

# UB Health Impact

SCHOOL OF PUBLIC HEALTH AND HEALTH PROFESSIONS [SPHHP.BUFFALO.EDU](http://SPHHP.BUFFALO.EDU)

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IMPROVING THE HEALTH OF POPULATIONS, COMMUNITIES AND INDIVIDUALS

FALL 2013

# A decade of delivering

SPHHP MARKS 10-YEAR ANNIVERSARY, LEADERS LOOK FORWARD TO CONTINUED GROWTH *Page 3*



## On the newsletter name change

We are a school of public health and health professions, and the newly renamed UB Health Impact newsletter reflects our emphasis on both fields. The new name is not meant to slight the health focus of the other schools that are formally members of the Academic Health Center (AHC), but I would note that we are the only UB school with health in its name—and it is in our name twice.

SPHHP does not “own” public health and individual health issues—all schools in the AHC are committed to advancing public health and individual health. Together, the schools of the AHC are a powerful force.

Both our public health and our health professions units within the school continue to conduct teaching, research and service that concern population health and individual health. The health care field has become very interested in interprofessional education (IPE) and interprofessional collaborative practice (IPCP). Our school has been at the forefront of encouraging the AHC and important units beyond to engage this topic.

Within our Department of Rehabilitation Science, students in occupational therapy and physical therapy are gaining knowledge and skills that will help them work productively across various health care disciplines. Dale Fish, senior associate dean for academic and student affairs, has been working with colleagues at other schools of public health to help determine the best way to incorporate public health and other professions into IPE.

He sees a broader context for IPE/IPCP—one that focuses on people rather than patients, and health rather than health care. In this view, all professions that can contribute to “the public’s health” are welcome participants. The development of SPHHP has been exciting. Be proud and be engaged with us as we continue forward.

Lynn T. Kozlowski

Dean and Professor of  
Community Health and  
Health Behavior



### Bennett named president of MS consortium foundation

Susan Bennett, clinical associate professor in the departments of rehabilitation science and neurology, was named president of the Foundation of the Consortium of Multiple Sclerosis Centers based in Hackensack, N.J.



Susan Bennett

Bennett, who also serves as director of the MS Comprehensive Care Center within the Jacobs Neurological Institute, has long been active in various professional societies related to physical therapy and MS; she currently chairs the Rehabilitation Research Interest Group of the CMSC (Consortium of MS Centers) and is the treasurer of the CMSC.

Bennett received her BS in physical therapy from Daemen College, followed by a master’s degree in health-science education and an EdD in health behavioral sciences, both from UB. She recently completed her DPT from Loyola Marymount University and is a board-certified neurorehabilitation specialist through the American Board of Physical Therapy Specialists and is certified as an MS specialist by the CMSC.

Bennett lectures and publishes in the areas of MS and physical rehabilitation, and is the 2010 recipient of the Labe C. Scheinberg Award, presented in recognition of outstanding work in neurorehabilitation in MS.

### SPHHP gets chapter of Delta Omega Honor Society

Twenty-one SPHHP students, faculty and alumni were inducted into the Delta Omega Public Health Honor Society, Gamma Lambda Chapter.

This year marks the first year for the SPHHP chapter of Delta Omega. The chapter was activated following approval by the national office



in Washington, D.C. Founded in 1924 by two graduate students at Johns Hopkins University, Delta Omega now includes more than 70 chapters around the world and 14,000 members.

### Wietig takes on new role

Paul T. Wietig was named assistant vice president for the newly created Office of Interprofessional Education in UB's Academic Health Center in April. Wietig had been serving as core curriculum specialist in SPHHP since 2006.

In his new role, Wietig will be responsible for developing infrastructure and facilitating staff development to identify and deliver best curricular instruction and activities for interprofessional education. Interprofessional education, or IPE, is defined by the World Health Organization as education that "occurs when students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes."



