Soman Abraham, PhD (Basic/Translational Research) Grace Kerby Distinguished Professor of Pathology, Molecular Genetics & Microbiology, Immunology. The Abraham laboratory has a long-standing interest in the pathogenesis of E.coli induced urinary tract infections (UTIs) as well as in the innate and adaptive immune responses that these infections evoke. Based on the knowledge gained, they are developing novel and effective approaches to prevent and treat recurrent UTIs.

Cindy L. Amundsen, MD (Clinical Trials, Clinical Mentor) Roy T. Parker Professor of Obstetrics and Gynecology, Division of Urogynecology and Reconstructive Surgery, Associate Professor of Surgery, Division of Urology. Dr. Amundsen is the Program Director for the K12 Multidisciplinary Urologic Research Career Development Program and Director of the Female Pelvic Medicine and Reconstructive Surgery (FPMRS) fellowship since 2001. She is a urogynecologist and recognized expert in treating lower urinary tract and pelvic floor disorders. Her main clinical research is devoted to understanding the etiology and treatment of urgency urinary incontinence in both the neurogenic and non-neurogenic population as well as voiding dysfunction and nocturia. Along with Dr. Kevin Weinfurt (Psychiatry), she is a Duke Co-PI for the Lower Urinary Tract Dysfunction (LUTD) Research Network, funded through NIDDK. This network aims to produce high quality patient-reported measures of LUTD and to use these new measures in exploratory studies to advance our understanding of LUTD and its treatment.

Deverick Anderson, MD, MPH, Professor of Medicine. Dr. Anderson's research interests are in prevention of harm related to infectious diseases among hospitalized patients, to prevent the spread of multidrug-resistant pathogens, and antimicrobial stewardship. He has helped lead the Duke Prevention Epicenters Program through several important studies, including studies related to risk-adjustment and antimicrobial stewardship. His expertise is in randomized controlled trials evaluating various aspects of healthcare epidemiology such as the universal glove and gown use and acquisition of antibiotic-resistant bacteria in the ICU, evaluating clinical and financial outcomes of hospital infections, and multicenter trials to evaluate strategies to prevent hospital infections. He is an enthusiastic mentor of junior faculty and postdoctoral associates. His abundant knowledge aligns with KURe scholars interested in the society effects of hospital-acquired UTIs.

Daniel Benjamin, MD, PhD, MPH (Clinical Trials, Epidemiology; Program Lead for Clinical Trials) Kiser-Arena Distinguished Professor of Pediatrics, Principal Investigator and Chair of the National Institute of Child Health and Human Development's Pediatric Trials Network. Dr. Benjamin is an expert in clinical trial design, execution, and regulatory considerations and provides mentorship in the use of epidemiology to inform clinical trials and public policy. He has led multi-center studies for pediatric labeling including 3 multi-center PK trials of antifungal agents in premature infants. He is the PI of multiple federal-sponsored grants and contracts. He served as the PI for the Pediatric Trials Network, a $95 million initiative to describe the PK and Safety of off-label drugs in children. He has collaborated with the FDA on a series of projects related to the Pediatric Exclusivity Program, through which he learned the specific intricacies related to pediatric drug trials regulations and ethical considerations. He is recognized by the National Institutes of Health as a premiere mentor and educator. His research program serves as a platform to train students and early career investigators.

Jen-Tsan Ashley Chi, MD, PhD (Basic/Translational Research, -omics) Associate Professor in the Dept. of Molecular Genetics and Microbiology and Duke Center for Genomic and Computational Biology. Dr. Chi's research interests are to use functional genomic approach to understand the nutrient addiction and stress adaptive pathways of human cancer cells.

