George Cannon, MD

“It was just a matter of accepting my fate,” jokes George Cannon, MD, in explaining why he chose to become a physician. With a father and two uncles having taken the Hippocratic oath, it seemed only natural to the younger Cannon that he would follow in their footsteps. “Once I moved past the superhero and astronaut phase, there was never a time when I wanted to be anything else,” says the UW Health radiation oncologist with the Department of Human Oncology.

At the University of Utah School of Medicine, Dr. Cannon recalls his interest in looking at lung problems on chest x-rays and computed tomography (CT) scans. “I was impressed by what I could see and...”
Message from the Chair

Paul M. Harari, MD

Welcome to the first issue of Radiation Oncology Connections for friends and colleagues of the University of Wisconsin Department of Human Oncology (DHO). This publication is a new venture that we hope you will find informative. A primary objective is to showcase new developments and initiatives that reflect our missions of providing high quality patient care, advancing cancer research and teaching the next generation of cancer physicians and researchers.

It is a pleasure to introduce four new faculty members that have joined the DHO in the last year. Drs. George Cannon and Greg Richards are radiation oncologists who provide full-time patient care. Dr. Kevin Kozak is a physician-scientist who provides patient care and performs laboratory research in angiogenesis and signal transduction pathways. Dr. Deric Wheeler is a full-time cancer research scientist (molecular biologist) who investigates response and resistance to molecular targeted therapies in oncology. These are incredibly talented new faculty members and you can learn more about each of them in this newsletter.

The Radiation Oncology Residency Training Program is a source of great pride for the DHO. Over the last five decades, we have had the good fortune to train many outstanding academic and community practitioners. Please see our current residents within this newsletter. We also highlight activities from two DHO faculty members; Dr. Kristin Bradley, who leads the UW Gynecologic Radiation Oncology Program (spotlight on clinical trial), and Dr. Dan Petereit, UW faculty in Rapid City, S.D., who leads a remarkable new program (Walking Forward) to promote improved cancer screening and care to underserved Native American populations.

Welcome again to Radiation Oncology Connections. We very much appreciate your comments and feedback for future issues.

Paul M. Harari, MD
Jack Fowler Professor and Chairman

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Education

Radiation Oncology Conference in Madison

The University of Wisconsin Department of Human Oncology (DHO) will host the Eighth International Conference on Dose, Time and Fractionation in Radiation Oncology on September 13-15, 2009, at The Edgewater Hotel in Madison. This three-day conference is designed for radiation oncologists, medical oncologists, radiobiologists, medical physicists, therapists, biological modelers, dosimetrists and other health care professionals interested in radiation oncology.

The invited national and international faculty and the UW host faculty will present an update on the current status of multi-modality targeted cancer therapy. New research opportunities will be identified, and their relevance to clinical practice in radiation oncology will be emphasized. A special session will honor several leading pioneers in the discipline of radiation oncology: Jack Fowler, PhD; Eric Hall PhD; and Rodney Withers, MD. We welcome your attendance.

For more information, visit the website http://www.humonc.wisc.edu/icdtf

Public Events

Head and Neck Cancer Awareness Week

UW Health recognized Head and Neck Cancer Awareness Week by offering free oral cancer screenings at the University of Wisconsin Hospital and Clinics on Wednesday, April 29, 2009.

The event was part of the national Oral, Head and Neck Cancer Awareness Week, as recognized in proclamations by Mayor Dave Cieslewicz for the city of Madison and by Governor Jim Doyle on behalf of the State of Wisconsin. Mayor Cieslewicz presented the city proclamation to Drs. Paul Harari and Gregory Hartig prior to the screening event. After presenting the proclamation, the mayor “opened wide” and underwent an oral cancer screening to help raise awareness regarding the important role of screenings in the early diagnosis of head and neck cancer.