Paul T. Wietig

Wietig will work with the schools of the Academic Health Center—Dental Medicine, Medicine and Biomedical Sciences, Nursing, Pharmacy and Pharmaceutical Sciences, and Public Health and Health Professions—as well as the School of Social Work.

SPHHP has been an early champion of promoting interprofessional education at UB. The first university-wide IPE project—a pilot class in IPE that included students from multiple professions and schools—was launched earlier this year. The class was conceived and coordinated by a core group of associate deans and faculty from within the Academic Health Center schools and the School of Social Work.

The university also hosted an intensive class in May under the auspices of faculty from the University of Toronto's Centre for Interprofessional Education. The class provided orientation for select leaders in the academic, health organization and business communities.



## ALUMNI PROFILE <<

### From SPHHP to Yale

Phil Smith grew up in a health-conscious household with parents who taught the benefits of a nutritious diet and regular exercise.

An athlete, Smith saw the advantages of good conditioning in his performance on the field. Off the field, he also gained an awareness that making poor health behavior choices contributed to suffering at the individual and community levels.

After completing his undergraduate study, he knew he wanted a career in promoting health and applied to both medical school and a master's program at SPHHP.

He was accepted in both programs and, after much reflection, determined that he could make the greatest impact with a career in public health.

"I was really interested in the research opportunities and other resources available to me here at UB and tried to take advantage of as many of them as possible," says Smith. He earned a master's in epidemiology in 2009 and decided to further his education with a doctoral degree in community health and health behavior at UB.

"This program was exceptional," he says. "The quality of mentorship, opportunities to conduct cutting-edge research and the emphasis on career preparedness were outstanding."

Through an NIH-funded grant and in collaboration with UB's Research Institute on Addictions, Smith's research examined the role substance abuse plays in relationships.

A 2013 graduate, Smith is now a postdoctoral fellow with the Yale School of Medicine's School of Public Health and Department of Psychiatry, a position funded by the National Institute of Mental Health. "I'll be conducting research with Dr. Sherry McKee and Dr. Carolyn Mazure, looking at gender differences in tobacco use and co-morbidity between tobacco use, other substance use and mental illness," he says.

### NOMINATE A DISTINGUISHED ALUM

Do you know an SPHHP alum we should feature in an upcoming issue? Let us know by emailing [sphhp-alumni@buffalo.edu](mailto:sphhp-alumni@buffalo.edu)



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# A decade of delivering

AS SPHHP MARKS 10-YEAR ANNIVERSARY, LEADERS LOOK FORWARD TO CONTINUED GROWTH

This fall, the School of Public Health and Health Professions is celebrating its first decade in existence. In these first 10 years, SPHHP already has plenty to celebrate, including Council on Education for Public Health (CEPH) accreditation, the adoption of a core curriculum across all programs, and the addition of the master of public health degree in five concentrations.

*by David J. Hill*



**THE SCHOOL HAS ALSO DOUBLED** its number of graduates in 2013 (274) compared to 2003 (137). As such, the number of tenure-track faculty also has increased by 69 percent, to 44 this year from 26 in 2003. Overall, there are 75 faculty members in the school.

The School of Public Health and Health Professions was established in 2003 with the merger of the School of Health Related Professions (HRP) and the Department of Social and Preventive Medicine, previously located in the School of Medicine and Biomedical Sciences.

Maurizio Trevisan, former chair of the Department of Social and Preventive Medicine and former interim dean of HRP, is credited with envisioning and creating the unified school. In addition, Trevisan was instrumental in early plans to move the school toward CEPH accreditation.

“Understanding the need to address health and disease both at the individual level and at the population level, Dr. Trevisan saw the potential for a school that brought together clinical training and research with public health, each enriching the other,” says Jo Freudenheim, UB Distinguished Professor and former chair of the Department of Social and Preventive Medicine.

Trevisan was named the school’s dean in December 2004 and served in that capacity until September 2007,

when he was recruited by the Nevada System of Higher Education to serve as vice chancellor and CEO of the University of Nevada Health Sciences System. He is now senior vice president of academic affairs and provost at the City College of New York.