Lesley Curtis, PhD (Epidemiology, HSR) is Chair and Professor in Population Health Sciences and directs the Center for Pragmatic Health Systems Research in the Duke Clinical Research Institute. Her research uses observational data to address questions about clinical and comparative effectiveness, pharmacoepidemiology, health care delivery, and epidemiological trends. Clinical areas of interest include heart failure, atrial fibrillation, eye diseases of the elderly, and cancer. An expert in the use of Medicare claims data for health services and clinical outcomes research, she has led the linkage of Medicare claims with several large clinical registries and epidemiological cohort studies including the Framingham Heart Study and the Cardiovascular Health Study. Over the last 15 yrs. she has guided more than 20 research fellows and medical students. Under her guidance, fellows have published more than 40 first author, peer-reviewed manuscripts including papers in JAMA, Circulation, and the Journal of the American College of Cardiology. In addition, she

has served as primary mentor to 3 post- doctoral fellows at DCRI.

Lawrence David, PhD, Assistant Professor, Molecular Genetics & Microbiology. Dr. David is an interdisciplinary scientist, with expertise in genomic and computational biology. He has been awarded several young investigator awards and was listed in Science News' "10 Scientists to Watch" for extensive microbiome research (commensal microbes and human microbiota) related to LUTS and urinary tract infections. He is known for his productivity and innovative approaches to understanding, predicting, and manipulating how human microbiota behave over time.

Mark Dewhirst, DVM, PhD (Basic/Translational Research; Program Leader for Basic/Translational Research) is the Gustavo S. Montana Prof. of Radiation Oncology, Professor Emeritus of Radiation Oncology, and Assoc. Dean for Faculty Mentoring. His research interests include hyperthermia for treating cancer, tumor hypoxia, angiogenesis and drug transport. He pioneered new methods for improving tumor oxygenation and has worked with clinical faculty to test these concepts in patients. As Assoc. Dean for Faculty Mentoring, his primary aim is to train young scientists from fellow to Full Prof., to be better grant writers and to mentor young scientists in the skills to enable them to become successful scientists. He has led the Pathway to Independence and K-Club programs. He has extensive experience and success in mentoring junior faculty. His mentees have successfully obtained K08, K12 and K99 grants and numerous DOD fellowships.

Matthew O. Fraser, PhD (Basic/Translational Research) Associate Professor of Surgery, Division of Urology; Director of Clinical & Basic/Translational Research Course; Director of the Urology Surgeon Scientist Program, Research Physiologist at the Durham VA. Dr. Fraser holds a dual-degree Ph.D. in Physiology and Neuroscience. His research interests include pelvic visceral sensory and motor function and dysfunction, with a primary focus on the lower urinary tract using animal and in vitro models. He served as the Director of the Pelvic Medicine Research Consortium, an officially recognized entity supported by the Duke SOM, and is also the Founder and past President of the Society for Pelvic Research.

Ken Gall, PhD, Professor in the Dept., of Mechanical Engineering & Materials Science, Associate Director of the Pratt School of Engineering, MEDx Initiative. Dr. Gall's research ranges from the discovery of a new phase transformation in gold nanowires to the creation and understanding of several new functional biomaterials. His scientific expertise is focused on mechanical behavior and this covers a broad range of technologies and length scales allowing him to work in many fields. He has developed expertise in navigating the difficult road of getting a medical device to market, by his role as an expert witness in multiple patent and product litigations involving materials across several industries, having several dozen patents himself and having founded two medical device start-up companies. This knowledge is valuable to our K12 scholars who are interested in investigating novel neuromodulating devices to improve voiding dysfunction as well as exploring other 3D polymers for the surgical treatment of urinary incontinence.

Warren Grill, PhD, Edmund T. Pratt, Jr. School Distinguished Professor of Biomedical Engineering, Professor of Biomedical Engineering, Neurobiology, Electrical and Computer Engineering (Basic/Translational Research). Dr. Grill has research interests in neural engineering and neural prostheses which includes design and testing of electrodes and stimulation techniques, the electrical properties of tissues and cells, and computational neuroscience with applications in restoration of bladder function, treatment of movement disorders with deep brain stimulation, and multi-joint limb movement.

Helen Hoenig, MD, MPH, Professor of Medicine, Medicine – Geriatrics. Dr. Hoenig's research focuses on rehabilitation, with a focus on assistive technology and teletechnology. Patient populations of interest include geriatric patients with diverse medical problems including stroke, spinal and/or musculoskeletal disorders. She is experienced in conducting randomized controlled trials, epidemiological studies including large data base analyses, and survey research.

