JANUARY 2016
Wednesday, January 13  Operation Education
Health Sciences Learning Center

FEBRUARY 2016
Friday, February 12  WMAA Winter Event
Fluno Center, Madison

MARCH 2016
Friday, March 18  Match Day

APRIL 2016
Friday, April 22  Scholarship Reception and
WMAA Awards Banquet
(details to be announced)

MAY 2016
Friday, May 13  UW-Madison Commencement

JUNE 2016
Thursday, June 2, through
Saturday, June 4  Medical Alumni Weekend
(details to be announced)

On the Cover
Left to right: First-year medical student Jessica Chung (class president), Bucky Badger and first-year medical student Adam Pfaller pose for a selfie at the Wisconsin Medical Alumni Association-sponsored cookout to welcome the entering class. It was one of many events during the students’ orientation week at the University of Wisconsin School of Medicine and Public Health. Photo by Todd Brown/Media Solutions.
A Badger Welcome
Members of the new class of medical students have entered the next phase on their journey to become physicians.

Celebration of Teamwork at Lambeau Field
The school applauded the work of physician mentors who train SMPH students in the Green Bay area.

Forward Curriculum
Following years of planning, education leaders are moving forward with a transformed curriculum.

Campus Scene (above)
Kicking off UW-Madison’s capital campaign, “For the Next 167 Years,” members of the Wisconsin Medical Alumni Association Board of Directors and other alumni visited Bascom Hill on Homecoming Weekend. Left to right: Jill Watson; Karen Peterson; Charles Ilhe, MD ’65; Christopher Larson, MD ’75; Patrick McBride, MD ’80, MPH; Susan Isensee, MD ’83; Dirk Fisher, MD ’79; Stephen Damiani, DO ’PG ’90; Steven Wiesner, MD ’85; Anni Ruscher, MD ’91; Steve Merkow, MD ’80.
In this issue of Quarterly, we focus on the incredibly important and exciting theme of “transformation.”

The work our school has done for more than a decade to meld medicine and public health—creating a dual focus on the diagnosis and treatment of health conditions in individual patients alongside disease prevention and health promotion for populations—affects all missions of our University of Wisconsin School of Medicine and Public Health (SMPH). Now our educational enterprise takes center stage as it transforms its curriculum to further the revolutionary synthesis of these two powerful disciplines throughout all years of medical education. On pages 6 through 9, we highlight some special features of the new Forward Curriculum that will further our school’s long tradition as national innovators in medical student education.

Once again, we witnessed an annual “transformation” as we welcomed the cohort of bright, accomplished students who have completed their metamorphosis from pre-med students into bonafide members of the entering MD class. This year, the first-year medical students heard an inspirational welcome address by Dr. Stephen Nakada, chair of our Department of Urology.

Describing the transformation of another fundamental SMPH mission, Dr. Rick Moss, senior associate dean for basic research, biotechnology and graduate studies, outlines on page 36 the recent launch of our basic sciences strategic plan that will help shape research and discovery for years to come.

UW-Madison’s comprehensive campaign already has stimulated a series of transformational gifts. Starting on page 32, we document the amazing impact of the Morgridge match, which has dramatically increased the scope and scale of endowed professorships for our school’s most outstanding faculty members. We are delighted that the campus and school now have a similar opportunity through the Nicholas scholarship match program. At the Middleton Society event, we were thrilled to hear one of our prominent alumae, Dr. Susan Behrens, share the immense satisfaction she and her husband, David Look, have enjoyed through the creation of an endowed professorship for Dr. Carla Pugh. One of our talented stars, Pugh specializes in using new simulation technology in education and training.

We also celebrated another transformational gift from J.P. Cullen’s family, who expressed their deep appreciation for Dr. Robert Dempsey’s work as a clinician, investigator and chair of the SMPH Department of Neurological Surgery.

As you enjoy this latest Quarterly, I predict we also will be experiencing another type of annual transformation as snow blankets our campus and Madison’s lakes freeze, ushering in the seasons for skiing, snowboarding and ice fishing. Wherever you are, we hope you enjoy the opportunities of your winter season and consider visiting UW-Madison as we embrace not only the challenges of winter but also the hope and promise of a new year.

Robert N. Golden, MD
Dean, University of Wisconsin School of Medicine and Public Health
Vice Chancellor for Medical Affairs,
UW-Madison
Greetings, fellow medical alumni!

As I write this, I am in northern Wisconsin, aka “Up North,” enjoying incredible fall weather and listening to Badger football. Can you say “priceless”? I am also reflecting on Homecoming Weekend, which was filled with many milestone class reunions and other fun gatherings. It was a huge success, including great weather, the Wisconsin Medical Alumni Association (WMAA) Friday evening reception, Saturday tailgate party and Badger football victory. We enjoyed a great turnout by alumni and medical students. It was my 35-year class reunion, and it was so good to reconnect with my classmates, some of whom traveled from as far as Los Angeles and Boston. Thank you! Our class dinner was at the phenomenal, new Edgewater Hotel overlooking Lake Mendota and beautiful fall colors. Surreal!

We held the WMAA fall board meeting on Friday of Homecoming Weekend. Dr. Kurt Hansen—the University of Wisconsin School of Medicine and Public Health’s (SMPH) assistant dean for admissions—reported on demographics of our new first-year medical students. His presentation spurred many thoughts for me. Acceptance to the SMPH remains extremely competitive, and we admitted another diverse, talented class. That said, the cost to each student is daunting. Compared to the in-state tuition of $2,118 I paid for my first year of medical school, each student now pays $27,259 per year—and it’s higher for students from out of state. Even given inflation, this is an astounding increase. The escalating cost leads to an average debt of $156,000 for each student by the time he or she graduates from medical school. I believe the door to our wonderful career should never be closed because of financial inability. While I am not the first to bring attention to this topic, I want to reinforce the importance of helping to ease students’ indebtedness. During this winter’s annual WMAA fund drive, please consider making a gift to support our medical students.

Also, as I have appealed to you in the past, please consider joining the Middleton Society with a cumulative gift or pledge of $10,000 over 10 years. My class has been challenged to create a $1 million endowment to support our students, and I am confident we will achieve that goal in time. We are giving because the SMPH gave us our incredible education and opportunities. The recent state funding cuts have had a huge negative impact on the school’s budget, and the SMPH relies increasingly on private donations. In 1975, state support (general purpose) represented 34 percent of UW-Madison’s budget. Today, it is about 10 percent. Our donations are a lifeline to support the school’s important missions of education, research and community service.

On a lighter note, please mark your calendars for Friday, February 12, 2016, to attend the WMAA Winter Event at the Fluno Center in Madison. Last year’s event—“A Taste of Wisconsin,” featuring tasty foods, craft beers and wines of Wisconsin—was a huge hit, so we decided to have an encore. Please join us for this fun, casual and relaxing evening to connect with medical students, faculty and fellow alumni. In closing, thanks to all of you who engage in any way with our wonderful SMPH. Whether you attend functions or give your time or money, it makes a difference. We appreciate your support and encourage giving at any level. You are important to our extended SMPH and WMAA family!

Steve Merkow, MD ’80
President, Wisconsin Medical Alumni Association
Left to right: M2 Michael Rigby helps M1 Thuy-Linh Nguyen put on her new white coat.
Bucky was among many “Badgers” who welcomed 176 new MD students to the University of Wisconsin School of Medicine and Public Health (SMPH).

In fall 2015, members of the school’s faculty and Wisconsin Medical Alumni Association (WMAA)—as well as students in upper classes—helped orient the students to their new environment. Events included a WMAA-sponsored cookout, the white coat fitting and ceremony, and classroom sessions.

About 80 percent of the class members hail from Wisconsin. Among the balance, students came from many states and 11 countries, including a small village in Nepal and Kabul, Afghanistan. Half attended college in Wisconsin; others graduated from outstanding schools across the United States. Ten class members hold master of public health degrees, and more than 14 hold other master’s degrees. Nine members of this class served in the U.S. military.

Collectively, these students have provided volunteer service across the United States and in countries around the globe, including Guatemala, Nicaragua, Costa Rica, Honduras and Peru. And a vast majority have been involved in research.

As they progress through the next four or more years of medical school, Bucky Badger, SMPH faculty and staff, and WMAA members will continue cheering them along.
Christine Seibert, MD (left), and Shobhina Chheda, MD, MPH, coordinated efforts among more than 200 individuals who shared their time and knowledge to plan the Forward Curriculum.
As revolutionary changes in health care and public health demand a different kind of physician, the University of Wisconsin School of Medicine and Public Health (SMPH) community has reimagined what medical education needs to be.

But first, a bit of history. In 2005, the school changed its name to include medicine and public health, which better reflects its vision and endeavors. This signaled development of a bold model that unites population health promotion and disease prevention with the diagnosis and treatment of health conditions for individuals.

As the SMPH began crafting its plan to integrate the two disciplines, it created a committee to examine the MD curriculum and integrate public health into the education of all medical students. That group significantly revised the first two years of medical education and made smaller changes to years three and four.

“When our committee reconvened to look harder at the third and fourth years, we realized we were thinking about the curriculum as two halves,” recalls Christine Seibert, MD, associate dean for medical student education and services at the SMPH. “We recognized that separating basic sciences from clinical training was flawed and that we needed to look at the whole.”

The 2x2 medical school curriculum model—two years of basic sciences followed by two years of clinical experiences—was first imagined by the American Medical Association in 1904 and later promoted within the Flexner Report in 1910. Curriculums across the nation have evolved since then, but most still rely on that model.

“We realized that we could choose to do some of this and some of that in our current curriculum—much like you can fix a room in your house with paint and window dressings—but we really needed a bigger renovation. It was time to start moving some walls in the whole curriculum,” explains Shobhina Chheda, MD, MPH, the SMPH’s assistant dean for medical education.

Chheda adds, “A curriculum must reinforce what you want students to carry with them after graduation. We are committed to doing exactly that, especially with the basic sciences.”

By focusing on end results for students, the group began shaping its vision. One of the biggest goals of the new curriculum is the marrying of basic and clinical sciences.

In the end, graduates will be able to call upon functional knowledge to incorporate scientific principles at the patient’s bedside.

“Nationally, expectations are evolving for medical education, with the ultimate goal of better equipping physicians to improve health outcomes and address health equity issues,” says Elizabeth Petty, MD ’86, senior associate dean for academic affairs at the SMPH. “Professional organizations and accrediting bodies are challenging us to be innovative as we develop more meaningful, interdisciplinary ways to integrate basic and clinical sciences, and to create robust, team-based learning that improves health care delivery and public health practices.”