Lynn Kozlowski, who was named permanent dean in 2008 after serving a year as interim, accelerated Trevisan’s vision for the development of the school’s core curriculum, which was introduced in fall 2010. A grant from the Josiah Macy Jr. Foundation was key to the initiative’s success. It built on curriculum funding initiated by the former acting dean, the late Albert C. Rekate, and his wife, Linda.

In 2009, the school received full accreditation from the Council on Education for Public Health, an independent agency recognized by the U.S. Department of Education to accredit public health schools. Additionally, SPHHP’s health professions programs in occupational therapy, physical therapy, preventive medicine residency and dietetic internship are fully accredited by their respective professional bodies.

SPHHP also is one of a handful of schools in the U.S. that complements public health with the health professions, with a goal of providing every student with a foundational knowledge of public health and its sub-disciplines.

## SPHHP BY THE NUMBERS

**274**  
graduates

DOUBLE THE NUMBER  
IN 2003 (137)

**69%**  
increase

TENURE-TRACK FACULTY,  
FROM 26 (2003) TO 44 (2013)

**75**  
faculty

MEMBERS IN THE SCHOOL

**5** (soon to be 6!)  
departments

SOCIAL AND PREVENTIVE MEDICINE  
BIOSTATISTICS  
EXERCISE AND NUTRITION SCIENCES  
REHABILITATION SCIENCE  
COMMUNITY HEALTH AND HEALTH BEHAVIOR  
HEALTH SERVICES POLICY AND PRACTICE  
(IN DEVELOPMENT)

## THE FIRST 10 YEARS

### 2003

SPHHP established.  
Formation of  
Biostatistics



### 2004

Maurizio Trevisan  
named dean



### 2006

Formation of Community  
Health and Health Behavior

### 2008

Lynn Kozlowski named  
permanent dean



“Today, the core curriculum is represented in a number of online learning resources, several new courses that provide introductory instruction in public health and epidemiology, and the new UB Office of Interprofessional Education, directed by Dr. Paul T. Wietig, who was a coordinator of the school’s core curriculum project,” says Dale Fish, senior associate dean for academic and student affairs and associate professor of rehabilitation science.

**S**INCE ITS FORMATION, the school has grown to include five departments—Social and Preventive Medicine, Biostatistics, Exercise and Nutrition Sciences, Rehabilitation Science and Community Health and Health Behavior—and a sixth is being developed. The Department of Health Services Policy and Practice (HSPP) will be a multidisciplinary community of scholars and researchers who will examine access to health care services.

Social and Preventive Medicine currently houses a master of public health degree with a concentration in health services administration. That program will be moved to HSPP. A PhD program in health services policy and practice is also being planned.

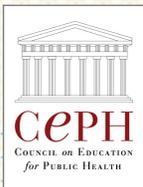
To further enrich the curriculum, SPHHP has offered several major activities, including the J. Warren Perry Lecture, which features a nationally prominent lecturer in public health or health professions. Perry was the founding dean of the School of Health Related Professions.

As the school has grown and expanded, so, too, has its impact—both locally and around the globe. Locally, SPHHP’s Office of Public Health Practice serves as a gateway between the school and area public health and health care organizations. “Of special note is our collaborative engagement with American Indian tribes with a focus on community health assessments and cultural competence for health care professionals. Our com-

munity engagement is stronger than ever and still growing,” says Don Rowe, who directs the office.

Arthur R. Goshin, BS ’66, MD ’70, established the Office of Global Health Initiatives (OGHI) in 2011. The OGHI coordinates and promotes the school’s global health opportunities, bringing together UB students, faculty and staff with community partners around the world to advance health education, research and service.

Another SPHHP milestone involves the formation of the Department of Biostatistics, which is celebrating its 10th anniversary this year. Recognized for its comprehensive education, the department is ranked among the best in the country by U.S. News & World Report.