Monty Hughes, PhD, Assistant Professor in Surgery, Surgery – Urology. Dr. Hughes conducts high-level scientific studies of the underlying biochemistry/cell biology/physiology of the urinary system. He is a trained biologist with 65 publications in cell biology, biochemistry, physiology and immunology. He also serves as the director of the Urinary Dysfunction Laboratory, a collaborative research lab with Dr. Todd Purves. The lab's research program centers on inflammation in the bladder as an underlying cause of benign urologic diseases, particularly bladder outlet obstruction and diabetic bladder dysfunction. Dr. Hughes has extensive experience training mentees at all levels from post graduate to undergraduate.

Eric Jelovsek, MD, Associate Professor in Obstetrics and Gynecology, Vice Chair of Education, Director, Data Science for Women's Health. Dr. Jelovsek's current research interests focus on statistical models in the field of Female Pelvic Medicine and Reconstructive Surgery. With the advancement of statistical learning techniques and training in Data Science, Dr.

Jelovsek has devoted efforts to improving the accuracy of the informed consent process between patients and surgeons. He has been a part of the Duke multidisciplinary team in the LURN Network as much of the efforts in the network is working to "individualize" medicine to patients with pelvic floor disorders. Dr. Jelovsek has extensive experience with mentoring and education, having been the Program Director for the OB/GYN Residency Program, Medical Director of the Multidisciplinary Simulation and Advanced Skills Center and Vice Chair of Education at Cleveland Clinic before coming to Duke. He mentors early career investigators who are interested in learning how to build, code and test prediction models. He has significant experience building structured curricula specifically in the area of statistical modeling that is directed at the practicing clinician and trainee and works in multidisciplinary research teams dealing with data science topics including: computer scientists, statisticians, data scientists, software engineers and biomedical engineering. In addition, he has significant clinical research experience as an investigator in the NICHD Pelvic Floor Disorders Network (PFDN).

William Kraus, MD, (Clinical Trials), Richard and Pat Johnson Distinguished University Professor of Cardiovascular Genomics, Professor of Medicine, School of Medicine. Dr. Kraus focuses on understanding the cellular signaling mechanisms underlying the normal adaptive responses of skeletal muscle to physiologic stimuli, such as occur in exercise conditioning, and to understand the abnormal maladaptive responses that occur in response to pathophysiologic stimuli, such as occur in congestive heart failure, aging and prolonged exposure to microgravity. A second focus is physiologic examination of exercise effects in humans in trials of exercise training in normal individuals, in individuals at risk of disease (such as pre-diabetes), and in individuals with disease (CAD and CHF). A third focus is exploration of genetic determinates of disease risk in human subjects.

Matt Maciejewski, PhD (HSR) Professor, Dept. of Population Health Sciences; Research Career Scientist and Director of the Health Economics and Policy Unit in the Center for Health Services Research in Primary Care at the Durham VA Medical Center. Dr. Maciejewski uses large administrative data to conduct research in 3 areas: 1) clinical and economic impacts of cost barriers to medication and health care use, 2) evaluation of programs and interventions for the management of obesity and chronic conditions, and 3) primary care decision-making by veterans and Medicare beneficiaries. He has several NIH and VA grants to support this work. He has been the primary mentor for doctoral students, Master's students, and post-doctoral fellows.

Susan K. Murphy, PhD (Translational Research) Associate Professor, OBGYN; Chief, Division of Reproductive Sciences. The Murphy Lab is interested in the study of ovarian cancer etiology and biology, ovarian cancer stem cells and the establishment and maintenance of DNA methylation in humans. The lab focuses on how epigenetic deregulation is associated with altered neurodevelopment and disease and the use of epigenetic profiles to help with detecting risk of later adverse outcomes as well as for developing tests for early diagnosis and for guiding therapeutic decisions.