The screening, performed by the UW Health multidisciplinary head and neck cancer team, attracted 141 participants, including members of the general public, as well as UW Health patients and staff. Further head and neck evaluations were recommended for 17 participants with abnormal findings identified during the oral screenings. Tobacco cessation counseling was advised for all smokers.

Several head and neck cancer presentations were provided to health care professionals and the general public by the UW Health multidisciplinary head and neck cancer team during April. These presentations included University of Wisconsin Carbone Cancer Center Grand Rounds presented by Paul Harari, MD, and Rock Mackie, PhD, on the future of head and neck cancer care. Head and neck cancer surgeons Seth Daley, Gregory Hartig and Timothy McCulloch, and speech therapist Rachael Kammer, also appeared as guests on local Madison media during the month to educate the public about head and neck cancer and the importance of screening examinations.
identify from modern imaging – how much of the diagnosis could be deciphered from the imaging alone, without requiring a more invasive approach,” Dr. Cannon explains.

After medical school, Dr. Cannon started his diagnostic radiology residency at Mallinckrodt Institute of Radiology at Washington University in St. Louis, Mo. His fascination with medical imaging seemed to suggest that this specialty would be a perfect fit for him. However, two years into the program, Dr. Cannon had second thoughts. “I missed seeing patients,” the clinician admits. “I missed feeling that I was making a difference in someone’s life. In the end, I missed being someone’s doctor.”

After some deliberation, Dr. Cannon decided to pursue a radiation oncology residency at the University of Wisconsin Hospital and Clinics. “Radiation oncology was the perfect fusion for me – treatments based on medical imaging while still being able to take care of individual patients.”

Graduating from the UW radiation oncology residency in 2008, Dr. Cannon was hired as an assistant professor by the UW Department of Human Oncology. He cares for patients at the UW Carbone Cancer Center and Clinics in Madison and at UW Hospital and Clinics in Johnson Creek.

Dr. Cannon has particular interest in breast brachytherapy, a treatment for breast cancer in which radiation sources are temporarily placed in the breast and positioned so that the radiation specifically covers the region at risk for residual cancer. “This is an effective alternative to standard external beam radiation treatment,” Dr. Cannon says. “For some women, it can be a hardship to endure 6-1/2 weeks of daily treatment with standard external beam radiation versus having their treatment completed in one week with breast brachytherapy, particularly if patients travel from a considerable distance,” he explains.

As Dr. Cannon settles into his role as faculty physician, another family member prepares to follow in his footsteps. The clinician’s younger brother Don will commence his radiation oncology residency with UW Hospital and Clinics in July 2009 after graduating from the Cornell Medical College in New York. Asked if he has any brotherly advice to offer, Dr. Cannon grins. “He’s making a great choice for his training and for his life,” the clinician says. “Plus, I’ll finally get to see him more than twice a year.”

**Kevin Kozak, MD, PhD**

As an ROTC undergraduate student at Harvard University in the late 80’s and early 90’s, UW Department of Human Oncology scientist and radiation oncologist Kevin Kozak, MD, PhD, “fell madly in love with science.” The Milwaukee native credits his mentor, organic chemist and Harvard professor David Evans, PhD, with encouraging his passion and energy for the laboratory.

“Dr. Evans was one of those rare instructors who told us not to memorize a thing – we learned mechanisms and fundamental principles that gave us the tools to figure out organic chemistry,” Dr. Kozak recalls.

After graduating magna cum laude from Harvard with a degree in chemistry, Dr. Kozak served four years as an aviation intelligence officer with the United States Navy in the Persian Gulf. Following his tour of duty, he attended Vanderbilt University where he received a PhD in biochemistry in 2001 and a medical degree in 2003. He completed his radiation oncology residency at Harvard Radiation Oncology Program.

Dr. Kozak’s initial training as a chemist and biochemist did not involve cancer research. Only later, upon seeing the effects of cancer first-hand as a radiation oncologist, did the physician-scientist decide to pursue cancer research. “My cancer patients are an inspiration,” says Dr. Kozak, who treats patients at UW Hospital and Clinics intertwined with work in his UW research laboratory. “They give research meaning.”