## 2009

SPHHP receives full accreditation from CEPH

## 2011

Office of Global Health Initiatives established



## 2010

Core curriculum developed



## 2012

Published largest tobacco use prevalence study ever done.

## 2013

25th annual J. Warren Perry lecture



Another department, Community Health and Health Behavior, was created in 2006. In 2009, the department began offering a PhD in community health and health behavior, a degree that had been housed in Social and Preventive Medicine and offered as a PhD in community health. The renaming and moving of the degree signified a stronger focus on the community's role in influencing the choices people make that affect their health.

In addition to educating tomorrow's public health care professionals, SPHHP faculty have been busy engaging in research activities that have drawn worldwide attention. SPHHP researchers are investigating critical health issues such as maternal and

child health, substance use and abuse, aging, assistive technology and the epidemiology of chronic diseases.

An international survey of tobacco use in 3 billion individuals, conducted by Gary Giovino, chair of the Department of Community Health and Health Behavior, and published in summer 2012, was the largest tobacco use prevalence study ever done.

Additionally, SPHHP is home to several externally funded research centers, including the Women's Health Initiative, a long-term national health study focused on strategies for preventing cardiovascular disease, cancer and osteoporotic fractures in postmenopausal women.

“The next 10 years will see an even stronger School of Public Health and Health Professions, one that appreciates the advantages of our interdisciplinary configuration of programs within the school and the richness of our partnerships across all of the University at Buffalo,”

– Lynn Kozlowski



# ENS welcomes new chair

EMERGENCY INCIDENT REHABILITATION EXPERT JOINS UB FROM PITT



Dave Hostler, an expert in emergency incident rehabilitation, has been named chair of SPHHP's Department of Exercise and Nutrition Sciences. Hostler comes to UB from the University of Pittsburgh, where he was an associate professor of emergency medicine and the Department of Emergency Medicine Professor of First Responder Health & Safety. Hostler earned his bachelor's and master's degrees from Wright State University, and his doctorate in physiology from Ohio University.

Hostler began his tenure at UB on Aug. 15. He had been at Pitt since 2001.



New ENS Chair Dave Hostler (above) is looking forward to working with the area's public safety providers through his Emergency Responder Human Performance Lab.

**H**IS RESEARCH INTERESTS focus on human performance and the physiological responses of public safety personnel working in protective clothing. Hostler has 25 years of experience in public safety.

At Pitt, he was a founding faculty member and the director of the Emergency Responder Human Performance Lab, for which he directed studies to understand the stresses associated with emergency response and developed interventions to improve the health and safety of the nation's first responders. The lab has moved to UB, occupying part of Sherman and Farber halls. "I'm looking forward to continuing my work with public safety providers in Buffalo," Hostler says.

At UB, Hostler plans to focus on two key research areas. The first entails addressing the long-term effects on firefighters of the physiologic strain that occurs during fire suppression.

“We know a lot about what happens to the heart and body temperature 20 minutes after, but we know very little about the long-term effects,” says Hostler. “With reaction time and decision-making, that kind of fatigue doesn’t appear right away, but it does surface up to one or two hours later, which would affect firefighters if they had to go to another fire.”

The other line of work will focus on recovery from burns. “There’s a hypermetabolic phase that occurs after a burn, and the larger the burn, the worse the hypermetabolic response,” Hostler says. “We’ll be looking at exercise and nutrition interventions to hopefully reduce the muscle wasting that occurs during recovery.”

A firefighter and paramedic by training, Hostler served on the county Hazmat team in Pittsburgh.

“I joined SPHHP to be part of a strong program that is continuing to grow. ENS has a strong faculty and a bright future,” he says. “Historically, exercise science has been about athletes and performance. More recently, it has become apparent that preventing chronic disease through diet and exercise is cheaper and better than medical treatment. Placing exercise science and nutrition in a School of Public Health is a progressive idea that allows researchers to link the science of physical activity and nutrition to the end users, be they the general public, underserved communities, or in my case, public safety providers.”