Petty continues, “Given the vast amount of biomedical and public health information and the fact that discoveries are made daily that may impact health, we cannot possibly teach students everything they will need to know in their future practices. Instead, we must focus on teaching them the core knowledge and skills they need for the next steps in their professional development. We also must teach them to...
become self-directed, life-long learners; critical thinkers who can collaboratively solve tough problems; and—most importantly—compassionate, socially responsible physicians who care about the health of diverse individuals and communities.”

This new curriculum will allow the SMPH the flexibility to meet professional expectations and future needs of patients and populations while preparing all students to excel in their residency training, explains Petty.

Given the school’s goals for students, residency deadline pressures and students’ requests to have time to explore career choices earlier in the curriculum, planners felt that the traditional medical school calendar would need to be completely revised.

“As a fourth-year medical student, I feel the pressure of the ever-earlier residency application deadlines, particularly related to required letters of recommendation and, in some cases, the need to complete away rotations before the start of the residency application cycle,” says Betsy Huffman.

“Earlier exposure to clinical work and the incorporation of basic sciences concepts will allow students to better integrate their learning to improve their clinical reasoning.”

As planners considered the path through medical education, three distinct phases emerged. Phase 1, lasting 18 months, will focus on basic sciences and fully integrate clinical science and public health. Phase 2 will emphasize clinical applications with longitudinal themes of basic sciences and public health. Phase 3 will be dedicated to specialty-specific competency development and internship preparation with opportunities for individualized electives and projects.

“Some people ask, ‘If it takes two years to teach the basic sciences now, how will the new curriculum do it in 18 months?’” shares Seibert. “We take a lot of deep dives in the first two years of our current curriculum. Everyone is taught to the same depth no matter what type of doctor he or she wants to become. We’ve realized that some deep dives are more critical for certain students and less meaningful for others.”

Seibert explains that the new Forward Curriculum will establish a foundation of knowledge for all MD students in 18 months, thus getting them into clinical experiences a semester earlier than before and allowing them more time to explore careers.

In Phase 1, rather than separate anatomy, physiology, biochemistry, pharmacology or pathology courses, content will be connected in six thematic blocks, such as Mind in Motion; Invaders and Defenders; and Body in Balance.

“Our MD graduates are wonderful now, but people are very excited about seeing what the next generation of learners—trained with the Forward Curriculum—will be able to do when they graduate from the UW School of Medicine and Public Health.”

“A major accomplishment for the curricular integration will be to better match the basic sciences concepts with related clinical applications,” says James Keck, PhD, professor in the SMPH Department of Biomolecular Chemistry and a member of the Food, Fasting and Fitness course design team. “By coupling these pieces, we hope our medical students will establish foundational links between the basic and clinical worlds and have a solid grounding in both as they transition into their professional lives.”

The same philosophy extends to clerkships. In the newly coined “integrated clinical blocks” of Phase 2, students will spend 12 weeks in thematic clinical clerkships that emphasize integration and collaboration among disciplines, moving away from single-department clerkships.

For instance, students in the Acute Care block will learn within disciplines like internal medicine, emergency medicine, intensive care, acute neurology and acute psychiatry. Connecting the experiences will provide many opportunities for students to learn how to address problems in acute settings.

In the Care Across the Lifecycle block, students will work with a broad spectrum of patients and specialists to explore the continuum of children’s health, women’s health and geriatrics with themes like caregivers and vulnerable populations.

The Chronic and Preventive Care block will co-mingle myriad reasons why people visit outpatient physicians: to stay healthy and manage chronic diseases. It also will focus on behavioral and community health.

The Surgical and Procedural Care block will address how physicians think about comprehensive patient care surrounding surgical issues and procedures. Internal medicine, radiology and other areas include procedural specialties, and this block will integrate common themes related to working with teams and addressing patient safety in these types of settings.

Phase 3 will look different for various groups of students. After students declare their intended specialty, they’ll be given a learning plan that includes specialty-recommended basic sciences and clinical experiences from which they will pick to best fit their specific goals and objectives.

Chheda adds, “There’s room for students to make meaningful choices in Phase 3, but there also is a high degree of accountability to meet goals and objectives.”

Kyla Lee, MD ’98, who serves as a preceptor for SMPH medical students in her practice at Gundersen Health System in La Crosse, Wisconsin, believes the new curriculum’s integrated clinical blocks will allow students to gain more powerful clerkship experiences in communities statewide. Medical students say they appreciate Lee’s interactive teaching sessions that focus on building skills and on cooperative group work, and these are the types of activities that can expand in the new curriculum.

“The new curriculum’s integrated model will help students learn medical facts and concepts in the context of a wider, more relational view of medicine and public health. It will allow for powerful, transformative learning through deeper and longer
relationships with patients in the context of real-world health system experiences," says Lee, who has been actively engaged in the SMPH curriculum transformation process.

Lee credits the SMPH statewide campus with bringing diversity to training.

“Each campus brings new challenges and different populations, and this allows students to pursue special interests, such as practicing in urban or rural settings. The collaborative statewide effort allows for best practices, successful programs and novel mentoring ideas to be shared and improved in building the new curriculum,” Lee says.

First-year students who enter the SMPH in fall 2016 will be the first to experience Phase 1 of the Forward Curriculum.

“This is an important and exciting step in our school’s transformation into a fully integrated school of medicine and public health, as health care goes through an era of unprecedented change,” says Robert N. Golden, MD, dean of the SMPH. “Those changes not only affect how doctors work with other health care providers to care for patients and populations, but how we train future generations of physicians.”

He continues, “We recognize that a new curriculum is an immense and complex undertaking for our school and for those who teach our students throughout Wisconsin. To be successful, this requires enormous interdisciplinary effort and thoughtful collective expertise.”

To build this complicated curriculum, more than 200 people have played a role. Sixteen working groups and 10 design groups included clinicians, scientists and other representatives from the SMPH’s statewide campuses, and medical students.

“The inherent uncertainties associated with change—as we move into new delivery models for education—may cause some anxiety, but with all of our support, I am confident that the new model will engage our outstanding teachers and will set our school apart as a national leader in medical education,” Golden says. “Importantly, it will provide all of the fundamental knowledge and skills that future physicians need to be successful in residency and beyond.”

Seibert notes that all along the way, she and Chheda have been humbled and awed by the number of people who’ve stepped up to the plate, mostly as volunteers.

“It’s fun to see people—ranging from emeritus faculty members to those who’ve been here for only a short time—all fired up about the curriculum redesign,” exclaims Chheda. “A department chair serves on a design team. Some new residents are participating, and students are engaged at every level.”

Huffman shares, “The various work groups have regarded student input very highly at every stage of the process. Students from each year are serving on the Curriculum Transformation Steering Committee, and many are serving on subcommittees. Our school’s faculty does a wonderful job recognizing that students are at the heart of medical education and are integral to the transformation process.”

Seibert comments, “The amazing support of our departments, individual faculty, statewide partners and students has contributed to the curriculum’s success.”

“Our MD graduates are wonderful now, but people are very excited about seeing what the next generation of learners—trained with the Forward Curriculum—will be able to do when they graduate from the UW School of Medicine and Public Health,” she concludes.

Keeping the Best from the Past

A lot is changing with the new curriculum. A new calendar. New kinds of teachers. New goals for students to acquire better skill sets. But there are a few commitments to which the University of Wisconsin School of Medicine and Public Health (SMPH) is adhering loyally.

Students will have experiences in the clinic from Day 1 of medical school.

Getting students into the surrounding communities to learn how to work with patients has been the SMPH’s longstanding commitment. New to the Forward Curriculum, however, is an added focus on the “systems” piece of health care delivery, enhancing students’ abilities to work in complex systems. Compared to those who trained in the old curriculum, students will be better able to explore how physicians work in teams with nurses, medical assistants, pharmacists and other health care professionals.

The SMPH remains deeply committed to continuing its public health integration.

The new curriculum was spurred by the transformational plan established shortly after the SMPH became a school of medicine and public health. The new curriculum will reinforce the school’s ability to integrate foundational basic sciences and clinical experiences with public health across all phases.

The school will spend even more time building lifelong learners.

“Nobody wants me to be his or her doctor based solely on content I learned in medical school or residency, because those were too long ago,” says Shobhina Chheda, MD, MPH, assistant dean for medical education at the SMPH. “To be the best doctor I can be, I need to continuously learn and use new information.”

She concludes, “It’s one thing to learn material, but it’s entirely different to learn how to continually integrate new information into the way you practice. The SMPH is doubling down by having students train using a toolset so they can continuously improve how they learn and care for patients in medical school and after graduation.”
Starting on Friday, October 16, 2015, alumni and guests began flocking to Madison sporting their finest Badger apparel—including some vintage choices from their days on campus. That afternoon, the Wisconsin Medical Alumni Association (WMAA) Board of Directors held one of its two annual meetings. Several alumni also toured the Health Sciences Learning Center (HSLC) and the anatomy suite at the Medical Sciences Center. Ed Bersu, PhD ’76, Karen Krabbenhoft, PhD ’92, and second-year medical students showed alumni around the anatomy lab—where many medical school friendships began—and discussed the required first-year course, which will evolve along with the new curriculum being launched in 2016 (see page 6).

That evening, the Office of Multicultural Affairs—led by Tracy Downs, MD, and Manuel Santiago—held its second-annual multicultural alumni reception at the HSLC, and the WMAA held a Homecoming reception at nearby Dejope Residence Hall. The latter included reunions for the Classes of 1970, ’80, ’85, ’90, ’95, 2000, ’05 and ’10.

Nearly 200 guests attended the WMAA event, and nearly a quarter of them were able to meet the first-year medical student for whom they sponsored a stethoscope. Now in its third year, the WMAA Stethoscope Program has been very successful, notes Karen Peterson, the association’s executive director.
The alumni association also hosted a spirited tailgate brunch on Saturday. More than 400 alumni, students, family and friends reminisced as they dined before they headed to Camp Randall Stadium.

Spirits continued to soar as the Wisconsin Badgers bested the Purdue Boilermakers in football.

The Class of 1980 chose Saturday evening for its reunion dinner at the newly renovated Edgewater Hotel.