Dr. Kozak recalls treating a 20-year-old woman with a metastatic pediatric cancer that resulted in the young patient’s blindness and inability to walk. “She was facing death after suffering so much, and I got the sense that she needed to hear that she would always ‘matter.’ All I did was tell her the truth – which was that she was, and would always be, an inspiration. I told her that nothing in the world could motivate me to work harder in my research laboratory than patients like her. She beamed, and...
New Faculty—carrying on the mission

continued from page 3

Kevin Kozak, MD, PhD
Assistant Professor

Doctoral Degree: 
Biochemistry, Vanderbilt University, Nashville, Tenn.

Medical Degree: 
Vanderbilt University, Nashville, Tenn.

“My cancer patients are an inspiration,” says Dr. Kozak, who treats patients at UW Hospital and Clinics intertwined with work in his UW research laboratory. “They give research meaning.”

I think it resonated with her father who had a hard time with the “why” questions.

Finding answers to the “why” questions is part of Dr. Kozak’s everyday mission as he treats cancer patients and conducts cancer research. In his UW cancer biology laboratory, Dr. Kozak and his staff investigate angiogenesis (growth of new blood vessels) and signal transduction pathways (biochemical reactions inside a cell). The goal of this research is to better understand why cancer reacts as it does to certain treatment protocols in order to find more effective treatments.

One of the research themes in Dr. Kozak’s laboratory will focus on new treatment advances for sarcomas, a rare cancer in adults, but more prevalent in children. This cancer can involve tissues anywhere in the body.

Paralleling this research effort is an ongoing patient care initiative. Dr. Kozak and his UW Hospital and Clinics’ colleagues who share his interest in sarcoma have formed a multidisciplinary team that provides patients with comprehensive, tightly knitted cancer care.

“Our team, that includes radiation oncologists, surgical and orthopedic oncologists and medical oncologists, believes that patients are best served when their care is guided by a highly integrated team of multiple specialists,” Dr. Kozak explains.

According to the physician-scientist, the multidisciplinary approach not only benefits the patients, but also the doctors.

“With rare cancers, when the answers are seldom black and white, this diversity helps us devise treatment plans that are flavored by multiple expert opinions and are seamlessly coordinated between disciplines. Without question, this structure also makes me a better doctor; I continually learn from my incredibly talented colleagues.”

Greg Richards, MD

When you’re talking to Greg Richards, MD, it doesn’t take much more than a “New York minute” to realize how proud he is of his East Coast roots and his family history. Born just outside New York City, and raised there and in New Jersey, the UW Health radiation oncologist is the youngest son of first generation Italian and Irish-English immigrants who settled in Queens in the early 1900s.

“So much of who I am comes from my family and where I grew up,” the clinician states.

Dr. Richards was raised in a blue-collar neighborhood with a stay-at-home mother and a father who began full-time work as a messenger for the Bell Telephone Company as a teenager and continued to work there for over 45 years. “My parents worked hard and expected the same out of their kids. They showed my two older brothers and me the honor and value in that,” Dr. Richards says. “As far as higher education and professions, they let each of us choose our own direction,” he says with a smile.

After two years of community college, Dr. Richards attended the University of Connecticut where he received a bachelor’s degree in nutritional science. “It was at UCONN where I decided to switch from a business major to pre-med,” explains the summa cum laude recipient. “That really set my course for the future.”

Dr. Richards attended New Jersey Medical School on an academic scholarship and graduated in 2001, serving as the president of the student council and earning the honor of class valedictorian. “My parents were thrilled about my medical degree,” he admits. I was now the ‘family doctor.’” After he completed a radiation oncology residency at the University of Wisconsin, Dr. Richards accepted a position as a radiation oncologist with the UW Department of Human Oncology in 2008.

