00 pm **WELCOME AND INTRODUCTIONS:**
Cindy L. Amundsen, MD, Duke KURe PI and Program Director
- 1:10 pm **ORAL PLATFORM PRESENTATIONS:**
Moderator: Jennifer Anger, MD, KURe Advisory Committee
- KURe Scholar Resistance of urinary microbiome: urinary lactobacilli vary in ability to inhibit uropathogens***
Tanya Sysoeva, PhD, Univ. of Alabama, KURe Scholar Alumna
- Translational Science Award Specialized proresolving mediators reverse effects of chronic inflammation in diabetic bladder dysfunction***
Anissa Cervantes, BS, Duke University
- KURe Scholar Regenerative medicine approach to augment surgical repair of genitourinary injuries***
Cassandra Kisby, MD, Division of Urogynecology, Duke University
- 1:55 pm **ORAL ABSTRACT PRESENTATIONS – Concurrent Sessions**
- Session D: Overactive Bladder**
Moderators: Jim Hokanson, PhD, KURe Scholar Alumnus
Petra Popovics, PhD, Previous KURe Symposium Awardee
- Session E: Neurourology**
Moderators: Maryrose Sullivan, PhD, KURe Advisory Committee
Ian Berger, MD, MSHP, Urology Resident
- Session F: Urologic Development & Reconstruction**
Moderators: Matthew Barber, MD, MHS, Duke, KURe Advisory Committee
Leonid Aksenov, MD, Duke, Previous KURe Symposium Awardee
- 3:10 pm **BREAK**
- 3:20 pm **SCIENCE OF THE UNDERACTIVE BLADDER KEYNOTE SPEAKER:**
Professor Karl-Dietrich Sievert, MD PhD, FACS, FRCS, Chair, Urology Department,
Klinikum Lippe, Clinic of the University of Bielefeld
Future directions in research and clinical application for patients with underactive bladder
Moderator: Doug Luchristt, MD, MPH, Previous KURe Symposium Awardee
- 4:00 pm **PANEL DISCUSSION: SCIENCE OF THE UNDERACTIVE BLADDER**
Moderators: Eric Gonzalez, PhD, KURe Scholar Alumnus and Michael Odom, PhD, KURe Scholar
- Panelists:**
Lori Ann Birder, PhD - Professors, Renal - Electrolyte Division, University of Pittsburgh
Michael Chancellor, MD - Director of Neurourology, William Beaumont Hospital
Warren Grill, PhD - Professor, Biomedical Engineering, Duke University
Karl-Dietrich Sievert, MD PhD - Professor Urology, Detmold, Germany
- 4:50 pm **PRESENTATION OF TRAINEE AWARDS AND CLOSING REMARKS**
Friederike L. Jayes, DVM, PhD, Duke KURe Program Coordinator
- 5:00 pm **FRIDAY ADJOURNMENT**

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We Thank our Sponsors

Grant K12DK100024 from the NIDDK:
Duke Multidisciplinary **K12 Urologic Research** Career Development Program (KURe)

Department of Obstetrics and Gynecology, Duke University School of Medicine
Department of Surgery, Division of Urology, Duke University School of Medicine
Department of Biomedical Engineering, Duke University

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Distinguished Judges

Trainee Platform Presentation Awards
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Oral Abstract Presentation Awards

Lori Ann Birder, PhD
Wade Bushman, MD
Michael Chancellor, MD
Warren Grill, PhD
Michael Kennelly, MD, FACS
J. Curtis Nickel MD FRCSC
Andrew Schrepf, PhD
Karl-Dietrich Sievert, MD PhD, FACS, FRCS

Research Day Organizing Committee

Cindy L. Amundsen, MD, Duke KURe PI and Program Director, Duke Ob-Gyn
Friederike L. Jayes, DVM, PhD, Duke KURe Program Coordinator, Duke Ob-Gyn
Rebecca Kameny, PhD, Research Program Leader, Duke Ob-Gyn
Sally Taylor, Clinical Research Coordinator, Duke Office of Clinical Research

Platform Presentations Thursday (1:10 pm)		
Abstract	Presenter	Title
OP-01	Hajj	Matrix-Metalloproteinase-9 plays a key role in the secretion of nerve growth factor from rat bladder cells
OP-02	Hayes	Transcriptome analysis of mouse dorsal root ganglia following recurrent urinary tract infection reveals potential therapeutic targets for pain relief
OP-03	Berger	Rural for-profit hospitals are associated with higher reported prices for ureteroscopy with laser lithotripsy among commercially insured patients

Platform Presentations Friday (1:10 pm)		
Abstract	Presenter	Title
OP-04	Sysoeva	Resistance of urinary microbiome: urinary lactobacilli vary in ability to inhibit uropathogens
OP-05	Cervantes	Specialized proresolving mediators reverse effects of chronic inflammation in diabetic bladder dysfunction
OP-06	Kisby	Regenerative medicine approach to augment surgical repair of genitourinary injuries

Concurrent Session A (Thursday 1:55 pm) <i>Clinical Outcomes & Health Services Research</i>		
Abstract	Presenter	Title
A1	Maccarini	A Novel Thermal Modulation Device to Mitigate IC/PBS and other Pelvic Pain Conditions
A2	Krischak	Patient-reported and physiologic outcomes following pelvic exenteration for non-repairable radiated rectourethral fistula
A3	Berger	For-profit status at rural hospitals is associated with increased reported prices for high-risk hematuria evaluation among commercially insured patients
A4	Advani	Performance of urinalysis parameters in predicting clinically significant bacteriuria
A5	Krughoff	Artificial urinary sphincter pressure regulating balloons lose elasticity in a time-dependent manner
A6	Aksenov	Financial toxicity of spina bifida: Development of a conceptual framework and patient-reported outcome measure

Concurrent Session B (Thursday 1:55 pm) <i>Voiding Dysfunction & Underactive Bladder</i>		
Abstract	Presenter	Title
B1	Popovics	Prostate immune remodeling in steroid hormone imbalance
B2	Shields	An Isolated Perfused Porcine Bladder Model to Quantify Afferent Nerve Signaling
B3	Yang	A new tool to study the effects of urothelial signaling on bladder sensory neurons.
B4	Bushman	What Everybody Knows about BPH/LUTS may be Wrong
B5	Odom	Diabetes alters prostaglandin production and detrusor contractility via NLRP3-dependent mechanisms in the Akita mouse model of underactive bladder
B6	Gonzalez	AMPLIFY: Amplifying sensation in underactive bladder (work in progress)

Concurrent Session C (Thursday 1:55 pm) <i>Nephrolithiasis & Infection</i>		
Abstract	Presenter	Title
C1	Baker	RNA sequencing of whole blood from dogs with and without spontaneous calcium oxalate kidney stones reveals association with natural killer cell immunity
C2	Burnett	One Size Does Not Fit All: Variability in Urinary Symptoms and Microbial Communities
C3	Tabib	Nobody Likes Burnt Popcorn: The Most Efficient Popcorn Settings in a Novel 3D-Kidney Model that Limits Thermal Injury
C4	Dionise	Moses 2.0 popcorning laser lithotripsy in a novel benchtop 3-dimensional kidney model reaches thermal damage thresholds rapidly
C5	Chen	Cavitation plays a vital role in stone dusting during short pulse holmium: YAG laser lithotripsy
C6	Soto Palou	Dusting efficiency of the moses pulse 120h 2.0 laser system: an in vitro assessment using a 3d laser positioning system