He has completed the Fireground Rehab Evaluation (FIRE) Trial and the Enhanced Firefighter Rehab Trial (EFFoRT). Additionally, he was the principal investigator for the SHIELD Trial examining the role of statin drugs and cardiovascular stress in firefighters.

Hostler says he’s looking forward to working on interdisciplinary studies.

## SPM NAMES NEW CHAIR

Youfa Wang has been named as the new chair of SPHHP’s Department of Social and Preventive Medicine. Wang will be featured in the next issue of UB Health Impact.



ALUMNI PROFILE <<

## Alma Scully: Dedicated to exercise

“A girl going to college—why would you want to do that?” an uncle asked her. But a favorite science teacher at Bayside High School in Queens nudged her in that direction. So despite family skepticism, Alma Coleman enrolled at Hunter College, which was tuition-free.

When she was a junior she met Don Scully from Orchard Park, N.Y., on a blind date at the North-South college lacrosse game. They married during her senior year and Alma (now Scully) taught physical education in Valley Stream, Long Island, while Don completed his tour of duty. They settled in Orchard Park.

Alma continued to teach physical education in Orchard Park schools and coached synchronized swimming. Don worked for Arcata Graphics supervising the Reader’s Digest binding and mailing operation; he also coached lacrosse at Nichols School.

They started a family; Alma took courses at UB for a master’s in guidance counseling until changes in degree requirements made a master’s in physical education more practical.

And that turned out to be a boon for the Department of Exercise and Nutrition Sciences. Alma, and Don before he died, have supported the department since she graduated. Over the years she has given the department and UB more than \$25,000. Among other uses, her gifts now support the department’s Outstanding Senior Award.

“I wouldn’t have had a college education if it hadn’t been free,” she says. “Don’s family had advantages, but we had the same feelings.”

At the 2013 ENS awards ceremony Alma didn’t have a chance to talk with Outstanding Senior Award recipient Patrick Vanini. She had to slip away early to be on time for a class at the Apple Store. At age 82, somewhat slowed by spinal problems (to her annoyance), Alma is vigorously exercising her brain.

# The Air She Breathes

LINA MU STUDIES INDOOR POLLUTION'S EFFECTS ON CHINESE WOMEN

by Ellen Goldbaum

The hazards of breathing outdoor air in some Chinese cities have been well-documented. Now a UB study confirms that breathing indoor air also carries significant cancer risks, especially for Chinese women.

The UB study, published online in January in the journal *Cancer Causes & Control*, found that indoor air pollution that generates fine particulate matter is a key contributor to the high rates of lung cancer among Chinese women, despite the fact that few of them smoke.

The research found indoor particulate matter levels that are at least double the maximum level considered acceptable by World Health Organization guidelines. The study is the first to measure particulate matter (PM) levels inside the home and to link them with the incidence of lung cancer in Chinese women.

“Our results show that besides smoking, indoor air pollution contributes significantly to women’s lung cancer risk in China,” says Lina Mu, associate professor of social and preventive medi-

cine in the School of Public Health and Health Professions and lead author on the paper.

While around 60 percent of Chinese men smoke, Chinese women have extremely low smoking rates—approximately 4 percent. However, women’s rates of lung cancer in China are among the highest in the world, approximately 21 cases per 100,000, while smoking accounts for less than 20 percent of lung cancer cases in Chinese women, says Mu.

“That’s why we wanted to find out how much indoor air pollution contributes to lung cancer risk among Chinese women,” says Mu. “It has been suspected but not measured.”

The paper notes that since women tend to be home for longer periods of time

and to cook more frequently, housing-related exposure is more of a factor among women than men.

The case-control study includes 429 Chinese women: 197 who had lung cancer and 232 who were controls. Of the 197 with lung cancer, 164 were nonsmokers, while there were 218 nonsmokers in the control group.