WMAA President Steve Merkow, MD ’80, shares that the class’s 35-year reunion was spectacular in many ways. He says he enjoyed reconnecting with classmates and appreciated the effort people took to travel to Madison, including some who came from the east and west coasts (see page 3).

Steve Damiani, DO (PG ’90), traveled from California to attend the Homecoming festivities. He thanked the WMAA staff for pulling together so many opportunities for alumni to connect.

“I was awed and amazed! The students were outstanding. The “167” program [kick-off event for the UW-Madison capital campaign] was incredible. I never imagined that I would meet such outstanding faculty and benefactors at the Thursday program. But, most of all, I just really had fun with the students and was impressed by their great inquisitiveness, vigor and endless brightness!”
CLASS OF 1970


At right: Steve Dudley, Sandra Osborn, Bill Swift.
CLASS OF 1980
Front row (left to right): Peter Rothe, Steve Schopler, Jeff Winston, Dave Kloehn, Gail Amundson, Lori Neuman, Julie Jagemann. Back row: Pat McBride, John Herman, Chris Peterson, John Drawbert, Paul Caskey, Bruce Wilson, Tom Mahn, Steve Merkow.

CLASS OF 1990
Front row (left to right): Michael Milz, Laura Zakowski, Lynn Budzak, Beth Trost, Pam Heilman, John Daley. Back row: Robert Wilke, Jon Hokanson, Kurt Rongstad, Jeff Thompson, Bill McNyor, Tom Knickelbine.
CLASS OF 1995

CLASS OF 2000
CLASS OF 2005

Front row (left to right): Elizabeth Woods, Sabrina Guse, Mike Woods, Megan Kehoe, Kimberly Arndt.
Back row: Doug Salm, Eric Dvorak, Brian Arndt, Samip Kothari, Brad Erickson, Chris Dillon, Tim Enright.

CLASS OF 2010

“On Call”

Three psychiatrists tell *Quarterly* what they’ve been up to

**JERRY HALVERSON, MD ’99**

I am the medical director at Rogers Memorial Hospital, Oconomowoc, a private, not-for-profit psychiatric health system with campuses throughout Wisconsin, as well as in Tennessee, Florida and other states. I care for patients at the residential and partial-hospital levels of care. My programs are for adults who have primary mood disorders and complexly comorbid anxiety, as well as personality and addictive disorders. Through voluntary appointments at the University of Wisconsin School of Medicine and Public Health and Medical College of Wisconsin (MCW), I teach psychiatric residents.

I care for patients who are very ill at the beginning of their treatment. Many have had multiple hospitalizations, attempted suicide and harmed themselves. It is immensely gratifying to see them improve their coping ability and be able to re-enter school and work.

This is a great time to be a psychiatrist. Recognition of the prominence of psychiatric disorders and the demand for psychiatrists has never been higher. The future holds great promise for discoveries related to the primary issues underlying psychiatric disorders, as well as effective screening and treatment/prevention.

Psychiatry always has been a good fit for me, but I did not realize that in medical school. After earning my medical degree, I completed a rotating internship and one year of anesthesiology residency at Mayo Clinic; I then completed a psychiatric residency at MCW and earned a subspecialty certification in psychosomatic medicine.

As the 164th president of the Wisconsin Medical Society, I have been able to Highlight psychiatric issues in the state; I am among a handful of psychiatrists to have held that role. I also have served in leadership roles at the Dane County Medical Society, Madison and Dane County Board of Health, Wisconsin Psychiatric Association and American Psychiatric Association, for which I am the delegate to the American Medical Association House of Delegates.
MARK HANSEN, MD ’78

My practice at the Mayo Clinic in Rochester, Minnesota, focuses on sleep medicine. Previously, I practiced psychiatry in many settings. I also have been the director of a psychiatry residency training program and the chair of the adult psychiatry division at our institution.

Over my nearly 35 years of practice, I’ve had many memorable patient cases. Among these are a narcoleptic patient, once institutionalized, who awakened from decades of slumber when her condition was finally diagnosed; an emaciated, catatonic man who, similarly, arose from his bed and began chatting—as well as eating everything in sight—once he was treated; and many patients who wage quiet, heroic battles against the illnesses that afflict them.

I chose to specialize in psychiatry because I was fascinated by the breadth and complexity of human behavior and because the field seemed to combine the art and science of medicine in ways that were humane and meaningful.

Following graduation from the UW School of Medicine and Public Health, I completed my residency training at the Mayo Graduate School of Medicine in Rochester.

I am a member of local and state medical societies, as well as a fellow of the American Academy of Sleep Medicine and the American Psychiatric Association.

For medical students who are considering psychiatry, I recommend that they reflect carefully on their goals. This is an extraordinarily interesting occupation, and it often is very personally rewarding. However, the limits of our knowledge require us to be comfortable with ambiguity, and the dismantling of our mental health “system” will challenge those who enter this profession in coming years.

CARISSA GUNDERSON, MD ’09 (PG ’14)

As a clinical assistant professor in child and adolescent psychiatry at the University of Iowa Hospitals and Clinics in Iowa City, I primarily work with outpatients from ages 3 through 21. I see a variety of psychiatric disorders, including autism spectrum, mood, anxiety, disruptive behavior and psychotic disorders.

I collaborate with psychologists and educational specialists to provide in-depth assessments. I also dedicate some time to intensive inpatient care.

I recall treating a young boy who had severe obsessive-compulsive disorder that was affecting all areas of his life. He had been removed from classmates and taught individually, and he spent most of his time performing rigid routines. His former mental health providers were considering intensive inpatient treatment. I started the boy on medication and introduced him to a psychologist who worked with him and his family. A year later, the boy has successfully re-integrated into the classroom, is thriving academically and making friends, and he no longer performs repetitive routines. Having a role in his success is incredibly gratifying.

In medical school, I enjoyed my third-year psychiatry rotation. The next year, I worked with the psychiatry consult-liaison service under Dr. Burr Eichelman.

I completed my general psychiatry residency and child psychiatry fellowship at UW Hospital and Clinics. There, I was greatly impressed by Dr. Peggy Scallon, who was adept at identifying and communicating methods to help families adjust their parenting in healthy ways.

Dr. Hanna Stevens and I started and co-direct a child and adolescent psychiatry interest group, for which we received the Klingenstein Third-Generation Foundation grant. We will be part of the foundation’s Medical Student National Conference in 2016.

I find my field personally fulfilling and intellectually fascinating. I enjoy improving the lives of children and their families, and I am grateful to UW-Madison for my education and training experiences.
We want to hear from you!
med.wisc.edu/shareyournews

CLASS OF 2010

Logan Dance recently began fellowship training in pediatric interventional radiology at Phoenix Children’s Hospital in Arizona. He will be uniquely trained to provide novel, minimally invasive, image-guided approaches to diagnose and treat pediatric conditions that were previously inaccessible or had to be managed surgically. Whether he focuses on routine vascular access, life-saving embolization of splenic trauma or percutaneous tumor ablation, he looks forward to joining this rapidly growing field. Dance and his wife, Heather, reside in Phoenix. They have four children: Brennan, Trevor, Hazel and Peter.

CLASS OF 2006

Michael Stadler was among five physicians chosen by the American Board of Medical Specialties Research and Education Foundation to participate in its 2015-2016 Visiting Scholars Program. The one-year, part-time program facilitates research projects designed to improve patient care and exposes scholars to the fields of professional assessment and education, health policy and quality improvement. Stadler is an assistant professor of otolaryngology and communication sciences at the Medical College of Wisconsin. His study will evaluate the use of care pathways to decrease readmissions of high-risk otolaryngology surgical patients.

CLASS OF 1998

Kyla R. Lee was appointed director of the Traditional Medical Students Program at Gundersen Health System in La Crosse, Wisconsin. She has directed Gundersen’s Internal Medicine Clerkship since 2002 and directs the Acting-Internship Experiences at her site. Lee is a staff physician and preceptor at an internal medicine clinic and the cardiac stress lab, and an inpatient attending physician on the palliative care team. In her new role, she will provide oversight for Gundersen clerkship site directors who oversee traditional-track student experiences. She will facilitate connections among clerkship site directors for Gundersen and the UW School of Medicine and Public Health.

CLASS OF 1986

Robert Blink, who resides in San Francisco, was appointed to the California Occupational Safety and Health Standards Board. He has been an occupational medicine physician at Vista Oaks Occupational Medicine since 2010 and chief executive officer and medical director at the Worksite Partners Medical Group since 1988. He was vice president and medical director at WorkCare from 2004 to 2009, and he served as medical director and emergency physician at several locations before that.

Cassandra Wanzo, a psychiatrist in Atlanta, Georgia, hosts a weekly radio show on mental health issues, “Mind Matters.” For details, please see wcegtalkradio.com.

Wayne Kubal completed a term as president of the American Society of Emergency Radiology, an organization of more than 1,000 members dedicated to the advancement of that field. He is a professor of medical imaging at the University of Arizona in Tucson.

Bruce Haight has practiced ophthalmology in the San Diego area for 33 years. His parents live in Beloit, Wisconsin, and he returns every summer to vacation in nearby Lake Mills. He started constructing crossword puzzles in 2012 and has had more than 30 puzzles accepted for publication in the New York Times and Los Angeles Times. The latter appear in the Wisconsin State Journal the same day.

CLASS OF 1976

Bill Charboneau received the Lawrence A. Mack, MD, Lifetime Achievement Award from the Society of Radiologists in Ultrasound. This award is given annually to an individual who has made outstanding
and sustained scientific contributions to ultrasound. Charboneau is an emeritus professor of radiology at Mayo Clinic in Rochester, Minnesota.

CLASS OF 1967

William Gee was elected the 2015-2016 president of the American Urological Association. He is a clinical professor of surgery (urology), voluntary faculty, at the University of Kentucky College of Medicine in Lexington and an emeritus urologist at Commonwealth Urology, Lexington, Kentucky.

CLASS OF 1964

Ernie Pellegrino (who passed away after he submitted this information) painted a larger-than-life image of Bucky Badger on the garage door of his Vilas County, Wisconsin, cottage on Lake Manitowish as a lasting memory for his family, as he had stage 4 metastatic prostate cancer. Pellegrino is a retired orthopedic surgeon. He and his wife, Barbara, have three children, Mark, age 48, Ellen, 46, and Todd, 44. Pellegrino enjoyed singing with men and mixed groups, painting in watercolor and acrylics, and writing. He authored the book A Doctor’s Path: Lessons I’ve Learned on My Journey through Practicing Medicine. He also was a prolific writer of letters to the editor of local and national publications.