Concurrent Session D (Friday 1:55 pm) <i>Overactive Bladder</i>		
Abstract	Presenter	Title
D1	Siddiqui	UUI-IR: distinguishing a subtype of urgency urinary incontinence based on molecular profiling
D2	Shields	A Biomechanical Model of Bladder Wall Micromotion Using Perfused Porcine Bladders
D3	Sirmakesyan	Nitric oxide in overactive bladder: from clinical observations to in vitro understanding of molecular pathways.
D4	McNary	Comparing the urinary microbiome in women with urgency urinary incontinence and well-matched controls
D5	Covarrubias	Increased urinary ratio BDNF/proBDNF in a female population with overactive bladder syndrome
D6	Abbott	Glycinergic neural pathways mediate stimulation-evoked bladder inhibition in rats
D7	Hamouda	The p75 neurotrophin receptor antagonist THX-B improves voiding behavior and reduces bladder contractility in aging mice

Concurrent Session E (Friday 1:55 pm) <i>Neurourology</i>		
Abstract	Presenter	Title
E1	Steadman	Electroanatomical mapping of lumbosacral spinal cord stimulation responses in the external urethral sphincter and peripheral nerves of the lower urinary tract
E2	Salazar	Novel site-specific neuromodulation to map the ventral spinal circuitry coordinating the neural control of micturition after a semi-chronic spinal cord injury
E3	Burgard	Development of a novel peptide for drug-induced, on-demand voiding
E4	Fairchild	Using machine learning of urodynamics to predict outcomes in patients with spina bifida
E5	Choksi	Percent Post-Void Residual over Bladder Capacity has the Strongest Correlation to the Highest White Matter Tracts in Women with Multiple Sclerosis and Voiding Dysfunction
E6	Fairchild	Medical management of neurogenic bladder in patients with spina bifida: A scoping review
E7	Salazar	Predictors of the outcomes of noninvasive transcranial magnetic stimulation in improving voiding dysfunction in multiple sclerosis women

Concurrent Session F (Friday 1:50 pm) <i>Urologic Development & Reconstruction</i>		
Abstract	Presenter	Title
F1	Ruthig	Hypospadias and CAKUT-linked RBFOX2 is present in developing urethra, glans, and ureter
F2	Strand	A cellular atlas of the normal adult human female urethra
F3	Aksenov	Impact of radiographic imaging on vesicoureteral reflux management preferences
F4	Krughoff	Synchronous Bladder Neck Dilation at time of Artificial Urinary Sphincter Placement is Safe and Effective
F5	Amato	A novel cell population from hindlimbs interacts with mesenchymal cells in the external genitalia to facilitate proper penis formation
F6	Kikuchi	Comparing prolapse and mesh reoperations following sacrocolpopexy with supracervical hysterectomy, total hysterectomy, and without hysterectomy

Trainee/Scholar Basic Science Award (OP-1)

Matrix-Metalloproteinase-9 plays a key role in the secretion of nerve growth factor from rat bladder cells

Aya Hajj¹, Aalya Hamouda¹, Stephanie Sirmakesyan¹, Philippe Cammisotto¹, Lysanne Campeau^{1,2}

1, Lady Davis Institute, McGill University, Montreal, Quebec, Canada.

2, Urology Department, Jewish General Hospital, Montreal, Quebec, Canada

Lady Davis Institute for Medical Research, 3755 Chemin de la Côte-Sainte-Catherine, Montreal, QC H3T 1E2, Canada.

Research Area: Overactive Bladder (OAB), Voiding dysfunction.

KURe Scholar (OP-2)

Transcriptome analysis of mouse dorsal root ganglia following recurrent urinary tract infection reveals potential therapeutic targets for pain relief

Hayes, Byron W¹; Rathore, Abhay PS¹; Bao, Chunjing¹; Kim, Michael¹; Purves, J Todd^{2,3}; Hughes Jr, Francis M^{2,3}; Ji, Ru-Rong⁴⁻⁶; Abraham, Soman N^{1,7-9}

¹Duke University Medical Center, Department of Pathology, Durham, NC ²Clemson University Department of Bioengineering, Clemson, SC ³Duke University Medical Center, Division of Urology, Durham, NC ⁴Center for Translational Pain Medicine, Department of Anesthesiology, Duke University Medical Center, Durham, NC ⁵Department of Cell Biology, Duke University Medical Center, Durham, NC ⁶Department of Neurobiology, Duke University Medical Center, Durham, NC ⁷Duke University Medical Center, Department of Immunology, Durham, NC ⁸Duke University Medical Center, Molecular Genetics and Microbiology, Durham, NC ⁹Duke-National University of Singapore, Program in Emerging Infectious Diseases, Singapore, Singapore

Research Area Infections of the Urinary Tract, Neurourology

Trainee/Scholar Clinical Science Award (OP-3)

Rural for-profit hospitals are associated with higher reported prices for ureteroscopy with laser lithotripsy among commercially insured patients

Berger, Ian¹; Golla, Vishnukamal^{1,2}; Cerullo, Marcelo^{2,3}; Zhang, Yuqi²; Lipkin, Michael E¹; Faerber, Gary J¹; Kaye, Deborah R¹; Scales Jr., Charles D^{1,2}.

¹Department of Surgery, Division of Urology, Duke University Medical Center, Durham, NC. ²Duke University National Clinical Scholars Program, Durham, NC. ³Department of Surgery, Duke University Medical Center, Durham, NC.

Research Area: Health services research, nephrolithiasis

KURe Scholar (OP-4)

Resistance of urinary microbiome: urinary lactobacilli vary in ability to inhibit uropathogens

Johnson, James A¹, Delaney, Lydia F¹, Ojha, Vaishali¹, Rudraradju, Medha¹, Siddiqui, Nazema Y.², Sysoeva, Tatyana A.¹

¹Department of Biological Sciences, University of Alabama in Huntsville, Huntsville, AL. ² Division of Urogynecology and Reconstructive Pelvic Surgery, Department of Obstetrics and Gynecology, Duke University, Durham, NC.

Research Area: Urinary microbiome, Drug resistant uropathogens

Trainee/Scholar Clinical Science Award (OP-5)

Specialized proresolving mediators reverse effects of chronic inflammation in diabetic bladder dysfunction

Cervantes, Anissa¹; Hughes Jr., Francis M.^{1,3}; Purves, J. Todd^{1,2}

¹Duke University Medical Center, Division of Urology, Department of Surgery, Durham, NC

²Duke University Medical Center, Department of Pediatrics, Durham, NC

³Clemson University, Department of Bioengineering, Clemson, SC

Research area: Diabetes, Bladder Inflammation

KURe Scholar (OP-6)

Regenerative Medicine Approach to Augment Surgical Repair of Anal Sphincter Injuries

Kisby, Cassandra K¹; Rolland, Tyler J²; Shadrin, Ilya Y³; Behfar, Atta²; Trabuco, Emanuel C²

¹Duke Hospital, Urogynecology, Durham, NC; ²Mayo Clinic, Center for Regenerative Medicine, Rochester, MN; ³Duke Hospital, Cardiology, Durham, NC

Research Area: Female pelvic & regenerative medicine

A1

A Novel Thermal Modulation Device to Mitigate IC/PBS and other Pelvic Pain ConditionsMaccarini, Paolo F¹, Zachary, Lyon W², Fraser, Matthew O³

¹ECE and Anesthesiology Depts, Duke University/Medical Center, Durham, NC. ²H3Pelvic, Inc. Lewisville, NC. ³Surgery Dept., Urology Div., Duke University School of Medicine, Durham, NC.