The study was conducted in Taiyuan City, one of the top-10 air-polluted cities in the world, according to Asian Development Bank’s 2012 annual report.

The study found that among the nonsmokers, lung cancer was strongly associated with multiple sources of indoor air pollution, which included exposure to tobacco smoke at work, frequent cooking and the use of solid fuel, primarily coal, for cooking and heating.

**“Women are at high risk because they are exposed to solid fuel emissions from heating and cooking, as well as from passive smoking.”**

A particle mass monitor was used to measure PM levels inside the homes—mostly apartments—of study participants.

“We found that the smallest type of particulate matter is the type associated with the higher risk of lung cancer among nonsmoking Chinese women,” Mu says. “For every additional 10 micrograms per square meter of fine particulate matter, there is an associated 45 percent increased risk of lung cancer.”

The paper notes that increased lung cancer risk among women was strongly attributed to the fine particles produced by coal combustion for heating and cooking, and from passive smoking.

Mu says that kitchen ventilation systems, such as fans, are not common in China and that people are reluctant to open windows because they want to keep heat in and prevent outdoor pollution from coming inside.

She adds that hot oil, a staple in traditional Chinese stir-frying and deep-frying, produces carcinogens and is a key contributor.

“Women are at high risk because they are exposed to solid fuel emissions from heating and cooking, as well as from passive smoking,” she says, adding that smoking is a key social ingredient in China. “Men tend to

gather and smoke together, often in small, enclosed spaces, especially in offices.”

She says that improvements will depend on significant changes, such as a switch to clean energy sources and the installation of better ventilation systems, as well as public education about the benefits of keeping windows open and curbing passive smoking.

UB co-authors with Mu are Yanli Li, graduate student; William Scheider, research assistant professor; and Mya Swanson, data manager; all in the Department of Social and Preventive Medicine. Other co-authors are Shen-chih Chang and Zuo-Feng Zhang of the Fielding School of Public Health, University of California, Los Angeles; Jia Su and Shunzhang Yu of Fudan University; Li Liu, Baozong Zhao and Jianping Shi of the Taiyuan City Center for Disease Control and Prevention; and Rrunhui Niu of Shanxi Tumor Hospital.



Lina Mu



ALUMNI PROFILE <<

## SPHHP alum focuses on preventive care

As a physician in India, Milind Chaudhari counseled his patients about the importance of a healthy lifestyle. He knew that many of his patients' diseases, such as diabetes and cardiovascular conditions, could be lessened or avoided through a combination of proper diet, regular exercise and an overall emphasis on healthy living.

“As medical science advances, I believe, it will become more about preventive care in nature,” he says. “In such a scenario, exercise physiology and nutrition—with its emphasis on basic and applied research—will have a central role to play.”

This advocacy for the power of prevention led Chaudhari to the study of exercise science and to UB's School of Public Health and Health Professions.

He chose to attend UB for the “excellent research facilities and enormous opportunities to conduct independent research. I was impressed with UB's collaborations with different hospitals and research centers which make it easy for students to get hands-on experience in clinical as well as research settings.”

Chaudhari also selected UB for its large international student community, active campus life, quality education at an affordable price and its location. Within the PhD program, Chaudhari enjoyed the lectures by visiting exercise science experts. “We got to listen to successful and top scientists in the field and learn about their current research,” he says. “We also had the chance to talk to the speakers in the seminar, as well as in a casual setting.”

Chaudhari earned his PhD in 2013 and plans to join the school's Preventive Medicine residency program in the near future.

### STAY CONNECTED!

Visit the UB Alumni Association's UB Connect page and let us know what you've been doing since graduating.

>> [sphhp.buffalo.edu/alumni/connect](https://sphhp.buffalo.edu/alumni/connect)

## SPHHP faculty obtain NIDA, NSF grants



**Heather Ochs-Balcom**, assistant professor in the Department of Social and Preventive Medicine, is principal investigator on a renewal award from the National Cancer Institute for the project entitled Estrogen Receptor 1 Gene, Adiposity and Breast Cancer.