POST-GRADUATE

John Scott (PG '84) and his wife, Candy, have been running to help raise funds and awareness for worthwhile causes since 2001, when they helped start the Bridge the Gap to Health Race in their hometown of Quincy, Illinois. In January 2016, they will travel to Myanmar with the Fellowship of Associates of Medical Evangelism’s (FAME) medical team. There, they will participate in the Yoma Yangon International Marathon at an indoor stadium (half marathon and 5K, respectively) to raise awareness of FAME. The medical team will conduct medical camps and community health training, hold a pastor training summit, and meet with and encourage Christians in Myanmar.

LETTER TO THE EDITOR

In regard to the Alumni Profile about Carol Rumack, MD ’69, and Barry Rumack, MD ’68, in Quarterly, volume 17, number 3, Robert Lederer, MD ’67, wrote: “A story [the Rumacks] did not share involves their incredible generosity. Their children went to a local camp, and Barry got involved first as a camp doc and later as the board chair. While serving as a camp doctor, Barry noticed the rustic cabin we called a “health center.” He and Carol built a modern, new Rumack Health Center (pictured above) for the camp, which also serves as living quarters for the nurses who are at the camp all summer. It was a wonderful gift and has completely changed the health care experience at Geneva Glen Camp in Indian Hills, Colorado.

IN MEMORIAM

William B. Hayden, MD ’49
Fresno, California
January 7, 2015

John A. Arkins, MD ’52
Phoenix, Arizona
July 31, 2015

Benton C. Taylor, MD (PG ’54)
Madison, Wisconsin
August 18, 2015

Note: Taylor’s family chose to direct memorial gifts to a Great People Scholarship at the UW School of Medicine and Public Health.

Philip A. Hoffman, MD ’57
Madison, Wisconsin
August 12, 2015

Ernie Pellegrino, MD ’64
Madison, Wisconsin
November 25, 2015

George A. Dahir, MD ’78
Madison, Wisconsin
August 22, 2015

Sandra A. Herbage, MD ’89
Lisbon, Wisconsin
September 2, 2015

Andrew J. Brooks, MD ’94
Mequon, Wisconsin
September 25, 2015

Emeritus Faculty Member

Nasrollah Shahidi, MD
Bonita Springs, Florida
November 30, 2015
Arnold Lanehart “Bud” Brown, Jr., MD, dean of the University of Wisconsin Medical School (now the UW School of Medicine and Public Health, or SMPH) from 1978 to 1991, died on October 20, 2015, at his home in Rochester, Minnesota. He was 89.

When Brown became dean of the SMPH, the newly built Clinical Science Center (CSC)—which houses UW Hospital and Clinics—had just been completed on the west end of UW-Madison. An initial priority of his tenure was to ensure the safe and effective transfer of patient care activities from the old University Hospital at 1300 University Avenue to the new facility.

Brown provided exceptional leadership during a period of shifting funding, dramatic evolution of the medical school curriculum and expansion of the basic sciences and clinical science facilities.

SMPH Dean Robert N. Golden, MD, shares, “I did not have the great privilege to meet Dean Brown, but I am grateful for the honor of following in his deep and lasting footsteps. He was an outstanding dean and a deeply revered person.”

Known for his kindness and wry sense of humor, Brown was born in Wooster, Ohio, grew up in Battle Creek, Michigan, and graduated from high school in Elkhart, Indiana. The arc of his career took him to some of the nation’s most prestigious medical institutions. He earned his medical degree at the Medical College of Virginia and completed an internship and residency at Rush Presbyterian Hospital in Chicago, following which he accepted a faculty position in pathology at Rush.

In 1959, he joined Mayo Clinic, where he became chair of the Department of Pathology and Anatomy and helped form the Mayo Medical School. There, he was active in cancer research and earned a national reputation, serving on and chairing councils and committees at the National Institutes of Health and National Cancer Institute. Brown moved from Mayo to the SMPH in 1978.

As dean, Brown appointed several influential faculty members and department chairs, including Philip Farrell, MD, PhD (PG ’72), and Paul DeLuca, Jr., PhD. Farrell joined the SMPH Department of Pediatrics faculty in 1977, became that department’s chair eight years later and served as the SMPH dean from 1995 to 2006. DeLuca joined as chair of the Department of Medical Physics, then moved up as the school’s vice dean for research and graduate studies before becoming the UW-Madison provost and vice chancellor for academic affairs from 2009 to 2014. Both hold UW-Madison emeritus positions.

“Bud Brown brought to UW-Madison the influence of an external force, Mayo Clinic—a major player in the U.S. medical environment, known for high-quality clinical services. He worked hard to elevate the status of our medical school and faculty on campus during a challenging era,” says DeLuca.

He adds that Brown also established strong working relationships with UW-Madison Chancellor Irving Shain, PhD, and chairs of numerous medical school and campus departments, and he placed a high priority on building connections throughout the Madison community and beyond.

Farrell and DeLuca note that Brown worked well with the clinical and research programs that had moved into the new hospital, led by UW Hospital and Clinics superintendent (later CEO) Gordon Derzon. Brown also bolstered the departments that remained at the Medical Sciences Center and enhanced that facility.

“Dean Brown shepherded the school through an era of significant growth,” DeLuca recalls.

Farrell describes Brown as an excellent mentor for department chairs and credits him with being a “balanced dean” who exhibited a high level of sensitivity for both clinical and basic science departments. He noted that, whenever possible, Brown encouraged recruitment of physician-scientists who could practice medicine and conduct research.

DeLuca agrees, noting that Brown helped elevate the SMPH academic enterprise from focusing primarily on teaching medical students and residents to contributing robustly to the intellectual knowledge of the university and nation through innovative research.

Deane Mosher, MD, former director of the Medical Scientist Training Program (MSTP)—which grants MD/PhD degrees—and a professor in the Department of Biomolecular Chemistry, shares, “Dean Brown, in his quiet and understated way, was behind the refounding of our MSTP in 1985. Given the long time between students’ matriculation and graduation with dual degrees, a decade passed before the program hit its stride. It now has grown to the size anticipated at the time of its refounding and is a great testimony to Dean Brown’s vision and support.”
Infectious Diseases
MINI MED SCHOOL EXPLORES SUPERBUGS AND LIFE-SAVING MEDICINE

Every day, we see at least one patient for whom we have no effective antibiotics,” said David Andes, MD, PhD (PG ‘96), professor, Department of Medicine, University of Wisconsin School of Medicine and Public Health (SMPH). At the September 2015 Mini Med School, UW-Madison’s preeminent role in the discovery and use of antibiotics took center stage in talks by Department of Medicine faculty members Andes; Dennis Maki, MD ‘67, professor emeritus; Alexander Lepak, MD ‘05 (PG ‘10), assistant professor (CHS); and Nasia Safdar, MD (PG 2000, ’04), associate professor.

“There is no class of drugs that has had a greater impact on human health than antimicrobials,” said Maki, adding that the danger of resistant superbugs looms large.

UW-Madison researchers transformed how hospital-acquired infections are prevented through lifesaving advances like barrier isolation and chlorhexidine.

Maki described discoveries by the late William Craig, MD (PG ’73), whose theories inform antimicrobial stewardship. Lepak shared how stewardship programs pioneered at UW-Madison extend drug lifespans.

Limiting inappropriate antibiotic use is critical for fighting Clostridium difficile, which can proliferate in the gut of antibiotic-treated patients, causing debilitating diarrhea.

“To recover, you must re-establish diversity of gut bacteria,” noted Safdar, adding that fecal microbiome transplants can halt the cycle.

Ultimately, the antimicrobial arsenal needs to be restocked. Together with Cameron Currie, PhD—the Ira Baldwin Professor of Bacteriology—Andes leads a team that’s identifying chemicals produced during warfare between insects and microbes. They’ve found 30 promising antimicrobials so far and are moving forward quickly.

With good reason. These infectious disease specialists are physician-scholars who know that antibiotic resistance is a matter of life and death, and that solutions require humility, creativity and tenacity.
Teamwork Extends Beyond Football at Lambeau Field

SMPH EVENT HIGHLIGHTS STUDENTS AND PHYSICIAN MENTORS IN THE GREEN BAY AREA

by Kris Whitman

The spectacular Lambeau Field in Green Bay, Wisconsin, hosted a unique team in late November. Like the stadium’s famed home team—the Green Bay Packers—this team’s players and coaches have emotional ties to Titletown and collaborate well in their field. Aiming to bolster health for the state’s residents and particularly for those in rural areas, the players are medical students enrolled in the Wisconsin Academy for Rural Medicine (WARM) at the University of Wisconsin School of Medicine and Public Health (SMPH). Its coaches are physicians who volunteer significant time and energy to mentor SMPH students in the WARM Program and those completing required third-year clerkships and fourth-year preceptorships.

“We have a very close-knit medical community in Green Bay, and the UW School of Medicine and Public Health is a key partner in our area,” shared Jen Erickson Foster, MD ’04, who—along with Rolf Lulloff, MD ’67, and the Wisconsin Medical Alumni Association (WMAA)—co-hosted the reception and dinner at Lambeau. The event’s goal was to honor volunteer faculty members and students for their dedication to providing health care in rural areas, which face shortages of primary care and specialty physicians.

Partnering health care organizations in the region include Aurora BayCare Medical Center, Aurora Health Care, BayCare Clinics, Bellin Health Care Systems, Door County Memorial Hospital, Ministry North Shore Medical Clinic, Oneida Community Health Center, Prevea Health, St. Mary’s Hospital, St. Vincent Hospital and ThedaCare Medical Center-Shawano. More distant regional sites are in Sheboygan, Fond du Lac, Berlin and Wild Rose and a new site at Oneida Community Health Center.

Emcee Patrick McBride, MD ’80, MPH—the SMPH director of alumni relations and past president of the WMAA—donned two different Packers’ jerseys so he could “alternate between highlighting offense and defense” and thank the football team. He introduced the SMPH team’s “head coach,” Robert Golden, MD, dean, Robert Turell Professor in Medical Leadership and UW-Madison vice chancellor for medical affairs.

Like all good coaches, Golden cheered on the nearly 100 event participants, including students, alumni, donors, colleagues and friends from various health care organizations.