Research Area – Interstitial Cystitis (IC/PBS), Innovative Technologies, Female Pelvic Medicine.

A2

Patient-reported and physiologic outcomes following pelvic exenteration for non-repairable radiated rectourethral fistulaKrischak, Madison K¹; Hayden, Joshua P^{1,2}; Inouye, Brian M³; Krughoff, Kevin⁴; Boysen, William R⁵; Mantyh, Christopher R⁶; Erdmann, Detlev⁷; Peterson, Andrew C⁴

¹Duke University School of Medicine, Durham, NC. ²Department of Urology, Lahey Hospital & Medical Center, Burlington, MA. ³Division of Urology, Albany Medical Center, Albany, NY. ⁴Division of Urologic Surgery, Duke University Medical Center, Durham, NC. ⁵Division of Urology, Brigham and Women's Hospital, Boston, MA. ⁶Section of Colorectal Surgery, Duke University Medical Center, Durham, NC. ⁷Division of Plastic, Maxillofacial and Oral Surgery, Duke University Medical Center, Durham, NC.

Research Area: Urinary Reconstruction, Clinical Outcomes Research

A3

For-profit status at rural hospitals is associated with increased reported prices for high-risk hematuria evaluation among commercially insured patientsBerger, Ian¹; Golla, Vishnukamal^{1,2}; Cerullo, Marcelo^{2,3}; Zhang, Yuqi²; Lipkin, Michael E¹; Faerber, Gary J¹; Scales Jr., Charles D^{1,2}; Kaye, Deborah R¹

¹Department of Surgery, Division of Urology, Duke University Medical Center, Durham, NC. ²Duke University National Clinical Scholars Program, Durham, NC. ³Department of Surgery, Duke University Medical Center, Durham, NC.

Research Area: Health services research

A4

Performance of urinalysis parameters in predicting clinically significant bacteriuriaSonali D. Advani MBBS, MPH¹, Nicholas A. Turner MD MHS¹, Kenneth E. Schmader MD², Rebekah H. Wrenn PharmD¹, Rebekah W. Moehring MD, MPH¹, Christopher R. Polage MD, PhD³, Deverick Anderson MD, MPH¹,

¹ Division of Infectious Diseases, Department of Medicine, Duke University School of Medicine

² Division of Geriatrics, Department of Medicine, Duke University School of Medicine

³ Department of Pathology, Duke University School of Medicine

Research Area: Urinary Tract Infections

A5

Artificial urinary sphincter pressure regulating balloons lose elasticity in a time-dependent manner

Kevin Krughoff, Andrew C. Peterson

¹Section of Urology, Department of Surgery, Duke University Medical Center, Durham, NC**Research Area:** Urodynamics, Urinary Reconstruction, Quality Improvement

A6

Financial Toxicity of Spina Bifida: Development of a Conceptual Framework and Patient-Reported Outcome Measure

Leonid I. Aksenov; Rebecca Fairchild; Kevin T. Hobbs; Rohit Tejwani; John S. Wiener; Jonathan C. Routh

Duke University Medical Center, Department of Surgery, Division of Urology, Durham, NC

Research Area: HSR, Pediatric Urology, and Congenital Urogenital Anomalies/Embryology

B1

Prostate immune remodeling in steroid hormone imbalancePopovics, Petra,^{1,2}; Skalitzky, Kegan O^{1,2}; Schroeder, Elise^{1,2}; Vezina, Chad M^{1,2,3}; Ricke, William A^{1,2}¹Department of Urology, School of Medicine and Public Health, University of Wisconsin-Madison, Madison, WI; ²George M. O'Brien Center of Research Excellence, University of Wisconsin, School of Medicine and Public Health, Madison, WI; ³Department of Comparative Biosciences, School of Veterinary Medicine, University of Wisconsin-Madison, Madison, WI**Research Area:** Benign Prostatic Hyperplasia, Voiding Dysfunction/Urinary Retention

B2

An Isolated Perfused Porcine Bladder Model to Quantify Afferent Nerve SignalingShields, Michael K¹; Moore MD, Robert H¹; Ghatas, Mina P¹; Feld, Noah¹; Payne, Brayden¹; Pingree, Graham¹; Bednarz MD, Christopher P¹; Burkett MD, MSc, Linda S³; Speich PhD, John E², Klausner MD, Adam P¹Department of ¹Surgery, Virginia Commonwealth University, Richmond, VA. Department of ²Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA. Department of ³Obstetrics and Gynecology, Virginia Commonwealth University, Richmond, VA.**Research Areas:** Overactive Bladder, Urodynamics, Neurourology

B3

A new tool to study the effects of urothelial signaling on bladder sensory neurons.

Yang, Olivia¹, Robilotto, Gabriella L¹, Patel, Trishna¹, Devulapally, Karthik¹, Ahmed, Zona¹, Johnson, Richard D¹, Mickle, Aaron D^{1,2,3}

¹Department of Physiological Sciences, College of Veterinary Medicine, University of Florida, Gainesville, FL, United States.

²Department of Biomedical Engineering, Herbert Wertheim College of Engineering, University of Florida, Gainesville, FL, United States.

³Department of Neuroscience, College of Medicine, University Florida, Gainesville, FL, United States.

Research Area: Neurourology, bladder pain, sensory signaling

B4

What “Everybody Knows” about BPH/LUTS may be Wrong

Bushman, Wade

University of Wisconsin, Department of Urology, Madison, Wisconsin

Research area: Benign Prostatic Hyperplasia/Urodynamics/Voiding dysfunction

B5

Diabetes alters prostaglandin production and detrusor contractility via NLRP3-dependent mechanisms in the Akita mouse model of underactive bladder

Michael R. Odom; Francis M. Hughes, Jr.; Huixia Jin; J. Todd Purves

¹Department of Surgery, Division of Urology, Duke University Medical Center, Durham, NC..

Research area: Diabetes, bladder inflammation, voiding dysfunction / urinary retention

B6

AMPLIFY: Amplifying Sensation in Underactive Bladder (Work in Progress)

Eric J. Gonzalez¹, Warren M. Grill¹, Cindy L. Amundsen²

¹Department of Biomedical Engineering, Duke University, Durham, NC

²Department of Obstetrics and Gynecology, Duke University Medical Center, Durham, NC

Research Area: Voiding Dysfunction/Urinary Retention, Neurourology, Urodynamics

C1

RNA sequencing of whole blood from dogs with and without spontaneous calcium oxalate kidney stones reveals association with natural killer cell immunityBaker, Lauren A.¹, Furrow, Eva²

¹ School of Veterinary Medicine, University of Wisconsin-Madison, Madison, WI, USA. ²Department of Veterinary Clinical Sciences, College of Veterinary Medicine, University of Minnesota, St. Paul, MN, USA.