Evan Myers, MD, MPH (Epidemiology, HSR) Walter L. Thomas Distinguished Professor of OBGYN, Professor of Obstetrics and Gynecology, Chief of the Division of Clinical & Epidemiologic Research, OB/GYN. Dr. Myers' research focuses on application of quantitative methods, especially mathematical modeling and decision analysis, to problems in women's health. Recent and current activities include integration of simulation modeling and systematic reviews to inform decisions surrounding cervical, ovarian, and breast cancer prevention and control, screening for postpartum depression, and management of uterine fibroids. He also has extensive experience as a teacher and mentor for a wide range of learners, including junior faculty and has trained multiple prior trainees on NIH training grants.

Chris Newgard, PhD (Basic/Translational Research/-omics) W. David and Sarah W. Stedman Distinguished Professor of Pharmacology & Cancer Biology, and Medicine, Professor of Pharmacology and Cancer Biology, Director, Sarah W. Stedman Nutrition and Metabolism Center. Dr. Newgard has devoted his professional career to metabolic research. After coming to Duke in 2002 to lead the Sarah W. Stedman Nutrition and Metabolism Center he developed a comprehensive metabolic profiling ("metabolomics") platform to support the work of his own laboratory, and numerous collaborating laboratories at Duke and at outside institutions. He and his colleagues formed the Duke Molecular Physiology Institute in 2013, which focuses on use of multi-omics technologies for development of new disease detection and intervention strategies.

Drew Peterson, MD (Clinical Mentor) Professor, Surgery Division of Urology. Dr. Peterson is a fellowship-trained urological surgeon with special expertise in voiding dysfunction and reconstructive urology. His research interests include improving the care of cancer survivors and the prevention of genitourinary side effects from various medical, surgical and radiation therapies for cancer. His clinical interests include reconstructive urology and bladder dysfunction in men and

women; urinary incontinence in men; reconstruction for urethral stricture and trauma; new bladder construction and urinary diversion. He is the former Director of the Reconstructive Urology and Genitourinary Cancer Survivorship Fellowship and former Director of the Urology Residency Program.

Kathryn Pollak, PhD (Clinical Trials, HSR) Professor, Dept. of Population Health Sciences, Professor in the Dept. of Family Medicine and Community Health. Dr. Pollak is a social psychologist who designs and tests behavioral interventions to promote smoking cessation, reduce health disparities, and improve clinician-patient communication. She also is one of the heads of the Palliative Care Research Cooperative that supports multi-site palliative care trials. Finally, Dr. Pollak serves as a Communication Coach where she teaches clinicians effective communication techniques. She has mentored several post-doctoral fellows and medicine fellows.

Glenn Preminger, MD (Clinical Mentor), James F. Glenn, M.D. Distinguished Professor of Urology, Professor of Surgery, Division Chief of Urology in the Department of Surgery. Dr. Preminger is a world leader in the field of endourology and kidney stones. He has a life-long commitment to education and is the former Director of Education for the AUA and former Program Director for the Urology residency. His research focuses on metabolic aspects of stone disease and collaborates with Dr. Pei Zhong on modifications to improve the efficacy of shock wave lithotripsy.

J Todd Purves MD, PhD (Translational Research/Clinical Mentor) Associate Professor of Surgery. Dr. Purves is a pediatric urologist in the Division of Urology at Duke where he spends half of his time as a clinician and the other half running an NIH funded laboratory. His lab focuses on projects that have direct relevance to the disorders that are regularly encountered by practicing urologists and urogynecologists in the clinic. The lab is particularly interested in common underlying pathways that may be affected in multiple diseases as well as translational approaches that may quickly enhance treatment protocols. The innate immune system within the bladder is invariably involved in benign conditions, regardless of the type and etiology of lower urinary tract symptoms in each particular patient. He serves as mentor on multiple NIH-funded training grants.

Shelby Reed, PhD (HSR) Professor, Dept. of Population Health Sciences; Professor in Medicine, General Internal. Dr. Reed is experienced in designing and conducting trial-based and model-based economic evaluations of medical interventions across a broad range of conditions. She has led numerous descriptive and comparative effectiveness studies using trial databases, health care claims and disease registries. Her interests include handling and representing uncertainty in economic evaluations, hierarchical modeling, and conjoint analysis. She was PI of an R01 to develop tools to assist healthcare providers and analysts in estimating costs and cost-effectiveness of patient-focused interventions in heart failure. For 4 yrs., she directed Post-Doctoral Fellowships in the Center for Clinical and Genetic Economics. She continues to mentor post-PhD fellows and has worked with fellows in Urology on secondary analyses of Medicare data.