For Dr. Richards, the satisfaction he derives from his profession comes largely from contact and interaction with cancer patients that he cares for at UW Health East Clinic.

“I enjoy spending time with my patients – talking with them, taking the time to explain what’s happening and how I can help them,” Dr. Richards says. “It’s important for patients to know their physician is genuinely interested in them.”

It’s also rewarding for Dr. Richards when community physicians recommend him to provide radiation oncology services for their patients. “I enjoy partnering with community physicians, and I appreciate the trust they place in me to assist in the care of their
New Faculty—carrying on the mission

Greg Richards, MD
Assistant Professor

Residency:
Radiation Oncology, University of Wisconsin Hospital and Clinics, Madison, Wis.

Internship:
St. Vincent’s Hospital, New York, N.Y.

Medical Degree:
New Jersey Medical School, Newark, N.J.

“I enjoy partnering with community physicians, and I appreciate the trust they place in me to assist in the care of their patients. It’s a privilege and a huge responsibility that I don’t take lightly.”

Deric Wheeler, PhD

While pursuing his Master of Science (MS) degree in pathology at the University of Iowa in the late 90’s, UW Department of Human Oncology scientist Deric Wheeler recalls heading home to Tacoma, Wash., to be with his mother as she underwent surgery for breast cancer. “I remember the invasiveness of the surgery; the cutting and destruction of tissue to remove this cancer,” Dr. Wheeler says. “I was asking myself, ‘Is this the state of cancer treatment?’ I was sure that the next generation of cancer therapy needed to be better.”

Although his focus was on botany and zoology as an undergraduate at the University of Idaho, Dr. Wheeler had always been drawn to the science of human disease. “Cancer poses such complex problems for physicians and patients,” he states. “I saw a huge need for scientists who could work with physicians to move research findings from the laboratory to patients in the clinic environment.”

Setting about to become that kind of scientist, Dr. Wheeler gained fundamental knowledge in the cancer research laboratory at the University of Iowa while he completed his MS degree in pathology. “I learned the fundamentals of how to approach scientific research and apply that knowledge in the clinic environment,” Dr. Wheeler says.

“People are excited to give me a chance to help them,” Dr. Wheeler says. “It’s a really wonderful environment to be in.”

Deric Wheeler, PhD
Assistant Professor

Postdoctoral Fellow:
University of Wisconsin Department of Human Oncology, Madison, Wis., and Fred Hutchinson Cancer Research Center, Seattle, Wash.

Doctorate:
University of Wisconsin, Madison, Wis.

Master of Science:
Pathology, University of Iowa Medical School, Iowa City, Iowa

“A scientific career is more like a marathon than a sprint. With the right balance, I can be more productive in this career for the long run.”

Deric Wheeler, PhD, in his UW research laboratory with assistant scientist Mari Iida

Greg Richards, MD, with radiation therapist Lori Schmitz at UW Health East Clinic

patients. It’s a privilege and a huge responsibility that I don’t take lightly.”

Mastering and maintaining a knowledge base that contains fine details of anatomy and cancer biology, as well as specific information on common and rare cancers, is a challenge Dr. Richards embraces. The clinician says he appreciates the opportunity to be part of the UW academic medical center where he has the support and encouragement of other radiation oncologists with similar responsibilities for patient care. “It is amazing to have such trusted and talented colleagues that I can discuss difficult patient cases with,” Dr. Richards says. “Everyone is so friendly and generous with their time. It’s probably the number one reason I stayed in Madison after my residency.”

Deric Wheeler, PhD, in his UW research laboratory with assistant scientist Mari Iida
Spotlight on Clinical Trial: RTOG 0418
Seeking to reduce cancer treatment-related toxicities

The Department of Human Oncology is committed to the advancement of clinical trials to promote improvement in cancer treatment. Among over 100 clinical cancer trials in various stages of maturity, one clinical trial for women with gynecologic cancers is highlighted here.