Research Area: Nephrolithiasis

C2

One Size Does Not Fit All: Variability in Urinary Symptoms and Microbial CommunitiesHochstedler-Kramer, Baylie¹, Joyce, Cara², Abdul-Rahim, Omar¹, Barnes, Hayley C.^{3†}, Mueller, Elizabeth R.³, Wolfe, Alan J. ¹, Brubaker, Linda⁴, Burnett, Lindsey A.⁴

¹Department of Microbiology and Immunology, Loyola University Chicago, Maywood, IL, USA

²Department of Medicine, Loyola University Chicago, Maywood, IL, USA

³Division of Female Pelvic Medicine and Reconstructive Surgery, Departments of Urology & Obstetrics/Gynecology, Loyola University Medical Center, Maywood, IL, USA

⁴Department of Obstetrics, Gynecology, and Reproductive Sciences, Division of Female Pelvic Medicine and Reconstructive Surgery, University of California San Diego, La Jolla, CA, USA

†Current Affiliation: Department of Obstetrics and Gynecology, University of Cincinnati Health, Cincinnati OH

Research Area: Microbiome, Infections of the Urinary Tract, Female Pelvic Medicine

C3

Nobody Likes Burnt Popcorn: The Most Efficient Popcorn Settings in a Novel 3D-Kidney Model that Limits Thermal InjuryChristian Tabib¹, Zachary Dionise¹, Sabrina Tran², Francois Soto-Palou¹, Pei Zhong² Glenn Preminger¹, Michael Lipkin¹

¹Duke University Medical Center, Division of Urology

²Department of Mechanical Engineering and Materials Science, Duke University

Research area: Nephrolithiasis, Innovative Technologies

C4

Moses 2.0 popcorning laser lithotripsy in a novel benchtop 3-dimensional kidney model reaches thermal damage thresholds rapidly

Dionise, Zachary¹; Tabib, Christian¹; Tran, Sabrina²; Soto-Palou, Francois¹; Zhong, Pei²; Preminger, Glenn¹; Lipkin, Michael¹

¹*Division of Urology, Department of Surgery, Duke University Medical Center, Durham, NC*

²*Department of Mechanical Engineering and Materials Science, Duke University, Durham, NC*

Research Area: Nephrolithiasis

C5

Cavitation plays a vital role in stone dusting during short pulse holmium: YAG laser lithotripsy

Chen, Junqin¹; Ho, Derek S¹; Xiang, Gaoming¹; Sankin, Georgy¹; Preminger, Glenn M²; Lipkin, Michael E²; Zhong, Pei¹

¹*Department of Mechanical Engineering and Materials Science, Duke University, Durham, North Carolina*

²*Division of Urology, Duke University Medical Center, Durham, North Carolina*

Research Area: Nephrolithiasis

C6

Dusting efficiency of the moses pulse 120h 2.0 laser system: an in vitro assesment using a 3d laser positioning system

Patrick Whelan¹, Christian Tabib¹, Christopher Kim¹, Derek Ho², Francois Soto-Palou¹, Junqin Chen², Pei Zhong², Glenn Preminger¹, Michael Lipkin¹

¹*Duke University Division of Urology, Durham, NC*, ²*Department of Mechanical Engineering and Materials Science, Duke University, Durham, NC*

Research Area: Nephrolithiasis, Innovative technologies

D1

UUI-IR: distinguishing a subtype of urgency urinary incontinence based on molecular profiling

Nazema Y. Siddiqui^{1,2}, Kathy Z. Lu³, Gabrielle McNary⁴, Cindy L. Amundsen¹, Joseph A. Prinz⁵, Susan K. Murphy²

¹Department of Obstetrics & Gynecology, Division of Urogynecology and Reconstructive Pelvic Surgery, Duke University Medical Center, Durham, NC. ²Department of Obstetrics & Gynecology, Division of Reproductive Sciences, Duke University Medical Center, Durham, NC. ³Wayne State University School of Medicine, Detroit, Michigan. ⁴Department of Surgery, Division of Urology, Duke University Medical Center, Durham, NC. ⁵Duke Center for Genomic and Computational Biology, Durham, North Carolina

Research Area: Overactive bladder, diabetes, phenotyping, female pelvic floor disorders

D2

A Biomechanical Model of Bladder Wall Micromotion Using Perfused Porcine Bladders

Shields, Michael K¹; Bednarz MD, Christopher P¹; Pingree, Graham¹; Lester, David¹; Alattar, Abraham M²; Cadenas-Alviar, Ashley²; Bryant, Sean²; Burkett MD, MSc, Linda S³; Siff MD, Lauren N³; Klausner MD¹, Adam P; Speich PhD, John E²

Department of ¹Surgery, Virginia Commonwealth University, Richmond, VA. Department of ²Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, VA. Department of ³Obstetrics and Gynecology, Virginia Commonwealth University, Richmond, VA.

Research Area: Overactive Bladder, Biomechanics, Urodynamics

D3

Nitric oxide in overactive bladder: from clinical observations to in vitro understanding of molecular pathways.

Sirmakesyan, Stephanie¹, Hajj, Aya¹, Hamouda, Aalya¹, Cammisotto, Philippe¹, Campeau, Lysanne^{1,2}

1. Lady Davis Institute, McGill University, Montreal, Quebec, Canada.
2. Urology Department, Jewish General Hospital, Montreal, Quebec, Canada

Research area: Overactive Bladder (OAB), Diabetes, Voiding Dysfunction/Urinary Retention

D4

Comparing the urinary microbiome in women with urgency urinary incontinence and well-matched controlsGabrielle E. McNary¹, Erin Dahl², Zhuoqun Wang³, Lisa Karstens², Li Ma³, Nazema Y. Siddiqui⁴

¹Duke University Medical Center, Department of Surgery, Durham, NC. ²Oregon Health & Science University, Department of Medical Informatics and Clinical Epidemiology, Portland, OR ³Duke University, Department of Statistical Science, Durham, NC ⁴Duke University Medical Center, Department of Obstetrics and Gynecology, Durham, NC

Research Area: Microbiome, Overactive Bladder, Female Pelvic Medicine

D5

Increased urinary ratio BDNF/proBDNF in a female population with overactive bladder syndromeClaudia Covarrubias¹, Philippe Cammisotto¹, Samer Shamout¹, Lysanne Campeau²

¹Lady Davis Institute for Medical Research, Montreal, Canada, ²Lady Davis Institute for Medical Research, Urology Department, Jewish General Hospital, Montreal, Canada

Research Area: Overactive Bladder (OAB), Neurourology, Voiding Dysfunction/ Urinary Retention

D6

Glycinergic neural pathways mediate stimulation-evoked bladder inhibition in rats

E.M. Abbott, E.J. Gonzalez and W.M. Grill

Duke University Department of Biomedical Engineering, Durham, NC, USA

Research Areas: Overactive Bladder (OAB), Innovative Technologies

D7

The p75 neurotrophin receptor antagonist THX-B improves voiding behavior and reduces bladder contractility in aging miceHamouda, Aalya¹; Sirmakesyan, Stephanie¹; Hajj, Aya¹; Cammisotto, Philippe¹; Saragovi, Uri¹; Campeau, Lysanne^{1,2}

1, Lady Davis Institute for Medical Research, McGill University, Montreal, Quebec, Canada.