Herman Staats, PhD, Professor of Pathology. Dr. Staats' laboratory focuses on the development and testing of novel adjuvants for use with vaccines for infectious diseases. He is currently the PI of NIH-funded projects to evaluate mucosal immunization strategies for HIV vaccines and to develop new vaccine adjuvants. He served as a permanent member on the NIH study section Vaccines for Microbial Diseases and currently serves as an editor for Clinical and Vaccine Immunology. He has served on numerous Duke University and School of Medicine committees including the Academic Council, Research Policy Committee, Basic Sciences Faculty Steering Committee, Institutional Animal Care & Use Committee and the Standing Committee on Misconduct in Research.

Chuck Scales MD, Associate Professor of Surgery, Associate Professor in Dept. of Population Health Sciences. Dr. Scales has extensive clinical and health services research training and experience having completed training in clinical and health services research in the Duke Clinical Research Training Program and the UCLA Robert Wood Johnson Clinical Scholars Program. His research has been to use large administrative data to evaluate the quality of clinical research and statistical methods in the urological literature as well as urologic practice patterns, cost effectiveness of urologic treatment and the epidemiology of urologic disease. He is the Principal Investigator for the scientific data research center of the NIDDK Urinary Stone Disease Research Network (U01). His research is in clinical and health services research in benign urological disease, with a focus on stone disease. The NIDDK Urinary Stone Disease Research network plans to identify methods to increase adherence to fluid intake for secondary prevention of stones, test interventions to mitigate patient symptoms from ureteral stents, and establish a biorepository and data warehouse for future research. He has a successful track record for competing for support and publishing manuscripts through an NIH Medical Student Research Training Grant, the CaPSURE Scholars program, the NIDDK-sponsored Urologic Diseases in America Project, the NIH/NIA GEMSSTAR R03

program and has mentored pre- and post-doctoral trainees. His experience in grant submissions and knowledge in funding sources for urologic research will be valuable to KURe scholars.

P. Brian Smith, MD, MHS, MPH (Clinical Trials, Epidemiology, HSR), Samuel L. Katz Distinguished Professor of Pediatrics. Dr. Smith has expertise in clinical trial design, HSR and epidemiology. His research program is focused on using clinical trials and databases to evaluate dosing, safety, and efficacy of therapeutics in children. He has published >180 articles. He has experience leading multi-center studies, including trials for pediatric drug labeling. He served as Chief of the Division of Quantitative Sciences in the Dept. of Pediatrics. He directly mentors medical students, residents, fellows, and junior faculty. He also served as the Assoc. Dir. of Duke Clinical Research Institute's research fellowship. He has mentored/co-mentored faculty, pediatric subspecialty fellows, pediatric residents, medical students, and undergrads.

George Webster, MD (Clinical Mentor), Professor of Surgery, Division of Urology. Dr. Webster is world-renowned in urodynamics, neurourology, prosthesis for urinary incontinence, reconstructive urology and voiding dysfunction. He received lifetime achievement awards from the AUA and the British Association of Urologic Surgeons. He has collaborated with the Urogynecology Division for the many years and has recruited participants for Pelvic Floor Disorders Network protocols and served as investigator in the Lower Urinary Tract Network (LURN), an NIDDK sponsored network. Dr. Webster has extensive experience mentoring fellows and residents.

Kevin Weinfurt, PhD (Clinical Trials), Professor and Vice Chair for Research in the Department of Population Health Sciences as well as Co-Director of the Center for Health Measurement. Dr. Weinfurt also co-directs the Duke Clinical Research Training Program and teaches a course on patient-reported outcomes in clinical research. His main research interests are at the intersection of medical decision making and bioethics and assessing patient reported outcomes in clinical research. He has been PI on multiple R01 and U01s studying patients' quality of life and decision making in various settings. He led the development of the NIH PROMIS Sexual Function and Satisfaction measure. He has taught undergraduate, graduate, and post-doctoral students and served on many thesis committees in psychology, the Fuqua School of Business, and the Clinical Research Training Program.

