



ONE OF OUR BEST GRADUATES RETURNS TO UW

STEPHEN HALL, CPA
ADMINISTRATOR

Dr. Sara Best

recently joined the Department of Urology after completing a fellowship in Endourology and Minimally Invasive Urology at the University of Texas-Southwestern in Dallas. Dr. Best is a graduate of the University of Wisconsin Urology Residency Program. Prior to residency, she earned a Bachelors of Science in Genetics from UW, earned her MD from the UW School of Medicine and Public Health, and completed an Endourology Research Fellowship at the University of Minnesota.

Dr. Best's clinical practice will focus on kidney cancer and genitourinary stone disease, utilizing the latest laparoscopic and robotic surgical techniques. "More and more frequently, kidney cancer is detected in early stages, often incidentally through a CT scan performed for another condition," notes Dr. Best. "Historically, small renal masses were treated by removing the entire kidney. Today, many of these cancers can be treated by nephron-sparing partial nephrectomy. Removing the mass, rather than the entire kidney, helps preserve renal function."

In addition to the traditional open partial nephrectomy, there are minimally invasive options for many patients. The hand-assisted laparoscopic partial nephrectomy allows for smaller incisions and faster recovery time. In the past five years, some medical centers, including UW, have started to offer the robot-assisted laparoscopic partial nephrectomy.

This operation allows smaller incisions than the hand-assisted surgery, while providing three-dimensional images to the surgeon and mimicking the articulation of the human wrist. Dr. Best notes that these advantages can sometimes allow the surgeon to reconstruct the kidney more quickly, reducing the time that the blood supply is clamped-off from the kidney.

"Robotic technology provides advantages for other non-cancer kidney surgeries as well," says Dr. Best. For example, pyeloplasty surgery for ureteropelvic junction obstruction (UPJO) can be performed with the surgical robot. Along with her extensive training in laparoscopy and robotic surgery, Dr. Best is well-versed in the latest endourologic approaches to treatment of stones and other diseases of the genitourinary tract.

Dr. Best is also a researcher with a focus on optics technology. She plans to collaborate with other physician scientists at UW on a hyper-spectral imaging system. With this technology, a highly sensitive camera shines a light on tissue of interest and analyzes the spectrum of light that bounces back. The camera is capable of detecting spectral signatures of different molecules, such as measuring hemoglobin oxygenation in the kidney before, during, and after renal surgery. In the clinical setting, surgeons could modify their operative approach based on this information. The system could also be used in the research setting to measure oxygenation of the kidney in

an animal model under various levels of minimal blood flow to the kidney. Similarly, an animal model could be utilized to test the effects of various medications on renal oxygenation.

Dr. Best is pleased to join the UW, a place where she completed much of her medical training and where she will bring the latest developments in urologic care to patients in our region. "Technology has advanced such that we are now able to provide excellent outcomes for patients while helping them recover quickly and get back to their normal lives," says Dr. Best. "I'm excited to come to work every day." **WU**



Sara Best, MD
ASSISTANT PROFESSOR OF UROLOGY



STEPHEN Y. NAKADA, MD

I hope you all had an enjoyable summer, and this fall is teeming with anticipation. In the department, much progress has been made, and we are delighted to announce the arrival of two new faculty members, Drs. Sara Best and Granville Lloyd.

Sara Best, MD, joins the department after completing a prestigious minimally invasive fellowship at UT Southwestern,

>> A MESSAGE FROM THE CHAIR

and will bring the latest in single port surgery, robotic upper tract procedures, and strong skills in endourology. Granville Lloyd, MD, is fresh off a Robotics fellowship at the University of Rochester, and he will work at our One South Park campus, alongside Drs. David Paolone, Andrew Graf and John Wegenke.

This fall represents a change of guard in our residency program director role, with Dan Williams, MD, assuming this vital position. As many of you know, Dan trained at Northwestern and he has many great ideas for our program over the next six years. We are also fortunate to have Barb Lewis, formerly the medical student educator for the Department of Surgery, take over as our new residency program coordinator. This will be a strong team to guide us through the coming years.

John Kryger, MD, concluded his run as the residency program director in June. This is a bittersweet end for John as he has accepted a position as head of Pediatric Urology at Children's Hospital of Wisconsin. John has served his fellow faculty

and the department well over the last decade. He will surely be missed but we wish him all the best.