2, Urology Department, Jewish General Hospital, Montreal, Quebec, Canada

Research Area: Overactive Bladder (OAB), Therapeutic development, Voiding Dysfunction/ Urinary Retention

E1

Electroanatomical mapping of lumbosacral spinal cord stimulation responses in the external urethral sphincter and peripheral nerves of the lower urinary tract

Steadman, Casey J¹; Tennison, Alden J¹; Langdale, Chris L¹; Grill, Warren M^{1,2,3,4}.

Duke University, ¹Biomedical Engineering, ²Electrical and Computer Engineering, ³Neurobiology, ⁴Neurosurgery, Durham, NC.

Research Area: Basic research

E2

Novel site-specific neuromodulation to map the ventral spinal circuitry coordinating the neural control of micturition after a semi-chronic spinal cord injury

Salazar, Betsy H^{1,2}; Frazier, Allison M²; Hoffman, Kristopher A²; Khavari, Rose¹; Sayenko, Dimitry G^{2,3}; Horner, Philip J^{2,3}

¹Department of Urology, Houston Methodist Hospital, Houston, Texas. ²Center for Neuroregeneration, Houston Methodist Research Institute, Houston, Texas. ³Department of Neurosurgery, Houston Methodist Hospital, Houston, Texas.

Research Area: Neurourology; Other – Neurogenic bladder

E3

Development of a novel peptide for drug-induced, on-demand voiding

Marson, Lesley; Burgard, Edward C.; Cook, Jason B.; Katofiasc, Mary A.; Piatt, Raymond K.; Rupniak, Nadia MJ.; Thor, Karl B.

Dignify Therapeutics, Research Triangle Park, NC

Research Area: Voiding Dysfunction/Urinary Retention; Therapeutic Development; Neurourology

E4

Using machine learning of urodynamics to predict outcomes in patients with spina bifida

Fairchild, Rebecca J¹; Aksenov, Leonid I²; Hobbs, Kevin T²; Aquino, Wilkins³; Hokanson, James A.⁴; Routh, Jonathan C².

1. Duke University School of Medicine, Durham, NC
2. Division of Urologic Surgery, Duke University Medical Center, Durham, NC.
3. Department of Electrical and Computer Engineering, Duke University, Durham, NC.
4. Department of Biomedical Engineering, Medical College of Wisconsin, Milwaukee, WI. Electronic address: jhokanson@mcw.edu.

Research Areas: Innovative technologies, urodynamics, pediatric urology

E5

Percent Post-Void Residual over Bladder Capacity has the Strongest Correlation to the Highest White Matter Tracts in Women with Multiple Sclerosis and Voiding DysfunctionChoksi, Darshil¹; Schott, Bradley¹; Salazar, Betsy H²; Hasan, Khader³; Lincoln, John A³; Khavari, Rose²¹College of Medicine, Texas A&M University, Houston, Texas. ²Department of Urology, Houston Methodist Hospital, Houston, Texas. ³McGovern Medical School, Houston, TX**Research Area:** Neurourology; Voiding Dysfunction/ Urinary Retention

E6

Medical management of neurogenic bladder in patients with spina bifida: A scoping review

Fairchild, Rebecca J; Aksenov, Leonid I; Hobbs, Tyler K; Krischak, Madison K; Kaplan, Samantha J; Wiener, John S; Routh, Jonathan C

Duke University School of Medicine, Division of Urology, Durham, NC

Research area: Pediatric urology, voiding dysfunction

E7

Predictors of the outcomes of noninvasive transcranial magnetic stimulation in improving voiding dysfunction in multiple sclerosis womenJang, Yongchang¹; Tran, Khue¹; Choksi, Darshil¹; Salazar, Betsy H²; Lincoln, John A³; Khavari, Rose²¹Texas A&M College of Medicine, Houston, Texas. ²Department of Urology, Houston Methodist Hospital, Houston, Texas. ³Department of Neurology, McGovern Medical School, The University of Texas Health Science Center, Houston, Texas.**Research Area:** Neurourology; Voiding Dysfunction/Urinary Retention

F1

Hypospadias and CAKUT-linked RBFox2 is present in developing urethra, glans, and ureterRuthig, Victor A^{1,2}; Ruiz Rojano, Fredi^{1,2,4}; White, Jeffrey⁵; O'Neil, Marisol⁵; Lamb, Dolores J.^{1,2,3}Weill Cornell Medicine, ¹Department of Urology; ²Sexual Medicine Lab; ³Center for Reproductive Genomics, New York NY; ⁴New York Bioforce, New York NY; ⁵Baylor College of Medicine, Center for Reproductive Medicine, Houston TX**Research Area:** congenital urogenital anomalies/embryology, pediatric urology, sexual dysfunction

F2

A cellular atlas of the normal adult human female urethra

Goueli, Ramy¹; Malewska, Alicia¹; Labin, John¹; Carmel, Maude¹; Zimmern, Philippe¹; Lemack, Gary¹; Strand, Douglas¹

¹Department of Urology, UT Southwestern Medical Center, Dallas, TX

Research Area: Infections of the urinary tract, urinary reconstruction

F3

Impact of radiographic imaging on vesicoureteral reflux management preferences

Aksenov, Leonid I; Fairchild, Rebecca J; Dionise, Zachary R; Tejwani, Rohit; Purves, J Todd; Wiener, John S; Routh, Jonathan C

Duke University School of Medicine, Division of Urology, Durham, NC

Research Area: Health services research, Pediatric Urology, and Uroradiology

F4

Synchronous Bladder Neck Dilation at time of Artificial Urinary Sphincter Placement is Safe and Effective

Kevin Krughoff, Andrew C. Peterson

¹Section of Urology, Department of Surgery, Duke University Medical Center, Durham, NC

Research Area: Bladder Outlet Obstruction, Clinical Outcomes Research, Urinary Reconstruction

F5

A novel cell population from hindlimbs interacts with mesenchymal cells in the external genitalia to facilitate proper penis formation

Amato, Ciro M¹; and Yao, Humphrey H-C¹

Reproductive and Developmental Biology Lab, National Institute of Environmental Health Sciences, Research Triangle Park, NC 27709¹

Research Area: Congenital Urogenital Anomalies/Embryology, Pediatric Urology

Comparing prolapse and mesh reoperations following sacrocolpopexy with supracervical hysterectomy, total hysterectomy, and without hysterectomy

Kikuchi, JY¹, Yanek LR², Chen CCG¹, Jacobs, S³, Blomquist J³, Handa VL¹, Patterson D¹

¹Department of Gynecology and Obstetrics, Division of Urogynecology, Johns Hopkins University School of Medicine, Baltimore, MD. ²Department of Medicine, Division of General Internal Medicine, Johns Hopkins University School of Medicine, Baltimore, MD. ³Department of Obstetrics and Gynecology, Division of Urogynecology, Greater Baltimore Medical Center, Towson, MD.