“Tonight is a chance for us to thank the remarkable teachers, advisors, role models and heroes who make such a difference in the lives of our students, the next generation of doctors. These volunteers literally open their doors and hearts to our school’s academic mission. They are inspiring the best and brightest to follow in their footsteps by practicing in rural Wisconsin,” shared Golden. “This is a national example of the best features of academic medicine.”

Golden also shared inspiring student testimonials, anonymously, including:

“Green Bay provided an amazing experience for inpatient internal medicine. Dr. Bhatia, the clerkship director at Aurora BayCare, is one of the best attendings I’ve worked with this year. He not only taught us above and beyond the facts we needed to know, but he went out of his way to...
teach us about how to be physicians. He treated us as equals and pushed me when he knew I could be pushed."

The Lambeau event particularly showcased the WARM Program, created in 2004 through funding from the SMPH’s Wisconsin Partnership Program.

The four-year WARM Program falls within the school’s MD curriculum. Working directly with role models, students in their clinical years receive specialized training to practice in rural settings, which calls upon unique skills. WARM admits 26 students per year who intend to establish their future medical practices in rural areas, ultimately to help improve the health of Wisconsin’s small towns and agricultural communities. Each student is assigned to one of three regional hubs—Green Bay, Marshfield or La Crosse—and also trains in the surrounding rural communities.

Since the first WARM students graduated in 2011, a total of 76 have graduated; 105 are now in the program.

"WARM’s success has far exceeded our expectation in terms of graduates pursuing practice in rural Wisconsin. Much of it has to do with what they learn from mentors—beyond medicine—in terms of the joys and importance of being a community leader," noted Golden. “Its graduates are the kind of doctors I would want for my family.”

He credited SMPH colleagues Byron Crouse, MD, associate dean for rural and community health and director of WARM, and Elizabeth Petty, MD ‘86, senior associate dean for academic affairs and professor of pediatrics, for their diligence in fostering WARM’s success.

Golden also recognized Richard Ludgin, MD, and Paul Summerside, MD, who helped develop and implement the curriculum for SMPH students at Aurora BayCare. That system increased its number of WARM students from five to six and will expand to eight in 2016 due to demand.

Event guests enjoyed a WARM-related video that was filmed in Howards Grove, Wisconsin. “Stars” of the video—including Catherine Best, MD ‘88, a family medicine physician at the Aurora Sheboygan Clinic, Howards Grove, and James Rindt and Philip Mercier, third- and fourth-year WARM students, respectively—drew applause.

In the video, Rindt said, “The School of Medicine and Public Health, by having these types of small communities that are willing to have students, is really staying true to its name and focusing on improving the health of every individual in the state, not just individuals close to the school.”

And Best noted, “Everyone knows there is a primary care shortage. We need to get as many physicians as possible to practice primary care, ideally in rural communities.”

Golden introduced another “star player,” fourth-year SMPH student Hope Villiard—who grew up primarily in Bruce, Wisconsin, a Rusk County town of 700. Following her lifelong dream to become a doctor, she completed her undergraduate degree at UW-Madison and has spent two years in the WARM Program in Green Bay.

“I am continually reminded how wonderful it is to be a student in this program, and I look forward to giving back in the future as an alumnus,” shared Villiard, who said she also feels fortunate to have received financial support for her medical education through the Great People Scholarship and WMAA Scholarship.

“I’ll never forget when Dr. Crouse called about my acceptance into WARM,” she said. “My third and fourth years in Green Bay have been incredibly rewarding.”

Of the Green Bay site, which has no medical residents, she noted, “Every one of my mentors was excited to teach and made me feel like an integral part of the team. I got one-on-one time with physicians, and I got a first-hand view in each rotation of what life as a physician looks like in a community setting.”

Villiard described how WARM students do eight-week primary care rotations in which they live, work and complete a community project in surrounding towns, including Sturgeon Bay, Howards Grove, Two Rivers and Manitowoc. While the strength of each rotation made it difficult to choose a specialty, she ultimately realized her love for general surgery. Villiard would like to remain in Wisconsin for her residency and practice as a rural general surgeon in the state.

Thanking all participants, Golden noted, “Without you, we could not do the important work of improving the health of Wisconsin’s citizens.”
Mark Twain may have been describing Dean G. Sienko, MD '83. Growing up in a working-class neighborhood on the south side of Milwaukee, Wisconsin, Sienko realized early that he wanted to help people through the field of medicine, but he had no physicians in his family to encourage him. In fact, he was the first in his family to attend college.

Nevertheless, he threw off the bowlines and set sail. Upon earning a bachelor’s degree from the University of Wisconsin-Milwaukee and a medical degree from the UW School of Medicine and Public Health (SMPH), he had no idea that his work would impact so many people.

Fast forward to early 2015, when Sienko retired at the rank of major general following a distinguished 33-year career in the U.S. Army. During his last military assignment, he was the commanding general of the Army Public Health Command.

Twenty months later, he returned to his post as the founding associate dean for prevention and public health at the Michigan State University College of Human

Celebrated Champion of Public Health:
DEAN G. SIENKO, MD ’83

by Sharyn Alden

Twenty years from now, you will be more disappointed by the things that you didn’t do than by the ones you did do. So throw off the bowlines. Sail away from the safe harbor. Catch the trade winds in your sails. Explore. Dream. Discover.” —Mark Twain
Sienko understands the importance of mentors. In high school, despite his success in advanced science courses, a counselor discouraged him from pursuing medical school, saying it may be hard to overcome his inner-city background. But Sienko persevered, and as a pre-med student at UW-Milwaukee, he found a mentor in Leonardo Aponte, MD, a family medicine physician.

Sienko asked if he could shadow Aponte in his practice. Aponte agreed, and also “hooded” the young student upon graduation. “He helped shape me as a physician in many ways, including how to engage with patients,” says Sienko.

Then came another serendipitous moment: On a Badger Bus returning to Milwaukee from his medical school interview in Madison, Sienko struck up a conversation with a UW coed. Her parting words—“Come to Madison”—stuck with him. That young woman, Mary Jean, was a bacteriology major at UW-Madison and became a veterinarian. She now is Sienko’s wife of 32 years.

Before Sienko entered medical school, his father passed away. UW-Madison took note. “I went to the ROTC building to take my oath of office. They swore me in immediately upon completing my training at the CDC,” Sienko recalls.

As the county medical examiner, Sienko participated in virtually every sort of death investigation—homicides, suicides, accidents and sudden deaths—other than a mass casualty.

In the wings, the military was ready to recruit Sienko, who had joined the Wisconsin Army National Guard during his third year of medical school. “I went to the ROTC building to take my oath of office. They swore me in immediately and said, ‘Congratulations, Lieutenant, you have an assignment this weekend at Fort McCoy,’” Sienko recalls.

Upon completing his training at the CDC, Sienko rejoined the Army in the Michigan National Guard. The Army needed physicians to complete training in aviation medicine to become flight surgeons, so Sienko completed the six-week course. “A flight surgeon’s primary role is to attend to the health needs of the flying community,” explains Sienko. “You learn about the health challenges of flying and how to determine whether a candidate medically qualifies for aviation training or duty.”

Shortly after Sienko earned his wings as a flight surgeon, Saddam Hussein invaded Kuwait. At that time, Sienko’s unit—an evacuation hospital—was preparing to head overseas—changing his life overnight. “Just before Thanksgiving, I left my wife and 2-year-old daughter, Carolyn, for training at Fort McCoy. Shortly after Christmas, I left for Saudi Arabia,” he says, noting that his Gulf War experience was historical and personal.

“The sacrifices I saw in war made me realize that I wanted to do more as a military officer, particularly by advancing my professional military education,” he shares.

Sienko says virtually all future generals must complete War College, the highest level of military education for Army officers and an unusual endeavor for physicians at the time. While working full time, he completed it via distance learning and earned a master of strategic studies in 2001.

That year, his life took another turn when he was deployed to Kosovo.

“The Balkans were a priority for the U.S. military, and I was proud to serve. I was the senior U.S. medical commander—the first time the position was given to a reservist,” recalls Sienko, who was promoted to brigadier general before serving as the command surgeon in Kuwait and Iraq in 2003; he was further promoted to major general in 2008.

“I had an energetic military career, but my family is most important to me,” Sienko says. He notes that his daughter, Carolyn, also has a connection to UW-Madison, where she played in the UW Marching Band at the 2011 Rose Bowl Parade during her senior year. His sons, Peter and Michael, were recruited by universities to play Division I tennis.

All children have followed in their father’s military footsteps. Carolyn is a lieutenant in the U.S. Navy; Peter, a field artillary officer in the U.S. Army, graduated from West Point in 2015; and Michael is a sophomore at the same school.

Sienko wishes his parents could have known their grandchildren. His mother lived through Sienko’s first military star, but he notes that both parents would have been proud to see that he and his children have had fulfilling military careers.

“The legacy you leave behind is really in your children,” Sienko concludes.
McPherson Honored
WITH DISTINGUISHED ALUMNI AWARD

Alice McPherson, MD ’51, received the Wisconsin Alumni Association’s (WAA) Distinguished Alumni Award in fall 2015. The highest honor bestowed by the WAA, the award honors the most prestigious University of Wisconsin-Madison alumni for professional achievements, contributions to society and support of the university.

Since earning her undergraduate degree from UW-Madison in 1948 and medical degree from the UW School of Medicine and Public Health (SMPH) in 1951, McPherson has become one of the foremost retinal specialists in the world. In 1960, she moved to Houston, Texas, to begin practice as the world’s first full-time woman vitreoretinal specialist and established herself as a pioneer in the field.

Also in 1960, she founded Baylor College of Medicine’s retina service in conjunction with a private retina practice. She promoted several procedures that are now basic elements in successful retinal detachment surgery and diabetic retinopathy treatment.

McPherson established the Retina Research Foundation in Houston, and under her leadership, it has funded more than 1,000 grants and helped launch the careers of many major vision researchers in the United States and abroad.

Her vision, inspiration and support were critical in the establishment of the McPherson Eye Research Institute at UW-Madison. She serves on the institute’s advisory board and has seen it gain international prominence.

McPherson has made many other impressive contributions to UW-Madison. For instance, she served for 12 years on the UW Foundation board of directors, was the founding president of the UW Ophthalmology Alumni Association and has established endowed chairs and lectureships.

A bronze bust and portrait of McPherson grace the SMPH. The school also named one of its medical student Learning Communities—or “houses” for study and social programs—in her honor.