David Paolone, MD, has taken on the medical directorship at One South Park, and thus far he has done a superb job. I am happy to announce Jason Abel, MD, has been named to the board of the Society of Urologic Oncology, and Tracy Downs, MD, recently chaired the Oncology session at the National Medical Association. Finally, I look forward to our fall Uehling lecturer, Eric Klein, MD, Chair of the Glickman Institute, on November 18, 2011, and our winter Lescrenier lecturer, Robert Bahnson, MD, Chair at Ohio State, scheduled for March 15, 2012.

I hope to see many of you at the Uehling Lectures, and until then, go Badgers! **WU**

STEPHEN Y. NAKADA, MD, FACS
CHAIRMAN AND THE UEHLING
PROFESSOR OF UROLOGY

>> PROGRAM NEWS

2011-2012 First-Year Residents

BARB LEWIS, RN, MS



**JENNIFER
HECKMAN,
MD, MPH**

Jennifer Heckman, MD, MPH

Dr. Heckman received her medical degree from Jefferson Medical College of Thomas Jefferson University in Philadelphia in 2011. She graduated with a Bachelor of Science in Molecular and Cellular Biology in 2006 from Johns Hopkins University. In addition, prior to her fourth year of medical school, she earned a Master's in Public Health from Johns Hopkins Bloomberg School of Public Health.

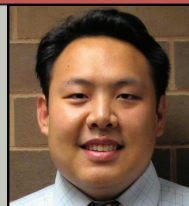
Dr. Heckman has a volunteer history including providing primary health

care to underserved populations in Philadelphia homeless shelters; traveling to Rwanda to work with a genocide survivors' village on health surveys and nutrition/malnutrition monitoring and education; and HIV/AIDS research in India. In addition, she shared her international experiences with other students to promote cross-cultural opportunities in medicine. She helped interview medical school applicants, served as liaison between medical students and faculty and university administration and helped organize a number of medical student activities including urology information sessions.

Dr. Heckman's hobbies and interests include running, soccer, ultimate Frisbee, cooking, reading, photography, and traveling.

Jonathan Shiao, MD

Dr. Shiao received his medical degree from the University of California, San Diego School of Medicine in La Jolla, California in 2011. Dr. Shiao graduated summa cum laude in Bioengineering/Pre-Medicine in 2006 also from UC-San



**JONATHAN
SHIAU, MD**

Diego. Prior to his fourth year of medical school, Dr. Shiao devoted six months to research in the field of Urology. During that time he worked with several principal investigators including Dr. Tracy Downs and Dr. Ithaar Derweesh.

Dr. Shiao has volunteered for Doctors Ought to Care, free clinics for the medically underserved in San Diego, and at a summer camp for children who have a parent with cancer. Dr. Shiao was the co-founder and president of the Urologic Surgery Interest Group at UC-San Diego with a number of activities aimed at promoting the field of Urology.

Dr. Shiao's interests include basketball, water polo, cooking, traveling, watching movies, playing saxophone, and collecting sneakers. **WU**

>> UNIQUE RESEARCH FOR A COMMON PROBLEM



**WILLIAM
RICKE, PhD**
ASSISTANT PROFESSOR

From bacteria to cranberries, Dr. Walt Hopkins' research brings us closer to understanding and treating urinary tract infections and prostatitis.

Dr. Hopkins has been with the University of Wisconsin Department of Urology since 1984. He was born and raised in Cleveland and received his BS from the University of Notre Dame where he majored in Chemistry and Biology. He later pursued research training and obtained his PhD in Immunology at the University of Chicago. After graduation, Dr. Hopkins taught Microbiology and Immunology at Marian College in Fond du Lac, Wisconsin. He later accepted a staff scientist position in the University of Wisconsin Department of Urology, working closely with Drs. David Uehling, Rod Welch (Department of Medical Microbiology), and Jess Reed (Department of Animal Sciences).

Dr. Hopkins' research group focused on the role of bacteria, namely *E. coli*, in urinary tract infections (UTIs) and prostatitis. His initial federal and industry-funded research emphasized the importance of host immunity and genetics as important factors in resistance to bacterial infection and subsequent UTI. His group developed a vaccine for recurrent UTIs in women and completed two successful phase II clinical trials proving the vaccine's efficacy.