Research area: Female pelvic medicine, Clinical outcomes research

**Jennifer Anger, MD, MPH**

Associate Professor of Surgery-Urology
Associate Director of Urological Research
Urologic Reconstruction, Urodynamics, and Female Urology
Cedars-Sinai Medical Center
Professor of Urology
Vice Chair of Research,
UC San Diego Department of Urology

Dr. Anger is a fellowship-trained reconstructive urologist with extensive experience treating pelvic floor disorders in men and women. She completed her Master's degree in Public Health at UCLA under the mentorship of Dr. Mark Litwin, a pioneer in urological health services research. She has over ten years of research experience using administrative claims, including data from the VA. In 2007, she received a mentored career development award (K23) from the NIDDK. Dr. Anger's research has focused on the quality of care for women with urinary incontinence and pelvic prolapse, including the safety and efficiency of robotic-assisted surgery. The research team at Cedars-Sinai is a site for the NIH-funded Multidisciplinary Approach to the Study of Chronic Pelvic Pain (MAPP) Network. Urologic chronic pelvic pain syndromes (UCPPS) are debilitating conditions and a lack of objective clinical diagnostic criteria has severely affected our ability to adequately identify and treat UCPPS. The goal of this MAPP discovery site is to use genomics and proteomics approaches to develop sensitive and non-invasive diagnostic biomarkers that will allow objective phenotyping of UCPPS patients. Dr. Anger's team employs state-of-the-art resources in microbiome genomic sequencing and characterization to define the microbiome/mycobiome of UCPPS patients. The resultant protein patterns in the urine and blood create a signature diagnostic of UCPPS. Dr. Anger is Professor of Urology and Vice Chair of Research in the UC San Diego Department of Urology. She leads the new program in gender affirming pelvic surgery and is part of a large multidisciplinary transgender care team which provides comprehensive care for both adults and adolescents. Dr. Anger serves on the KURe Advisory Board.

**Matthew Barber, MD**

E.C. Hamblen Distinguished Professor and
Chair of Obstetrics and Gynecology
Duke University Medical Center

Dr. Matthew Barber is E.C. Hamblen Distinguished Professor and Chair of the Department of Obstetrics and Gynecology at Duke University Medical Center. Dr. Barber earned his medical degree from Jefferson Medical College of Thomas Jefferson University and a master's degree in Health Science in Clinical Research from Duke University School of Medicine. He completed residency training in Obstetrics and Gynecology and a fellowship in urogynecology and pelvic reconstructive surgery at Duke University. His clinical practice focuses on the full spectrum of diagnosis, prevention and medical, behavioral, and surgical treatments for women with pelvic floor disorders (PFDs). Dr. Barber's research focus is the conduct of randomized clinical trials for the treatment of gynecologic conditions, particularly surgical trials for PFDs. He and his collaborators have conducted over 30 randomized clinical trials including landmark trials in the treatment of urinary incontinence and pelvic organ prolapse and use of robotic and laparoscopic surgery for treatment of gynecologic disease. From 2006-2016, he served as PI of the Cleveland Clinic Site of the [National Institute of Child Health and Human Development](#) (NICHD) Pelvic Floor Disorders Network. He is an internationally recognized expert in developing, validating, and assessing research outcomes in PFDs, particularly health-related quality of life and patient reported-outcomes. He has won multiple awards for his research including 2001, 2007, 2011, 2013, 2015 Prize Clinical Science Paper from [American Urogynecologic Society](#) (AUGS). Dr. Barber served on the Board of Directors of AUGS

from 2008-2013 and as its President from 2011-2012. As President of the AUGS, he led the multi-stakeholder team that developed and implemented the Pelvic Floor Disorders Registry (PFDR), a national registry evaluating comparative effectiveness and safety of treatment of pelvic organ prolapse. In 2011, he received recognition as [American College of Obstetricians and Gynecologists](#) (ACOG) District V Mentor of the Year. He is currently Chair of the Female Pelvic Medicine and Reconstructive Surgery Division of the American Board of Obstetrics and Gynecology and is the Associate Editor of the journal *Female Pelvic Medicine and Reconstructive Surgery*. Dr. Barber serves on the KURe Advisory Board.



Lori A. Birder, PhD

Professor of Medicine, Pharmacology & Chemical Biology
University of Pittsburgh School of Medicine

Lori Birder, PhD is a tenured Professor of Medicine and Pharmacology and Chemical Biology at the University of Pittsburgh School of Medicine. Her research has been durably funded by the NIH including an NIH MERIT award and currently is focused on the physiology and pharmacology of the LUT in health and disease with a focus on stress/pain and aging. Lori has published more than 200 peer-reviewed articles, book chapters and reviews. She has organized/chaired a number of symposia and workshops on bladder and urothelial function, is a member of several scientific/editorial boards and scientific societies including ICS, INUS, SUFU and ESSIC, serves as a member of the SUFU executive committee and the ICS board of Trustees and the Editor-in-Chief of the ICS open access journal 'Continence'.

Dr. Birder's research examines how increased reactive oxygen species (ROS) and associated oxidative stress are a defining cause in a growing number of age associated LUT disorders. Given the important fundamental role for oxidative stress and mitochondrial dysregulation in the pathogenesis of many LUT disorders including those age-related; therapies that can protect and restore mitochondrial function are important in terms of disease prevention.



Wade Bushman MD, PhD

Professor of Urology
University of Wisconsin

Dr. Bushman is a clinician-scientist with a long-standing interest in BPH. He has performed basic laboratory research focused on prostate growth regulation, prostatic inflammation and hyperplasia using the developing and adult mouse prostate as models. In more recent work, he has focused on inflammation-induced effects on voiding behavior and prostatic fibrosis in mice with correlative studies in humans and pioneered the identification of urinary biomarkers of inflammation and fibrosis in BPH/LUTS. Currently, the primary focus of his own funded research is on pathogenetic mechanisms responsible for benign prostatic hyperplasia (BPH) and lower urinary tract symptoms (LUTS) in aging men with a specific focus on the role of impaired detrusor contractility. He is co-PI of the Wisconsin Multidisciplinary K12 Urologic Research Center Development Program. He is working on developing methods for MR imaging in studying anatomy, function and dysfunction in the lower urinary tract.

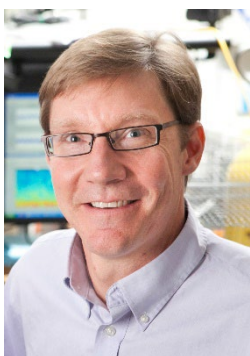
**Michael B Chancellor, MD**

Professor of Urology
Director of Aikens Research Center
Beaumont Health System
Oakland University William Beaumont School of Medicine

Michael B. Chancellor, MD, board-certified by the American Board of Urology, received his medical degree from Medical College of Wisconsin in Milwaukee. Dr. Chancellor completed his residency in urology at the University of Michigan in Ann Arbor. He subsequently completed his fellowship in neurourology and female urology at Columbia University and College of Physicians and Surgeons in New York. Dr. Chancellor is a world-renowned author and speaker, having been invited to present more than 650 papers at national and international meetings. He has appeared on CNN, in the pages of The Wall Street Journal, and in numerous television and radio interviews.