On the day she received the WAA award, McPherson addressed SMPH students who are members of the McPherson House and/or the Ophthalmology Interest Club.

“When I talk to medical students, it makes me want to re-live my medical school years. They were great fun!” she shared.

McPherson, who continues to work nearly full time, noted that her SMPH mentors, particularly William Middleton, MD, made a big impression on her in regard to discipline, fairness and truth. She described Middleton’s brown derby, which remains a symbol of the former SMPH dean who went on to lead the Veterans Administration in Washington, D.C.

“When Dean Middleton asked a student a question, and that student did not know the answer, he would toss the hat to the student, who would have to sign and wear it. When the class was finished, almost everybody’s signature was on it,” McPherson recalled.

Reflecting on another of his lessons, she said, “You have to make sure each patient goes away feeling like you’ve really done something for him or her. Learning to really listen to the patient is key because you want your patient to walk out of your office feeling that he or she has seen a caring doctor.”

According to first-year medical student Joslyn Strebe, she and other students felt McPherson did something special by sharing her pearls of wisdom during her visit.
Gold Humanism Honor Society

RECOGNIZES HUMANISM, COMPASSION, INTEGRITY, RESPECT AND SERVICE

The Arnold P. Gold Foundation established the Gold Humanism Honor Society (GHHS) to recognize rising fourth-year medical students who demonstrate exemplary attitudes and behaviors characteristic of the most humanistic physicians. The University of Wisconsin School of Medicine and Public Health (SMPH) inducted the following individuals in August 2015:

**Medical Students**
- Elizabeth Abbs
- Kathryn Berndtson
- Sarah Brown
- Olga Diaz
- Yi Ding
- Anna Drewry
- Sean Fling
- Matthew Gevelinger
- Paul Gill
- Katharine Greenfield
- Emily Haas
- Elizabeth Huffman
- Alonzo Jalan
- Evan Joyce
- Meagan Ladell
- Elise Larson
- Conor O’Halloran
- Andrew Pace
- Matthew Peller
- Caitlin Regner
- Danica Rockney
- Hannah Roeder
- Meenakshi Shivaram
- Michael Sookochoff
- Laura Wittmann

**GHHS Faculty Inductees**
- Charles Acher, MD ’12, resident, Department of Surgery, Section of General Surgery
- Claudia Reardon, MD ’06, assistant professor, Department of Psychiatry

**Leonard Tow Humanism in Medicine Award**
- Laura Zakowski, MD ’90, associate professor, Department of Medicine, and Alpha Omega Alpha councilor for the SMPH

The students above (names in article) participated in the 10th-annual UW School of Medicine and Public Health’s GHHS induction ceremony. Each received a “Humanism in Medicine” pin and pledged to uphold the ideals of the society in their future medical practices.

DeLuca Lauded FOR VISION TO SUPPORT WIMR

Inside the gleaming Wisconsin Institutes for Medical Research (WIMR), visitors will see a new honorary plaque featuring a smiling Paul DeLuca, Jr., PhD. In person, he smiles as he describes the success of the complex he shepherded since its inception.

On behalf of the University of Wisconsin School of Medicine and Public Health (SMPH) and Oscar Rennebohm Foundation, the plaque lauds DeLuca for establishing WIMR and “nurturing a partnership with the Foundation that helped make the institutes a reality.” Rennebohm Foundation director Steve Skolaski organized the installation.

The Oscar Rennebohm Foundation and GE Healthcare-Milwaukee each provided $15 million to support construction of the first WIMR tower. Additional private gifts and state and federal funding have supported construction of the two WIMR towers.

UW-Madison Emeritus Professor DeLuca was the SMPH vice dean for research and graduate studies before serving as UW-Madison provost and vice chancellor for academic affairs from 2009 to 2014.

“Paul’s vision has helped accelerate the translation of research discoveries to clinical care and has engaged researchers from across the SMPH and UW-Madison,” says Richard Moss, PhD, the SMPH senior associate dean for basic research, biotechnology and graduate studies.

Left to right: Mark Lefebvre, former senior vice president of the UW Foundation; Paul DeLuca, Jr., PhD; Philip Farrell, MD, PhD (PG ’72), emeritus professor and former SMPH dean; Richard Moss, PhD; Steve Skolaski.
STUDYING EARLY PREDICTORS OF PREGNANCY COMPLICATIONS

Researchers at the University of Wisconsin School of Medicine and Public Health (SMPH) received a four-year, $4 million grant to study and develop imaging techniques to identify pregnancy problems at a very early stage. The National Institute of Child Health and Human Development awarded the grant to Dinesh Shah, MD, professor, Department of Obstetrics and Gynecology (OBGYN), and Oliver Wieben, PhD, associate professor, Department of Radiology, who are the principal investigator (PI) and co-PI, respectively.

This first project of its kind to study the placenta in real time and part of the Human Placenta Project will use ultrasound and magnetic resonance imaging and blood/urine samples to measure early predictors of pregnancy complications.

“Previous studies have focused largely on the placenta after delivery, but to understand it fully, we need to study it while it’s doing its job,” says Shah. “Modern imaging makes it possible to study it from outside of the body. Too often, damage has already begun by the time a mother with a problematic pregnancy appears in clinic, limiting the health care providers’ ability to correct the course of her pregnancy.”

The clinical studies are a collaborative effort between the SMPH Department of OBGYN and Meriter Hospital’s Center for Perinatal Care. In addition to several faculty members from the Department of OBGYN, several from the SMPH Departments of Radiology and Medical Physics will assist with developing imaging techniques and biomarkers. The Wisconsin Institutes for Medical Research and UW Institute for Clinical and Translational Research also will support the studies.

HUTTENLOCHER, KALIN ELECTED TO NATIONAL ACADEMY OF MEDICINE

University of Wisconsin School of Medicine and Public Health (SMPH) faculty members Anna Huttenlocher, MD (left photo), and Ned Kalin, MD (right photo), were elected to the National Academy of Medicine (NAM). The researchers will provide expert scientific advice to help shape policies, inform public opinion and advance the pursuit of science, engineering and medicine in the United States.

“Anna Huttenlocher and Ned Kalin are national leaders in their respective fields, and this huge honor and recognition are well-deserved,” shares SMPH Dean Robert N. Golden, MD. “They represent the finest qualities of our faculty—creativity and innovation in science, dedication to teaching and mentoring, and a deep-rooted commitment to service.”

Huttenlocher, professor in the Departments of Pediatrics and Medical Microbiology and Immunology, is recognized internationally for her pioneering studies of cell migration and its alterations in human diseases. She earned her medical degree at Harvard Medical School and takes care of children with autoimmune diseases. Her research group has pioneered approaches using zebrafish to image inflammation and identified a novel mechanism that resolves inflammation. Huttenlocher also directs the SMPH Medical Scientist Training Program, which combines medical education and PhD-level research training.

Kalin’s pre-clinical and clinical investigations focus on how brain activity, environmental factors and genetics contribute to fear, anxiety and depression in children. His work has been particularly valuable in uncovering the biology of childhood anxiety, a contributing factor to developing adolescent and adulthood depression, substance abuse and anxiety disorders.

Kalin, the Hedberg professor and chair of the Department of Psychiatry, earned his medical degree at Thomas Jefferson Medical College. He directs the HealthEmotions Research Institute.

Additionally, Kalin recently received the Anna-Monika Prize from the European College of Neuropsychopharmacology for his major scientific contributions to the understanding of neurobiological mechanisms of depression.
A team of researchers in the University of Wisconsin School of Medicine and Public Health’s (SMPH) Departments of Medical Physics and Radiology led by Guang-Hong Chen, PhD, received a Quantum Grant from the National Institute of Biomedical Imaging and Bioengineering. The $3 million grant will support researchers’ efforts to drastically reduce the treatment time for ischemic stroke victims.

“This is a wonderful interdisciplinary effort that will have a big impact on the treatment of stroke,” explains Thomas Grist, MD, chair and professor in the SMPH Department of Radiology.

By combining the diagnostic and therapeutic phases of treatment, the researchers hope to decrease patients’ time to treatment and improve outcomes. Currently, diagnostic imaging occurs in the computed tomography (CT) or magnetic resonance imaging suite, while treatment is carried out via angiography. Stroke victims lose up to 2 million neurons per minute until blood flow to the brain is restored.

With techniques developed by the researchers, diagnosis, triage and treatment all occur in the angiography suite. New CT technology known as SMART-RECON largely eliminates the delays previously associated with multi-modality imaging. SMART-RECON also improves temporal resolution and reduces radiation dosage by a factor of 4. Thus, physicians are able to obtain all necessary data for patient triage and may begin endovascular treatment sooner.

In addition to Chen, professor of medical physics and radiology, and several co-investigators, the lead clinical investigators on the project are Charles Strother, MD, professor emeritus of radiology, and Beverly Aagaard-Kienitz, MD, associate professor of radiology.

Jacquelyn Arbuckle, MD ’95 (left photo), clinical associate professor in the University of Wisconsin School of Medicine and Public Health (SMPH) Department of Surgery, has been selected to serve as the new director of the school’s Native American Center for Health Professions (NACHP).

Arbuckle, a general surgeon who practices at multiple UW Health locations, is a native of Spooner, Wisconsin, and grew up on the St. Croix reservation. She earned her medical degree from the SMPH and completed her internship and residency in surgery at the Lahey Clinic in Massachusetts.

“We are delighted to have Dr. Arbuckle fill this vitally important leadership role,” says Robert N. Golden, MD, dean of the SMPH. “Our Native American Health Center is a highly valued program, and Dr. Arbuckle’s background, experience and leadership skills will help accelerate the center’s progress.”

The NACHP aims to recruit more Native students and faculty and improve their experience on campus; establish strong Native health educational opportunities; and grow the Native health academic programs. The school recently added an elective for fourth-year students at the Oneida Community Health Center.

The NACHP recently developed an advisory council that consists of tribal leadership from five of Wisconsin’s tribal communities: Oneida Tribe of Indians of Wisconsin, Menominee Nation, Ho Chunk Nation, Stockbridge Munsee Band of Mohican Indians and Lac du Flambeau Band of Lake Superior Chippewa Indians.

In 2012, Arbuckle received a UW-Madison Outstanding Woman of Color Award, in part for her successful efforts to diversify the general surgery faculty and surgery residency program at the SMPH. That year, she also received the Outstanding Educator Award from UW System.