The University of Wisconsin Radiation Oncology and Gynecologic Oncology teams participated in a Radiation Therapy Oncology Group (RTOG) Phase II clinical trial investigating the use of intensity modulated radiation therapy (IMRT). This treatment is for patients with cervical and endometrial cancer in whom radiation therapy following surgery is recommended.

“This national study was designed to determine whether post-operative IMRT for cervical and endometrial cancer reduces treatment-related toxicities compared to more conventional radiation techniques,” explains UW radiation oncologist Kristin Bradley, MD. “This trial will also evaluate the implementation of IMRT in a multi-institutional setting.”

Dr. Bradley says the conventional radiation treatment for women who have undergone a hysterectomy for endometrial or cervical cancer is “a traditional 4-field radiotherapy plan that treats the whole pelvis. With this type of treatment, there can sometimes be bowel, bone marrow and bladder toxicity,” she explains.

In contrast to the 4-field technique, IMRT uses multiple radiation beams coming in from different directions, and provides a more conformal radiation plan that targets the tumor and reduces radiation dose to normal tissues within the pelvis. As a result, IMRT has the potential to lessen acute and late side effects of pelvic radiation.

Before IMRT can be routinely used for gynecologic cancers, it must be demonstrated that the results achieved at single institutions can be duplicated across multiple institutions and that IMRT for cervical and endometrial cancer can be implemented broadly in a safe and reproducible manner. “This is where the Phase II clinical trial comes in,” says Dr. Bradley, who has two patients enrolled in this study. “The knowledge that we have from single institutions points to lower toxicities for IMRT than for conventional radiotherapy treatment, but the clinical trial will help determine whether favorable IMRT treatment outcomes can be reproduced across many different institutions.”

Final results from this Phase II clinical trial are not yet available, but Dr. Bradley reports that preliminary data “shows that pelvic IMRT is feasible across multiple institutions.” With additional time and follow up, it will be determined whether pelvic IMRT for gynecologic cancer provides equal tumor control but with fewer side effects compared to conventional 4-field radiotherapy. Dr. Bradley notes that the next step is for educational sessions and classes to be offered to those providing IMRT treatments to ensure uniformity in radiation planning.

Deric Wheeler, MD — continued from page 5

questions in that cancer laboratory,” he explains.

After earning his MS degree, Dr. Wheeler moved to Madison where he completed his doctoral degree in human cancer biology at the University of Wisconsin. “I spent five years learning about hypothesis-driven research in the UW Department of Human Oncology laboratory with scientist Ajit Verma,” Dr. Wheeler says. “I came to understand the molecular mechanisms of disease.”

Following completion of his PhD, Dr. Wheeler worked as an ACS (American Cancer Society) postdoctoral fellow at the Fred Hutchinson Cancer Research Center in Seattle, Wash., where he continued to pursue basic research initiatives. Specifically, he studied the development of epithelial cancer and the role of stem cells in this process. Although this endeavor was intriguing, there was little clinical impact of the work. Therefore, Dr. Wheeler’s next step was to work as a postdoctoral fellow for two years in the UW Department of Human Oncology laboratory of Paul Harari, MD, where the high-energy scientist used his basic science training to investigate resistance to molecular targeting agents.

In 2008, Dr. Wheeler was hired by the UW Department of Oncology as an assistant professor with his own basic cancer research laboratory. “My primary studies involve investigating how tumors are resistant to antibody therapy,” Dr. Wheeler explains. “Antibodies are new molecular targeting agents in cancer therapy. I’m looking to learn about the shared mechanisms of resistance to antibody therapies. If we can find common mechanisms, perhaps we can treat patients with alternative therapies to prevent or reverse resistance.”

While Dr. Wheeler admits that his research as an academic scientist can be all consuming, he relies on his wife, Shawna, and his two-year-old daughter, Morgan, to give him balance. “They are my priority,” attests the devoted family man. “I wouldn’t say I’ve absolutely mastered the art of career and family balance, but I’m working on it.”