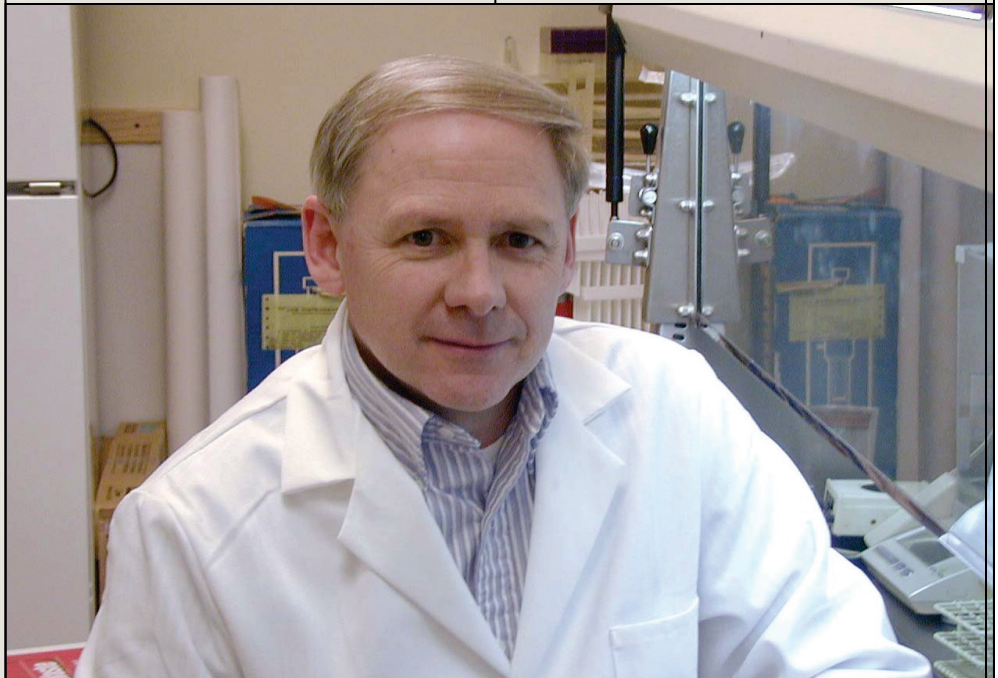
Using mouse models for UTI, the Hopkins Lab is now addressing why certain women experience repeated infections, while others appear unaffected. Identification of various regions of host DNA have

narrowed the search for potential genes for increased susceptibility to *E. coli* UTI in women. Future experiments are designed to determine which specific gene(s) play a key role in resistance to infection and provide a basic understanding of how infections occur. Moreover, Dr. Hopkins' group aims to therapeutically target these potential pathways to provide the basis for further immunization strategies.

Another research area of the Hopkins' Lab includes the use of Wisconsin-grown cranberries and other nutraceuticals (food products that provide health and medical benefits) in the treatment of UTIs and prostatitis. Although cranberry juice has been traditionally enjoyed by many with a potential benefit to aid in UTI prevention, investigation of the active compounds found within the whole cranberry may prove more useful. Dr. Hopkins and his colleagues plan to determine if there is a clinical benefit in the consumption of whole cranberries versus drinking juice alone. Dr. Hopkins noted that although

the active ingredients found in cranberries, proanthocyanidins, are present in juice, a more potent form is present in the whole berry. Dr. Hopkins' other research endeavors include collaborating with urologists Drs. Tracy Downs and John Kryger to characterize the virulence properties of *E. coli* present in patients with urinary diversions or neurogenic bladders associated with spina bifida.

Dr. Hopkins now holds the titles of Distinguished Scientist and Research Professor in the Department of Urology. He has contributed to many advancements in the field of Urology and is a driving force in the basic and translational science of infections of the urinary tract in women and men. His goals for the future are to develop new regimens for treating UTIs and prostatitis and provide a better understanding of the mechanisms involved in these conditions. **WU**



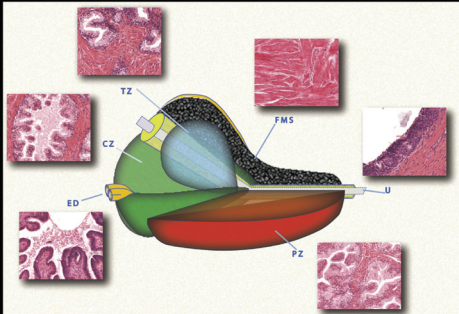
Dr. Walt Hopkins shown here in his lab at UW Hospital and Clinics. Dr. Hopkins' research interests focus on urinary tract infections and the potential benefits of cranberries.