Christine Athmann, MD (right photo), is the NACHP assistant director. She grew up on the White Earth Indian Reservation in northwest Minnesota and is a descendent of the White Earth Tribe of Ojibwe. She earned her medical degree and completed her residency at the University of Minnesota. She is a clinical assistant professor in the SMPH Department of Family Medicine and Community Health.
Celebrating a Bond Between Clans

J.P. Cullen Gift Will Promote Brain-Repair Research

by Susan Lampert Smith

The Health Sciences Learning Center recently hosted a gathering of two “families” of different types of builders. Clan Cullen—headed by J.P. Cullen, chairman emeritus of the Janesville, Wisconsin, construction company—celebrated his 90th birthday by presenting a $250,000 check from the J.P. Cullen Foundation to the Department of Neurological Surgery at the University of Wisconsin School of Medicine and Public Health (SMPH). The gift will support research related to helping the brain recover from illness and injury.

J.P. Cullen and Sons has built or renovated many of UW-Madison’s most iconic buildings, including Camp Randall Stadium, Bascom Hall, the Education Building and the old University Hospital, now called the Medical Sciences Center.

The Department of Neurological Surgery has built an international reputation for surgical skill, research, teaching and international outreach under the leadership of Robert Dempsey, MD, noted SMPH Dean Robert N. Golden, MD.

“By providing this gift, the Cullen Foundation is really providing the gift of life, not only to patients at UW Health, but to patients around the world who will benefit from leaders who have trained here, and discoveries that are made here,” Golden shared.

The gift symbolizes a decade-long bond between two remarkable Irishmen: J.P. Cullen and Dempsey.

Mark Cullen, company chairman and J.P. Cullen’s son, said the elder Cullen and Dempsey met 10 years ago, when J.P. Cullen began seeing double and feeling dizzy. A longtime friend of the Cullens, the late UW Regent George Steil, Sr., suggested that Cullen consult with Dempsey. Mark Cullen said subsequent medical imaging showed that his father had a large brain tumor, which Dempsey removed during a long, successful surgery.

“Dr. Dempsey really took my father under his wing and treated him with the respect that is due to a World War II combat veteran,” Mark Cullen said.

After that, their friendship grew, with the Cullens inviting Dempsey and his wife, Diane,
to watch Badger football games with them at Camp Randall Stadium.

In 20 years, Dempsey has expanded the Department of Neurological Surgery to include 30 neurosurgeons and to pursue research efforts in brain tumors, stroke, trauma, spinal disorders, pain and central nervous system disorders. The department also coordinates the National Institutes of Health’s Stroke Network research in the upper midwest.

At the fall 2015 celebration of Clan Cullen’s gift to further support these efforts, Dempsey described a “family we call neurosurgery.” The department was built by hard work, dedication to goals and hiring excellent people, he noted, and its neurosurgeons are “worldwide leaders who give people hope for difficult, often impossible problems.”

That concern for patients extends far beyond the operating room, to places like Green Lake, Wisconsin, where UW Health sponsors an annual camp for stroke survivors and their caregivers, Dempsey shared. Spending time with patients and seeing the tremendous burden stroke puts on the entire family “shows me that we have to do better,” Dempsey said.

This drive for improvement runs through all the department’s sub-specialties, he added.

“It’s the future we look for,” he concluded. “We do not just stop at disease. We protect the developing brain and repair the ones that have been injured. We’re thinking of the next generation, our children, the sixth generation of the Cullens—and we want them to be healthy for a long time.”

Dempsey also gave a gift “from one Irishman to another.” He presented J.P. Cullen with an Irish walking cap embroidered with the Department of Neurological Surgery logo, thus making the head of Clan Cullen an honorary member of the “neurosurgery family.”

Rounding out the Cullens’ visit to the SMPH, Dempsey guided a tour of the neurosurgery research laboratories and Neurological Intensive Care Unit, where survival statistics are double the national average.
Matching Fund Campaigns
FOSTER SUCCESS FOR FACULTY MEMBERS AND STUDENTS

At a time when private support of medical education is more important than ever, two major matching gift programs are helping tremendously. University of Wisconsin School of Medicine and Public Health (SMPH) Dean Robert Golden, MD, notes that several of the school’s departments and faculty members have received a major boost from private donors whose money was doubled through John and Tashia Morgridge’s historic matching gift to UW-Madison.

The Morgridges’s donation of $100 million in matching funds is the largest individual gift in UW-Madison’s history. It aims to attract an equal amount of support for endowed chairs and professorships throughout the university. The couple has made numerous other significant gifts to UW-Madison—their alma mater.

“This funding is critically important for our ongoing recruitment and retention of top leaders in numerous areas. We are very grateful to our alumni, friends and faculty who contributed to this game-changing program, and we will be forever grateful for John and Tashia’s partnership in building this legacy,” exclaims Golden.

He adds, “Our school was given the goal of attracting $15 million in new gifts. The university achieved its $100 million goal in about seven months, and John and Tashia then lifted the cap, pledging to match every gift that was committed by mid-June 2015.”

The SMPH exceeded its goal by raising more than $17 million. Together with the Morgridge match, this created $35 million that funded 23 new professorships, chairs and distinguished chairs, and allowed for the enhancement of several existing chairs.

Following the successful Morgridge match, in June 2015, Ab Nicholas and Nancy Johnson Nicholas made a $50 million gift to create one-to-one matches with donors to create scholarships for undergraduate, athletic and professional school students and graduate fellowships. It’s the second-largest household gift in the university’s history.

“The University of Wisconsin holds a special place for Nancy and me,” says Ab Nicholas. “It’s where we met and where our three children and six of our grandchildren have gone to university. I learned the lessons in the classroom and on the court that have fueled my career. And we made lasting friendships and continue to enjoy an amazing alumni experience.”

The Nicholas gift matches new donations and pledges—which may be paid over five
years—that create permanent endowments to be named by donors who make qualifying gifts. For the SMPH, gifts of $200,000 to $1 million are eligible for the match.

The SMPH is celebrating the gifts received through the Morgridge match as it pursues the opportunities created by the Nicholas gift. An example of a Morgridge match at the SMPH is the substantial donation by Susan F. Behrens, MD '75, FACS, and her husband, David Look, who funded a professorship for Carla M. Pugh, MD, PhD, FACS.

Now the Susan Behrens Professor of Surgery Education, Pugh also is the vice chair of education and patient safety in the SMPH Department of Surgery and the clinical director of the UW Health Clinical Simulation Program. She earned her medical degree and completed a surgery residency at Howard University, an acute care surgery fellowship at the University of Michigan and a doctorate of education at Stanford University. Her many honors include the Presidential Early Career Award for Scientists and Engineers.

A prolific researcher and inventor, Pugh is training the next generation of doctors and surgeons using a new synthetic model that brings together engineering and medicine.

Behrens earned her bachelor’s degree at UW-Madison and her MD from the SMPH. She completed her surgery residency at Gundersen Health System in La Crosse, Wisconsin, and a fellowship in colon and rectal surgery at Ferguson Clinic in Grand Rapids, Michigan. Now retired, she practiced general surgery in the Beloit Health System, in Beloit, Wisconsin. Look earned his bachelor’s degree in marine biology and an MBA at the University of Oregon.

Breaking through the gender stereotypes of her field, Behrens has experienced many firsts. For instance, she was the first woman to complete a surgery residency in Wisconsin and to practice surgery in the state, the first woman to serve as the president of the Federation of State Medical Boards of the United States, and the first woman to chair the Wisconsin Medical Examining Board.

She credits mentors for inspiring her to enter surgery, a “man’s field” at the time, and notes, “It is meaningful to me that the first person to hold this professorship is a woman who is blazing trails in surgical education.”

Golden shares, “We are so grateful to Dr. Susan Behrens and David Look for their generous gift, which inspires all of us at the SMPH to fulfill our school’s missions in innovative ways.”

For more information, please contact Jill Watson, UW Foundation, at (608) 262-4632 or jill.watson@supportuw.org.

Middleton Society Event
MISTRETTA RECEIVES BELZER AWARD

At the fall 2015 Middleton Society dinner, University of Wisconsin School of Medicine and Public Health’s (SMPH) leaders thanked the school’s most loyal supporters for their role in sharing gifts during these challenging economic times.

Dean Robert N. Golden, MD, explains, “Our university and school have been hit with repeated, substantial cuts to our state budget, which for the SMPH has shrunk to the point where state support accounts for only about 10 percent of our expenditures.”

He adds, “But this also has been a remarkably exciting and productive year for the school, and our future has never been brighter as we continue to advance in all of the missions at your UW School of Medicine and Public Health.”

Guest speakers were Carla M. Pugh, MD, PhD, FACS, the Susan Behrens Professor of Surgery Education, vice chair of education and patient safety in the SMPH Department of Surgery, and clinical director of the UW Health Clinical Simulation Program; and Susan F. Behrens, MD ’75, FACS, a retired surgeon from Beloit, Wisconsin.

Pugh’s talk highlighted her innovative work that inspired Behrens and her husband, David Look, to create Pugh’s professorship through the Morgridge match (see opposite page).

Also that evening, Golden bestowed the school’s highest award, the annual Belzer Award, on Charles Mistretta, PhD (photo at right), professor, Departments of Radiology and Medical Physics. The award honors distinguished faculty members for lifetime achievement of contributions to the SMPH and beyond. It is named for Folkert Belzer, MD, the former chair of the SMPH Department of Surgery.

Mistretta earned his doctorate in high-energy physics from Harvard. In 1971, he joined the SMPH and has made seminal discoveries that transformed the practice of medicine. His studies of dual energy X-ray imaging led to the development of a real-time digital image processor, which set the stage for creation of digital subtraction angiography. His technology, applied worldwide, ranks second among inventions in UW-Madison’s history in terms of patent royalties brought to campus. Mistretta turned his attention to magnetic resonance angiography in the 1980s.

Mistretta has mentored more than 55 graduate students and postdoctoral fellows. Among his many honors, he has been designated as “one of the 50 medical physicists with the most impact on the field in the last 50 years” by the International Congress of Medical Physics.
Researchers Tackle Blinding Eye Disease

Researchers at the McPherson Eye Research Institute (MERI) at the University of Wisconsin School of Medicine and Public Health (SMPH) have used a custom stem cell model of a rare but blinding eye disease to test whether a commonly used drug might offer hope for treatment.

The study, “Pharmacological Modulation of Photoreceptor Outer Segment Degradations in a Human iPS Cell Model of Inherited Macular Degeneration,” was published in Molecular Therapy.