The academic scientist reveals one important lesson he’s learned along the way: “A scientific career is more like a marathon than a sprint. With the right balance, I can be more productive in this career for the long run.”
Department of Human Oncology Residents

First Year

Donald Cannon, MD  
**MD Degree**  
Cornell University Medical College  
New York, N.Y.  
**BS Degree**  
Physics, Brigham Young University  
Provo, Utah

Tim Kruser, MD  
**MD Degree**  
University of Wisconsin School of Medicine and Public Health  
Madison, Wis.  
**BS Degree**  
Molecular Biology, University of Wisconsin  
Madison, Wis.

Second Year

Vinai Gondi, MD  
**MD Degree**  
Columbia University  
College of Physicians and Surgeons  
New York, N.Y.  
**BS Degree**  
Biochemistry, University of Wisconsin  
Madison, Wis.

Sayana Thomas, MD  
**MD Degree**  
University of Wisconsin School of Medicine and Public Health  
Madison, Wis.  
**BS Degree**  
Biology, University of Wisconsin  
Madison, Wis.

Third Year

Amit Bhatt, MD, PhD  
**MD Degree**  
Rush Medical College  
Chicago, Ill.  
**PhD**  
Cellular and Molecular Pharmacology, University of Wisconsin  
Madison, Wis.  
**BS Degree**  
Cellular and Molecular Biology, University of Michigan  
Ann Arbor, Mich.

Derek McHaffie, MD  
**MD Degree**  
East Tennessee State University  
College of Medicine  
Johnson City, Tenn.  
**BA Degree**  
English Literature and Spanish, The University of Tennessee  
Knoxville, Tenn.

Fourth Year

Jarrod Adkison, MD  
**MD Degree**  
University of South Alabama  
College of Medicine  
Mobile, Ala.  
**BCHE Degree**  
Chemical Engineering, Auburn University  
Auburn, Ala.

Bethany Anderson, MD  
**MD Degree**  
University of Wisconsin School of Medicine and Public Health  
Madison, Wis.  
**BA Degree**  
Biomedical Ethics, Lawrence University  
Appleton, Wis.
UW Faculty Leads Native American Health Disparities Program

Daniel Petereit, MD is “almost” growing accustomed to receiving five million dollar grants from the National Cancer Institute (NCI). A radiation oncologist at the John T. Vucurevich Cancer Care Institute at Rapid City Regional Hospital in Rapid City, S.D., Dr. Petereit completed his UW radiation oncology residency training in 1994, and served as a Department of Human Oncology (DHO) faculty member from 1994 - 1999. He then returned to practice in his home state of South Dakota while maintaining a faculty appointment with UW DHO ever since. He was recently notified that he and his team of collaborators will receive another five million dollar award from the NCI to further promote the American Indian Health Care Disparities Program they have pioneered over the last eight years. In 2001, Dr. Petereit led this research team to their first major NCI award (approximately five million dollars) by piloting the Walking Forward program, a community-based participatory research program in western South Dakota. The program’s purpose is to address the increasing cancer mortality rates among American Indians by facilitating access to innovative clinical trials and behavioral and genetic research, and by providing assistance to patients in navigating the health care system.

Not only has the Petereit Walking Forward team been successful in promoting meaningful improvements in cancer awareness, trust and treatment access for American Indians, they are now expanding their reach through new grant applications that would connect them more closely with research activities at University of Wisconsin-Madison and with the Sanford Cancer Center in Sioux Falls, S.D.

Cancer Center Grand Rounds Presentation

Daniel Petereit, MD, presented a summary lecture entitled, “Initiatives to Address Cancer Disparities: Ongoing Regional and Global Approaches” at the University of Wisconsin Carbone Cancer Center Grand Rounds at University of Wisconsin Hospital and Clinics on June 17, 2009.