>> Noteable & Newsworthy



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Differentiation



Special Issue on Benign Prostatic Hyperplasia

Guest Editors:
William A. Ricke, Jill A. Macoska and Gerald R. Cunha

The Journal of the International Society of Differentiation

• **Will Ricke, PhD**, was a guest editor for the November/December 2011 issue of *Differentiation*, The Journal of the International Society of Differentiation. This was a special issue on Benign Prostatic Hyperplasia. Drs. Ricke and Wade Bushman both contributed manuscripts to this issue.

• **Dr. Dan Williams** was elected to the Board of Directors of the Society for the Study of Male Reproduction and Urology. He will serve a three-year term. In addition, he was asked to join the Male Oncofertility Task Force which was recently formed by the Society for the Study of Male Reproduction.

• **Dr. Bruce Slaughenhoupt** and his administrative assistant **Julie Rowe** recently authored a paper titled "Design, Implementation and Evaluation of a New Core Learning Objectives Curriculum for a Urology Clerkship," published in *The Journal of Urology*. The paper shows how the UW Department of Urology improved its student curriculum and, as a result, improved student learning during Urology rotations.

• **John Kryger, MD**, was chosen to be the 2011-2012 Wisconsin Representative to the North Central

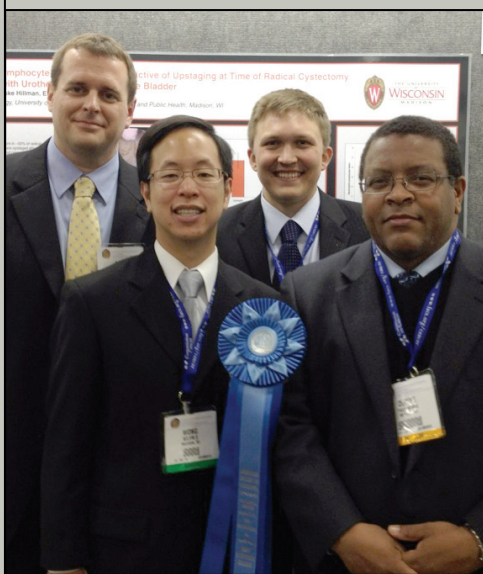
Section of the AUA. In addition, at the October 2011 annual meeting in Boston, **Dr. Kryger** was named President-Elect of the Society for Fetal Urology.

• Only eight out of 600 abstracts submitted to the October 2011 ACS meeting in San Francisco were chosen as "posters of exceptional merit." Two of those eight top abstracts were submitted by the UW Department of Urology:

"Length of Operative Time is an Independent Predictor of Increased Risk for Venous Thromboembolic Events (VTE) in Patients Undergoing Robot-Assisted Radical Prostatectomy," **E. Jason Abel, Kelvin Wong, Martins Sado, Tracy Downs, David Jarrard**.

"Neutrophil-Lymphocyte Ratio (NLR) is Associated with Increased Risk of Pathological Upstaging after Radical Cystectomy (RC) for Clinical T2 Urothelial Carcinoma," **Aaron Potretzke, Luke Hillman, E. Jason Abel, Tracy M. Downs**.

The second abstract was voted the best overall scientific exhibit (of 600 abstracts)! **WU**



Left to right: Drs. Jason Abel, Kelvin Wong, Aaron Potretzke and Tracy Downs, at the October 2011 American College of Surgeons (ACS) meeting in San Francisco.

>> UPCOMING UW UROLOGY EVENTS

TRICIA MAIER

2011 Uehling Lectures
November 18, 2011
Eric A. Klein, MD, FACS



**ERIC A.
KLEIN,
MD, FACS**

Eric A. Klein, MD, FACS is our keynote speaker at the 2011 Uehling Lectures. During this one-day event, Dr. Klein will give four state-of-the-art lectures on the topics of prostate cancer and small renal masses. Dr. Klein, a thought leader in the biology and management of prostate cancer, is the Andrew C. Novick Chair of the Glickman Urological and Kidney Institute at Cleveland Clinic Foundation. He is a Professor in the Department of Surgery, Cleveland Clinic Lerner College of Medicine, Case Western Reserve University, and is Co-Director of the GU Malignancies Program, Case Comprehensive Cancer Center. Dr. Klein's clinical interests cover all aspects of urologic oncology including cancers of the prostate, bladder, testis, and kidney. Dr. Klein has authored more than 300 scientific articles and currently serves as the Editor-in-Chief of *Urology*.

The Uehling Lectures program and registration form can be downloaded at www.urology.wisc.edu, under Lectures, Courses and Conferences. Click on the Uehling Lectures link.