In 2012, the researchers for the first time took skin cells from patients with Best disease and used induced pluripotent stem cells (iPSC) technology to turn them into retinal cells that mimicked the disease. This second study showed the next steps in the research.

David Gamm, MD, PhD (PG ’02, ’03) (photo at left), associate professor in the SMPH Department of Ophthalmology and Visual Sciences and head of the lab that worked on the study, says there is no cure for Best disease. But the new study showed that customized stem cells can help patients by testing the effects of drugs. Gamm is the Emmett A. Humble Distinguished Director and the Sandra Lemke Trout Chair in Eye Research of the MERI.

Best disease is an inherited type of macular degeneration that causes slow loss of central vision. It often is diagnosed in childhood while vision is still good, so there is ample time to intervene if an effective treatment to slow the disease can be identified.

“This research showed that the drug valproic acid was able to improve certain functions of retinal cells affected by Best disease,” Gamm says about the study, which was led by Ruchira Singh, PhD, an SMPH postdoctoral associate at the time.

Biomarkers Could Improve Breast Cancer Treatment

Wei Xu, PhD (photo at right), and other researchers at the University of Wisconsin School of Medicine and Public Health (SMPH) have identified how some breast cancers develop resistance to chemotherapy drugs that typically are successful at killing cancerous cells during initial treatment.

“For anti-cancer drugs, even those that have been in use for a while, we don’t know how the drug resistance is caused,” says Xu, professor of oncology at the UW Carbone Cancer Center and McArdle Laboratory for Cancer Research. “We want to identify the mechanism of drug resistance and develop biomarkers for it so we can predict which cancer patients will benefit from certain treatments.

Xu, senior author of the study published in Science Advances, and her research team investigated CARM1, a protein that chemically modifies other proteins and is often overexpressed in breast and some other cancers.

In the study, researchers identified a new CARM1 target, a protein called MED12. In breast cancer cell lines, the ability of MED12 to be chemically modified by CARM1 determines whether cells will be sensitive or resistant to a common breast cancer chemotherapy treatment, they found.

“This chemical modification of MED12 can sensitize the cells to antimetabolite drugs, including one commonly used in breast cancer, Fluorouracil (5-FU),” Xu notes. “If MED12 cannot be modified by CARM1, or if MED12 is not expressed, then the cancer cells are resistant to 5-FU and survive treatment.

Charles Heidelberger, PhD, a former McArdle Laboratory faculty member, first synthesized 5-FU in 1956.

This research identifies the potential of using the expression of MED12 and its ability to be modified by CARM1 as a biomarker before and during treatment to help researchers determine whether to continue a treatment or change course. A Department of Defense Era of Hope Award funded the research.
New Technique Helps Explore Rhythm Of Genes

Christina Kendziorski, PhD, led a team of researchers who developed a new statistical approach, called Oscope, to identify and characterize the rhythm of genes across the entire genome using single-cell RNA sequencing. Kendziorski is a professor in the University of Wisconsin School of Medicine and Public Health’s (SMPH) Department of Biostatistics and Medical Informatics.

To study these cycles using traditional technologies, researchers must synchronize a whole population of cells so they are at the same state. Unfortunately, such synchronization isn’t possible for many cell types and conditions.

However, new RNA sequencing technology allows scientists to probe the genome-wide expression of a single cell. When the cell is harvested for sequencing, it is destroyed in the process so it can’t be sequenced again to uncover an oscillating gene pattern. But with that single-cell information, researchers were able to “reorder” unsynchronized cells and uncover a pattern of expression.

The project melded the statistical strengths of Kendziorski’s lab with the cell biology expertise from the lab of James Thomson, PhD, stem cell pioneer at UW-Madison and director of regenerative biology at the Morgridge Institute for Research. Thomson also is a John D. MacArthur Professor at the SMPH.

“After looking at average gene expression for more than a decade, the ability to see genome-wide gene expression in individual cells is particularly exciting. Unfortunately, we have only a snapshot, and that’s the tricky part. We want to study oscillatory gene expression, but we don’t have time-course data,” explains Kendziorski.

“So we developed a statistical method that would allow us to look at oscillatory genes and reconstruct one cycle of their oscillation that doesn’t involve time-course experiments or synchronization.”

The study was published in Nature Methods.

Anti-Cancer Drugs Enhance Effectiveness of Radiation

Giving cancer cells a double hit with radiation and molecular targeting drugs could lead to better patient outcomes and possibly lower radiation doses, according to two studies by University of Wisconsin Carbone Cancer Center (UWCCC) scientists.

During treatment, radiation is directed at tumors with the goal of lethally damaging the dividing cancer cells. Some cancer cells survive, however, and nearby healthy cells can be affected, leading to unwanted side effects.

“The goal is to identify new molecular targeting drugs that increase the effectiveness of radiation and thereby decrease the radiation required,” says Paul Harari, MD, professor in the UW School of Medicine and Public Health Department of Human Oncology and senior author. “These studies bring cutting-edge molecular inhibitors to the forefront, with the hope they can be used in combination with radiation to benefit cancer patients.”

Shyh-Min Huang, PhD ’97, and Harari lab colleagues examined a promising new drug that promotes activity of the anti-growth protein p53, which normally signals damaged cells to stop growing but is blocked in many cancer types. In a second paper, they focused on a drug that targets two crucial proteins of the epidermal growth factor receptor family that are overactive in poor-prognosis head and neck cancers.

“Radiation is putting on the gas, and inhibitor drugs are removing the brakes. They synergize nicely,” says lead author Lauryn Werner.

Both studies were published as featured articles in the September 2015 issue of Molecular Cancer Therapeutics.

Left to right: Shyh-Min Huang, PhD ’97; Fang Ma; Eric Armstrong; Chunrong Li; Paul Harari, MD; Lauryn Werner; Zach Morris, MD; Gopal Lyer; David Francis.
BACK TO THE BASICS

The **basic sciences** provide essential foundations for virtually all missions of our academic medical center at the University of Wisconsin School of Medicine and Public Health (SMPH). Research in biomedical, population and social sciences generates fundamental knowledge that leads to greater understanding of biological processes and social systems, and it establishes a framework for understanding the determinants of health and disease in individuals and populations.

In the past decade, advances in technology and research methodologies have given rise to exciting opportunities for pursuing basic and applied research problems in new and different ways. Advances in genome editing, imaging and genomics are driving entirely new areas of inquiry. Many of these approaches require cross-disciplinary, statistical or computational capabilities that are strengths of our school and campus. Leveraging our strengths—while building strategically in areas like human genetics and precision medicine—is essential if we are to lead in priority areas such as healthy aging, neurodegenerative diseases, cancer and metabolic diseases.

Regrettably, in the years since the doubling of the National Institutes of Health (NIH) budget was completed in 2003, federal support for research has not kept pace with inflation, and grant funds have been reallocated by NIH institutes to support targeted initiatives at the expense of basic science projects. Nationally, this resulted in a systematic reduction in the funds awarded per grant and the number of funded investigators and an increase in the average age at the time of researchers' first NIH research grant award to 43. SMPH faculty members are spending more time than before writing grants to support their research and drafting administrative reports to fulfill the many regulatory requirements of federal funding agencies. Dealing effectively with these demands and developing new strategies to sustain the school's competitiveness for extramural funds is keys to our future success.

To address these issues and promote innovation and research productivity at the school, more than 40 faculty and staff members participated in a planning process from December 2013 through early 2015. The process identified opportunities for new directions in research and unmet needs for administrative and scientific core resources to support researchers. It also placed a greater emphasis on "team science" as a means for increasing research funding and speeding the pace of discovery.

Our school has a rich history of achievements in research, including notable contributions to the understanding of complex systems ranging from molecules to cells and organs, as well as from individuals to communities and populations. Most often, these achievements have relied on the vision and efforts of a single faculty member leading a small, focused research group of trainees and staff.

Today's reality is that research problems are increasingly challenging due to the discovery of greater than expected complexity of biological systems and compelling evidence that these systems are influenced by environmental and social factors. In the face of such challenges, the search for new understanding often can be accelerated by multi-investigator teams whose members bring different perspectives and approaches to a problem. Assembling teams that can apply cross-disciplinary expertise to a research problem can also enhance competitiveness for extramural funding.

We are committed to developing new processes and administrative platforms to promote research success and collaborative science. There is pressing need to continually assess our resources and engage in planning to ensure that we pursue promising, innovative research and support our researchers in these endeavors. One strategy—which is being initiated as a result of the recent schoolwide planning process—is to involve faculty members in an implementation committee charged to advise Dean Robert N. Golden, MD, and the Office of Basic Research, Biotechnology and Graduate Studies on issues related to the basic research enterprise.

Our remarkable faculty, staff and research trainees share a passion for discovery, a commitment to innovation and collaboration, and a dedication to research training. Thus, the future promises high-impact discoveries in fundamental research areas such as organismal development and aging, cancer biology, metabolism, neurobiology and tissue regeneration—with downstream benefits to science, medicine and public health!

**Richard L. Moss, PhD**
Rennebohm Research Professor in Cell and Regenerative Biology
Senior Associate Dean for Basic Research, Biotechnology and Graduate Studies

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Visit med.wisc.edu/pathways-of-discovery
SUBJECT: FACTS AND FIGURES
Each year, the University of Wisconsin School of Medicine and Public Health (SMPH) admits more than 300 students to its health professions programs. Learn some fun facts about the new students by checking out an infographic at med.wisc.edu/47103.

SUBJECT: VOCAL CORD BREAKTHROUGH
Nathan Welham, PhD, associate professor of surgery, and his colleagues from UW-Madison have become the first in the world to grow functional vocal cord tissue in the laboratory, a major step toward restoring a voice to people who have lost their vocal cords to cancer surgery or injuries. How did they do it? Watch this video to see a demonstration: med.wisc.edu/47135.

SUBJECT: RURAL MEDICINE
The Wisconsin Academy for Rural Medicine (WARM) seeks to increase the number of physicians practicing in the state’s rural communities. WARM’s success is due in part to the partners in the SMPH statewide campus who provide valuable training to medical students. Learn more by watching a video at med.wisc.edu/warm.

SUBJECT: E-NEWSLETTER
You can stay up to date on the latest happenings at the SMPH by signing up for the monthly SMPH e-newsletter. The newsletter contains the latest education news, research advances and more. Subscribe at med.wisc.edu/enews.
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