This study will shed light on how inherited and somatic genetic variation contributes to breast cancer risk. Ochs-Balcom and her team are focused on the estrogen receptor gene known to be biologically plausible in modulating breast cancer risk, and are searching for novel genetic copy number variants genome-wide that are more frequent in women with breast cancer.

The relation of genetics and obesity and breast cancer is another focus. Researchers are studying whether being obese is associated with more aggressive tumor types and specific inherited and somatic genetic mutations.

The five-year K07 study includes data from multiple studies (the Western New York Exposures and Breast Cancer Study and The Women's Health Initiative), making it possible to investigate differences in the contribution of genes, obesity and breast cancer in European and African American women. The K07 is a Career Development Award, which is tailored for young investigators who are developing their independent research careers in the area of cancer prevention, control, population and/or behavioral sciences.



**Gregory G. Homish**, assistant professor in the Department of Community Health and Health Behavior, is the primary investigator on a \$2.3 million grant awarded to UB by the National Institute on Drug Abuse (NIDA) to study the social and environmental influences—stress, trauma and partner and peer substance abuse—on reserve soldiers' substance use and

marital aggression over time.

A recent Veterans Administration study found that substance abuse was the most common health problem among veterans of Iraq and Afghanistan; 19 percent of military personnel reported

heavy drinking in the past month, 44.5 percent reported binge drinking and 7.5 percent were listed as chronic drinkers.

However, reserve soldiers who return from deployment to Iraq and Afghanistan are even more susceptible to mental health and substance abuse problems than active duty military personnel. The study seeks to understand the sources of vulnerability and/or support that affect reservists' post-deployment functioning.

Homish's co-investigators include Lynn Kozlowski and John Violanti from the School of Public Health and Health Professions, and Kenneth Leonard from UB's Research Institute on Addictions.



**Xuefeng Ren**, assistant professor in the Department of Social and Preventive Medicine, led a study with researchers from three Chinese institutions that is the first to demonstrate that low-level occupational exposure to the industrial chemical trimethyltin chloride (TMT) may be a risk factor for nephrolithiasis, or kidney stones.

The study, "Chronic low level trimethyltin exposure and the risk of developing nephrolithiasis," was published in the June 13 issue of Occupational and Environmental Medicine. TMT is a deadly neurotoxin produced as a byproduct of the plastic-

stabilization process. The hunt is on for the cause of the silent epidemic of nephrolithiasis, an excruciating, unpredictable, treatable but potentially deadly disease whose prevalence and incidence have been increasing globally across divisions of age, sex and race.

"This study provides evidence that even low-level exposure to TMT in the workplace may increase the risk of developing kidney stones, a disease for which effective treatment is not universally available," says Ren. "This study, combined with the recent epidemic of kidney disease, highlights the unique vulnerability of the kidney to environmental assault," he adds.



# A New Frontier

## FOCUSING ON MATHEMATICAL MODELS OF CANCER METABOLISM

As someone who's run 12 marathons in her life, Rachael Hageman Blair isn't one to shy away from new challenges, whether it's balancing work with family life or breaking new ground in cancer research.

An assistant professor in the Department of Biostatistics, Hageman Blair recently received a three-year grant from the National Science Foundation Division of Mathematical Sciences that will develop mathematical models of skin and breast cancer metabolism. The project embeds probabilistic graphical models of gene networks into traditional deterministic models of cellular metabolism.

"It's kind of a new frontier for systems biology," says Hageman Blair, who obtained both her PhD and MS in mathematics from Case Western Reserve University, and a bachelor's in mathematics from SUNY Fredonia.

"It's exciting to me because this has never been done. It's a high-risk, high-impact project that has the potential to bring us closer to personalized medicine and, in particular with this project, to leverage computational biology to make predictions about things we can't measure," she adds.