Dr. Chancellor has written over 550 peer-reviewed articles and book chapters in journals including The Journal of Urology, Urology, Gene Therapy, and Lancet. He has also written 11 books and serves on the editorial board of 12 scientific journals. A prolific author and researcher, Dr. Chancellor has gained national and international recognition in the areas of stem cell and tissue engineering as well as drug discovery. He was the first urologist to use botulinum toxin to treat lower urinary tract dysfunction. His inventions founded Cook MyoSite, Inc., which is now conducting multicenter North American trials using adult autologous muscle-derived stem cells to treat stress urinary incontinence. Dr. Chancellor also founded Lipella Pharmaceuticals, Inc., a biopharmaceutical company focusing on localized therapy and advance drug delivery.

Dr. Chancellor has received a number of prestigious awards, including the Paul Zimskind Award from the Society of Urodynamics and Female Urology, Grand Prize in the International Jack Lapides Essay Contest, and the Pfizer-American Urological Association Visiting Professorship Award. He has been recognized as Innovator of the Year by Pittsburgh magazine, listed in Castle Connolly's America's Top Doctors. Dr. Chancellor has received continuous funding from the National Institutes of Health for over 20 years and has trained many of today's experts in urology.

**Warren M. Grill, Ph.D.**

Edmund T. Pratt, Jr. School Professor of Biomedical Engineering
Duke University

Warren M. Grill is the Edmund T. Pratt, Jr. School Distinguished Professor of Biomedical Engineering at Duke University. He received the B.S. in 1989 from Boston University and the Ph.D. in 1995 from Case Western Reserve University.

Professor Grill teaches courses on circuits and instrumentation, bioelectricity, and the fundamentals and applications of electrical stimulation. He received the Capers & Marion McDonald Award for Excellence in Teaching and Research at Duke University in 2008 and again in 2018, in 2013 was awarded Outstanding Postdoc Mentor at Duke University, and in 2014 received the University Scholar/Teacher of the Year Award.

His research interests are in neural engineering and neuromodulation and include design and testing of electrodes and stimulation techniques, the electrical properties of tissues and cells, and computational neuroscience with applications to restoration of bladder function, treatment of movement disorders with deep brain stimulation, electrical stimulation for treatment of pain, and vagus nerve stimulation for regulation of organ function. He has published over 230 peer reviewed journal articles and has been awarded 59 US patents.

Dr. Grill serves on the editorial boards of Brain Stimulation, Neuromodulation, and Current Opinion in Biomedical Engineering, and is Deputy Editor for the Journal of Neural Engineering. He was elected as

a Fellow of the American Institute of Medical and Biological Engineering in 2007, elected as a Fellow of the Biomedical Engineering Society in 2011, and was awarded a Javits Neuroscience Investigator Award by NIH-NINDS in 2015.



Karl J. Kreder, Jr., MD, MBA
Professor
Rubin H. Flocks Chair in Urology
Department Executive Officer
University of Iowa

Dr. Kreder's clinical research focuses on two main areas of interest: overactive bladder/female incontinence, and interstitial cystitis. Within these fields of study, Dr. Kreder acts as principal or co-principal investigator on a number of clinical trials, including conventional medications and surgical treatments, as well as complementary and alternative therapies. His work in the area of overactive bladder and female urinary incontinence encompasses the entire spectrum of treatments, including behavior and diet modifications and pelvic floor exercises, medications, or one of numerous reconstructive surgical procedures. Dr. Kreder's emphasis of study in interstitial cystitis begins with collaborations in the basic science research labs to help determine the etiology of this disease. His clinical work addresses both the reduction of symptoms through conventional therapies and alternative options, as well as the psychosocial impact of this condition on the patient. Dr. Kreder serves on the KURe Advisory Board.



Maragatha (Maggie) Kuchibhatla, PhD
Professor Biostatistics and Bioinformatics,
Psychiatry and Behavioral Sciences
Duke University School of Medicine

Dr. Kuchibhatla received her PhD from Texas A&M University. She is a Senior Fellow in the Center for the Study of Aging and Human Development. She is an expert in statistical research methodology, analysis of repeated measurements, latent growth curve models, latent class growth models, classification/regression trees, propensity score analyses and designing of clinical trials -- both treatment and non-treatment trials in various comorbid populations. Dr. Kuchibhatla serves on the KURe Advisory Board.



Susan Lutgendorf, Ph.D.
Professor and Starch Faculty Fellow
Departments of Psychological and Brain Sciences, Obstetrics and Gynecology,
and Urology
University of Iowa

Dr. Lutgendorf is a Professor and Starch Faculty Fellow in the Departments of Psychological and Brain Sciences, Obstetrics and Gynecology, and Urology and a member of the Holden Comprehensive Cancer at the University of Iowa. She trained under a Behavioral Immunology NRSA at the University of Miami. Her research has focused on the field of psychoneuroimmunology with specific applications to cancer and pain, with a focus on urologic pelvic pain. Dr. Lutgendorf has been studying interstitial cystitis for the last 25 years, and has been an investigator in the NIDDK- funded MAPP (Multidisciplinary Approach to Pelvic Pain) network for the last 14 years, researching mechanisms

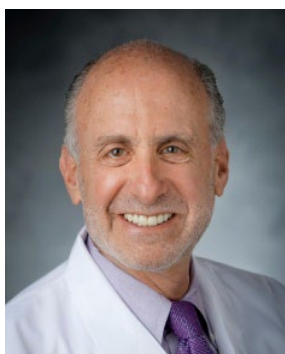
underlying chronic urologic pelvic pain, particularly as related to inflammation and stress. She has been funded for the last 20 years by the National Cancer Institute to investigate effects of biobehavioral factors on cancer specific outcomes such as cell-mediated immunity, angiogenic cytokines, and inflammation in ovarian cancer. Dr. Lutgendorf is currently the PI of an NCI-funded multi-site clinical trial to test an internet conferencing-based stress management intervention for ovarian cancer survivors. The skills being taught in this intervention have direct relevance for non-pharmacologic pain control as well. She serves as the Program Director for an NIGMS-funded T32 predoctoral Training Grant entitled "Mechanisms of Health and Disease at the Behavioral-Biomedical Interface". She is a Fellow of the American Association for the Advancement of Science, and has served as President of the Psychoneuroimmunology Research Society, as President of the American Psychosomatic Society, and as a member of the Biobehavioral Mechanisms of Emotions, Stress, and Health (MESH) Study Section at NIH. Her work has been recognized by a New Investigator Award from the Psychoneuroimmunology Research Society in 2004, an Early Career Award from the American Psychosomatic Society in 2002, by an award for Outstanding Contributions to Health Psychology from the American Psychological Association in the year 2000, and a Faculty Scholar Award and the Starch Faculty Fellowship from the University of Iowa. Her mentoring was recognized by an Outstanding Mentor award from the Graduate College of the University of Iowa in 2002. She has worked closely with diverse students both as a mentor and as the Program Director of our T32 Training grant.



J. Curtis Nickel MD, FRCS

Professor, Department of Urology, Queen's University
Canada Research Chair in Urologic Pain and Inflammation
Staff Urologist, Kingston Health Sciences Centre
Kingston, Ontario, Canada

Dr. Nickel's clinical expertise and research covers inflammatory, infectious, pain and other benign diseases of the urinary tract. He has over 600 publications, is on the editorial board of 6 Urology journals, immediate past-editor of the AUA Update Series, editor of Microbiome/Urologic Infections Section for Grand Rounds in Urology, invited to present in over 50 countries, and has been continuously funded by US NIH and Canadian CRC (CIHR) for over two decades. He was President of the Canadian Urological Association in 2017. He was awarded a CIHR Tier I Canada Research Chair (concurrent), AUA Distinguished Contribution Award, AUA Latimer Medal, SIU Academy Award, and was the first recipient of the SIU Elhilali Award for contributions to International Urology Research. He was named an Honorary Member of the AUA in 2021 for contributions in urologic research and leadership.