Kent J. Weinhold, PhD (Basic/Translational research), Joseph W. and Dorothy W. Beard Prof. of Surgery (with tenure), Chief of the Division of Surgical Sciences, Prof. of Immunology, and Dir. of Duke Center for AIDS Research. Dr. Weinhold has served as PI for the AIDS Vaccine Evaluation Group and HIV Vaccine Trials Network Central Immunology Laboratory charged with monitoring humoral and cellular immune responses elicited by candidate HIV-1 vaccines in Phase I/II trials. His research focuses on the comprehensive profiling of human immune reactivities associated with preventive and therapeutic vaccine strategies, as well as the search for cellular and soluble immunologic biomarkers to predict disease outcomes. He has published over 185 original articles, and has chaired numerous NIH Review Groups and Special Emphasis Panels.

John Wiener, MD (Clinical Mentor), Professor of Surgery, Division of Urology and Chief of Pediatric Urology. Dr. Wiener is a master clinician and senior pediatric urologist specializing in all areas of pediatric urology. He is very committed to education and serves as the Assoc. Program Director for the Urology residency. Dr. Wiener has served in national leadership positions in pediatric urology including President of the Society of Fetal Urology, Executive Council of Society for Pediatric Urology, and the Examination Committee of the American Board of Urology. His research interest include genetic causes of congenital defects of the kidneys and genitourinary tract and the urologic management of spina bifida. He is currently funded by NIH for the genetic work and by the CDC as a Principal Investigator for the National Spina Bifida Patient Registry.

William Yancy, MD, MHS, FTOS (Clinical Trials, HSR), Professor of Medicine, Director, Duke Diet and Fitness Center; Research Associate in the Center for Health Services Research in Primary Care, Staff Physician in Ambulatory Care, and Co-Dir. of the MOVE! Weight Management program at the Durham VA. Dr. Yancy is also an Assoc. Prof. in the Dept. of Medicine at Duke and is co-director for the Clinical Research Seminar course in the Duke Clinical Research Training Program. His research involves clinical trials investigating the safety, effectiveness, tolerability, and feasibility of diets and medications for weight loss; the relationship of obesity with health outcomes and with utilization of health care services; and innovative approaches to improving adherence to lifestyle recommendations and prescription medications.

Lingchong You, PhD, Professor of Biomedical Engineering, Associate professor in Molecular Genetics and Microbiology. Dr. You's research examines different mechanisms underlying collective antibiotic tolerance, the impact of antibiotic treatment on conjugation dynamics, as well as design of antibiotic treatment protocols. He research aims to elucidate

design principles of biological networks inside and between cells. He has applied quantitative methods to the analysis of bacterial dynamics in a broader context, including cell size control, stochastic uptake of bacteria by mammalian cells, and deduction of phenotypic signatures from unbalanced bacterial growth. He has pioneered the use of cell-cell communication to program bacterial dynamics in time and space as well as the use of quorum sensing to program bacterial dynamics. Quorum sensing (QS) is a mechanism by which many bacteria synthesize and respond to small signaling molecules to communicate between cells. In part thanks to analysis of synthetic gene circuits, his lab has come to recognize ubiquitous presence of collective antibiotic tolerance, or inoculum effect, which is underappreciated in studies of bacterial responses to antibiotics.

Pei Zhong, PhD (Basic/Translational Research), Professor in the Department of Mechanical Engineering and Materials Science. Dr. Zhong has been researching therapeutic ultrasound for over 20 yrs. His research focuses on four broad and interconnected areas in the emerging field of therapeutic ultrasound, which is located at the interface of engineering, biology and clinical medicine: ultrasound-targeted gene delivery and activation, synergistic combination of high-intensity focused ultrasound (HIFU) and immunotherapy for cancer treatment, innovations in shock wave lithotripsy (SWL) technology, and mechanics and bioeffects of acoustic cavitation. Dr. Zhong was a member of the AUA Task Force on SWL from 2007 to 2009.