2012 Charles and Margaret Lescrenier Lectureship
March 15, 2012
Robert R. Bahnson, MD, FACS

2012 Robert F. Schoes Lecture Series
May 31, 2012
Robert G. Uzzo, MD, FACS WU

>> DEPARTMENT RESEARCH



KRISTINA PENNISTON, PhD, RD
ASSOCIATE SCIENTIST

Department of Urology faculty and staff are engaged in a variety of research efforts.

From January-September of 2011, department-affiliated citations in PubMed numbered 50, collectively involving 18 individual department members. **Currently, more than 50 departmental research protocols are either approved by a UW-Madison institutional review board or are in the submission-and-approval process.** National Institutes of Health (NIH) and Department of Defense awards are held by several faculty members while others are supported by academic intramural, industry, or DOU research funds. **NIH awards to Urology investigators totaled more than \$1 million during 2010 fiscal year.** Most recently, PhD-scientist Will Ricke received \$250,000 the first year of a five-year study on estrogen regulation in benign prostatic hyperplasia.

Basic science research. In addition to Dr. Ricke, others-including Drs. Abel, Bjorling, Bushman, Downs, Hopkins, and Jarrard- are involved in basic science studies that use small animal models or individual cell types, tissue, or specific biological specimens. Gene and protein expression analyses are increasingly used. Recent endourology fellows have assisted Drs. Penniston and Nakada to develop a porcine model for kidney stones in collaboration with UW-Madison Animal Science faculty. NIH funding has contributed to highly significant basic science results from our department. Notable recent NIH-funded work includes Dr. Bushman's

confirmation that inappropriate activation of the hedgehog signaling pathway is a key factor in prostate cancer growth/progression and Dr. Jarrard's novel investigation of genetic changes that might correlate to advanced prostate cancer.

Outcomes data and descriptive research. Multiple medical records reviews are currently underway. Medical records reviews are an important means by which to generate ideas and hypotheses for future interventions, and they are an ideal way to involve students and residents in research. Drs. Abel, Downs, and Nakada recruited five medical students to spend the summer of 2011 as medical school-supported scholars. Their work included evaluating thousands of patient records related to various urologic conditions. Drs. Nakada and Penniston have collaborated with Marshfield Clinic researchers on epidemiologic work. Other ongoing chart reviews involve prostatitis (Moon), kidney stones (Nakada, Penniston, Sivalingam), prostate cancer (Jarrard), bladder cancer (Downs), renal cancer (Abel, Nakada, Hedican), and urologic stents (Nakada, Sivalingam).

Clinical interventions and trials. Current **urologic cancer** translations studies include:

- assess whether treatment with VESicare® affects urinary continence and quality of life after robotic-assisted prostatectomy for prostate cancer (multi-center; Jarrard)
- determine effect on prostate of vitamin D3 and genistein (an isoflavone isolated from soybeans) in men with early stage prostate cancer undergoing prostatectomy (multi-center; Downs)
- evaluate whether polyphenon E (an antioxidant extracted from green tea leaves) affects bladder concentrations of EGCG, a catechin that accumulates in bladder and which may protect against cancer (multi-center; Downs)

- compare effect of docetaxel (a chemotherapy medication) alone vs. docetaxel plus hormonal therapy on cancer progression and survival in hormone-resistant prostate cancer (multi-center; Jarrard)
- various tissue collection/banking studies related to renal cell carcinoma (Abel) and prostate cancer (Bushman, Ricke)

Studies related to **kidney stones** include:

- assess patients' attitudes toward medical management and prevention of kidney stones (Penniston, Nakada)
- evaluate motivation to undergo metabolic evaluation for prevention of first-time stone patients reporting to the Emergency Room (Sivalingam, Penniston, Nakada)
- determine effects of an integrated behavioral health intervention on patient satisfaction, quality of life, and kidney stone outcomes (Penniston, Nakada)
- assess effect of certain over-the-counter supplements on urinary oxalate excretion and risk for stones (Penniston, Nakada)
- determine normal reference ranges for urinary lithogenic risk factors in children (multi-center; Slaughenhoupt)
- characterize dietary patterns and intakes of key individual nutrients of stone formers (Penniston)

Other **current urology clinical trials** include:

- investigate effects of dried cranberries on urinary tract infection recurrence and gastrointestinal profile of E. coli in women (Hopkins)
- identify testicular gene profiles that correlate with male idiopathic infertility (multi-center; Williams)
- determine radiation exposure during surgery to urologists/endourologists (Nakada). **WU**

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