Glenn M. Preminger, MD

James F. Glenn, M.D. Distinguished Professor of Urology
Chief, Division of Urology
Director, Endourology, Metabolic Stone Disease, Laparoscopic and Robotic Surgery Fellowship
Professor of Surgery, Duke University

Dr. Preminger is Director of the Endourology, Metabolic Stone Disease, Laparoscopic and Robotic Surgery Fellowship at Duke University School of Medicine. He is a nationally and internationally recognized leader in the minimally invasive management of urinary tract stones including shock wave lithotripsy, percutaneous and ureteroscopic stone removal, as well as the comprehensive metabolic evaluation and preventative medical treatment of nephrolithiasis. He has had extensive experience in the development of endoscopic instrumentation for minimally invasive urologic procedures and holds

eight patents in shock wave lithotripsy design. He along with his collaborator established The Lithotripsy Laboratory within the Comprehensive Kidney Stone Center to study shock wave physics and tissue effects within the realms of shock wave lithotripsy and intracorporeal lithotripsy devices. He has held numerous national and international committee chair positions, including American Urological Association Office of Education and holds an editorial position with Urology and Journal of Endourology. Dr. Preminger serves on the KURe Advisory Board.



Andrew Schrepf, PhD

Professor
Anesthesiology

Andrew Schrepf is a Research Assistant Professor in the Department of Anesthesiology and the Chronic Pain and Fatigue Research Center. His work focuses on the inflammatory and immunological substrates of centralized pain conditions, such as fibromyalgia, temporomandibular disorder, and chronic pelvic pain. His work uses deep phenotyping techniques including gene expression, provoked inflammatory responses, neuroimaging, and quantitative sensory testing to determine the neurobiological mechanisms of symptoms common to

chronic pain conditions, obesity, and cancer. Much of his recent work focuses on Urologic Chronic Pelvic Pain Syndrome.



Karl-Dietrich Sievert MD, PhD, FACS, FRCS

Prof. of Urology and Chair
Klinikum Lippe, Department of Urology
University Clinic of Bielefeld, Detmold, Germany

Adjunct Professor, Reconstructive Urology and Uro-Oncology
Department of Urology, Comprehensive Cancer Center
Medical University Vienna, Vienna, Austria

Prof. Karl-Dietrich Sievert is a German board-certified urologist, bioengineer and urologic surgeon who was recruited to chair the Urology Department at the start-up University Hospital East-Westfalia-Lippe.

Prof. Sievert built his 25-year clinical career as a highly-skilled laparoscopic and certified DaVinci Robotic surgeon and has been internationally recognized for his breadth of surgical expertise by both the American (FACS) and Royal College of Surgeons (FRCS). Prof. Sievert initiated four interdisciplinary (urology, obgyn, neurology, general surgery, geriatric, physiotherapy) pelvic incontinence centers which he considers a critical cornerstone of urological care.

Prof Sievert has participated in numerous visiting international professorships, training programs, university program assessments as well as being a board member in urological and reconstructive surgery organizations. He is a recurring contributor and opinion leader at the annual Academic European Urology, German, European, American Urology Association meetings. In the European Association of Urology, he is a lecturer and surgical trainer for the European School of Urology, Master Class and Resident Urology Program.

Prof. Sievert has received awards and funding for his clinical trials, teaching and basic research. He pioneered the adoption of novel diagnostic techniques and minimally-invasive treatments. Professor Sievert's clinical and basic research interests include a wide range of urological disorders: oncology (investigation of advanced detection tools and minimal invasiveness to improve functional outcomes through anatomical findings), neuro-urology (diagnosis/treatment of urological nerve disorders), incontinence (pathophysiology), reconstructive surgery (medical devices, tissue engineering and stem

cell treatments), LDDM (muscle tissue regeneration for enhanced bladder voiding), pharmacotherapy (novel clinical trials) and the progressive and innovative treatment of SCI patients, such as early SNM implantation, which he won a 2010 Klee Innovation award resulting in several patents.

His extensive knowledge of stem cell research and regenerative medicine have been recognized as he is one of the few experts who is both a urological surgeon and a basic researcher. His primary focus is to bring research initiatives from the laboratory to clinic.



Maryrose Sullivan, PhD

Research Health Scientist, VA Boston Healthcare System
Assistant Professor of Surgery, Brigham and Women's Hospital
Harvard Medical School

Dr. Sullivan's scientific interests have focused primarily on benign disorders of the bladder, including those related to outlet obstruction, diabetes, spinal cord injury and Parkinson's disease. Her research is aimed at uncovering mechanisms responsible for bladder function/dysfunction and urinary incontinence, with the ultimate goal of identifying targetable pathways for intervention and alleviating lower urinary tract symptoms. As a research scientist and biomedical engineer, her research projects exploit a number of

multidisciplinary approaches to interrogate these pathways at the cellular, tissue and whole animal levels and include imaging, in vitro, ex vivo and in vivo techniques. With funding by the Department of Veterans Affairs and NIDDK, she has published numerous original articles, chapters and reviews on topics related to urinary incontinence, bladder contractility, bladder outlet obstruction, neurogenic and non-neurogenic detrusor overactivity, and diabetic bladder dysfunction. She has been fortunate to be involved in mentoring and supervising many urology residents, post-docs, medical students and junior faculty. She is also an active member of the AUA, SUFU, SPR and ICS, and serves on the editorial board of several urology focused journals. Dr. Sullivan serves on the KURe Advisory Board.



Philip J. Walther, MD, PhD, MBA, FACS

Professor of Surgery/Urology
Associate Professor of Experimental Pathology
Duke University

Dr. Walther received his MD-PhD as a Duke MSTP trainee; his urologic residency at UCLA; an American Cancer Society junior faculty fellowship at Duke; and subsequently an MBA from Duke's Fuqua School of Business (health care management). His lab research interests have been: 1) Developmental GU onco-therapeutics using human xenograft-supported GU tumors (primarily bladder) 2) the genomic elucidation of the role of oncogenic HPV genotypes with lower GU cancers (bladder, penis, and urethra). He served as Chair, GU Surgery Subcommittee of the NIH-funded cooperative study group-CALGB. He was the Site PI at Duke for the first NIH-sponsored multi-institutional study of immune-therapeutics of renal cancer using high-dose interleukin-2, and served as PI of a R21-funded grant to initiate an institutional research program in Prostate Cancer (seeding startup seed research grants). He also was PI of a VA-based epidemiologic effort (with Community Medicine) in the study of relevant black vs. white genomic differences associated with Prostate Cancer occurrence. Finally, he served on the Study Committee of a 7 year, 35000+ man NIH-sponsored nutritional intervention Prostate Cancer prevention study (Vitamin E vs. Selenium -SELECT). Dr. Walther serves on the KURe Advisory Board.