Hageman Blair's research will advance the work that has already been achieved

using mathematical models to clarify networks of molecular traits from high-throughput data. "Despite this progress, integrating diverse types of data remains a major challenge that has limited our ability to take full advantage of the wealth of post-genomics data for knowledge and discovery," Hageman Blair's research abstract says.

"This project addresses this challenge and represents a bold new direction in systems biology, which can be generalized to model different biological systems. A broader impact of this project is the software development, which aims to bridge the gap between computational and experimental biology by putting accessible tools in the hands of the biologist."

A native of Orchard Park, N.Y., Hageman Blair joined UB after working as a postdoctoral associate at the Jackson Laboratory in Bar Harbor, Maine, from 2007 to 2011. In addition to her research work—she is also an adjunct professor in the Department of Biostatistics at Roswell Park Cancer Institute—Hageman Blair teaches a

two-part hybrid course in SPHHP called Statistical Data Mining I and II.

She proposed the course series in summer 2011 to fill a gap in the biostatistics graduate program, which up until then lacked coursework in data mining. With her and her husband expecting their second child that fall, Hageman Blair wanted to balance family life with offering the course, so she worked with Jeremiah Grabowski, SPHHP's online programs coordinator, to develop the course.

The first four weeks of the course were strictly online. Twenty-two students enrolled in Data Mining I last year and included students from a variety of academic departments, such as geography and industrial engineering.

In the spring, Hageman Blair oversaw Data Mining II, a classroom-based course that included a smaller group of students. Hageman Blair received teaching awards for both sessions.

In addition to providing much-needed curriculum in the school, the course has given Hageman Blair, who has two young boys, the flexibility to achieve a work-life balance. "I try to be present when I'm at UB and present at home. I check my phone at the door," she says.

—David J. Hill

# Invaluable Service

## SPHPH RECOGNIZES ADJUNCT FACULTY, COMMUNITY EDUCATORS

The School of Public Health and Health Professions held a celebration in early June to recognize the efforts and important contributions of its adjunct faculty members and community educators.

“Talented adjunct faculty represent a valuable resource as these faculty members often come from diverse teaching backgrounds, are well-rounded educationally and possess a wealth of practical experience,” says Jeffrey Miecznikowski, associate dean for faculty affairs and diversity.

Community educators are the public health and health professions practitioners, experts and leaders who serve as preceptors, or field or clinical educators, for the school’s field and clinical training. This hands-on training is a key element of many of the school’s programs and creates integrated, career-focused educational experiences for students.

The school works with hundreds of preceptors throughout the country, with the vast majority in Western New York.

“These educators provide invaluable service to our school and our students,” says Paul T. Wietig, assistant vice president for the Office of Interprofessional Education in UB’s Academic Health Center. “They offer opportunities for students to strengthen their knowledge and apply skills they learned in the classroom to a real-world situation, interacting with colleagues, clients and patients in a professional environment at sites similar to those in which students may work when they graduate.”

In addition to providing on-site training and supervision to students, preceptors often serve as mentors and help guide students as they engage in practice of their field. Preceptors can also offer insight into the types of employment opportunities available in public health and health care.

For Yali Zhang, MPH ’11, field training was a highlight of her program and helped prepare her for her current role. As a biostatistician at Roswell Park Cancer Institute (RPCI), Zhang analyzes and manages clinical data and provides statistical consultations—critical functions in support of RPCI’s investigators and their mission of understanding and preventing cancer. She completed her field training at RPCI’s Department of Medicine, where she analyzed data, provided summary tables and figures, cleaned and recoded data, performed data quality assurance, and attended and participated in bone and marrow transplant data management meetings.

“The field training offered me a great opportunity to not only practice what I studied in class, but to also learn practical skills and experience in clinical data management and analysis,” she says.

Jaymie Merry, BS/MS ’13, was also impressed with the clinical training opportunities in her occupational therapy program.

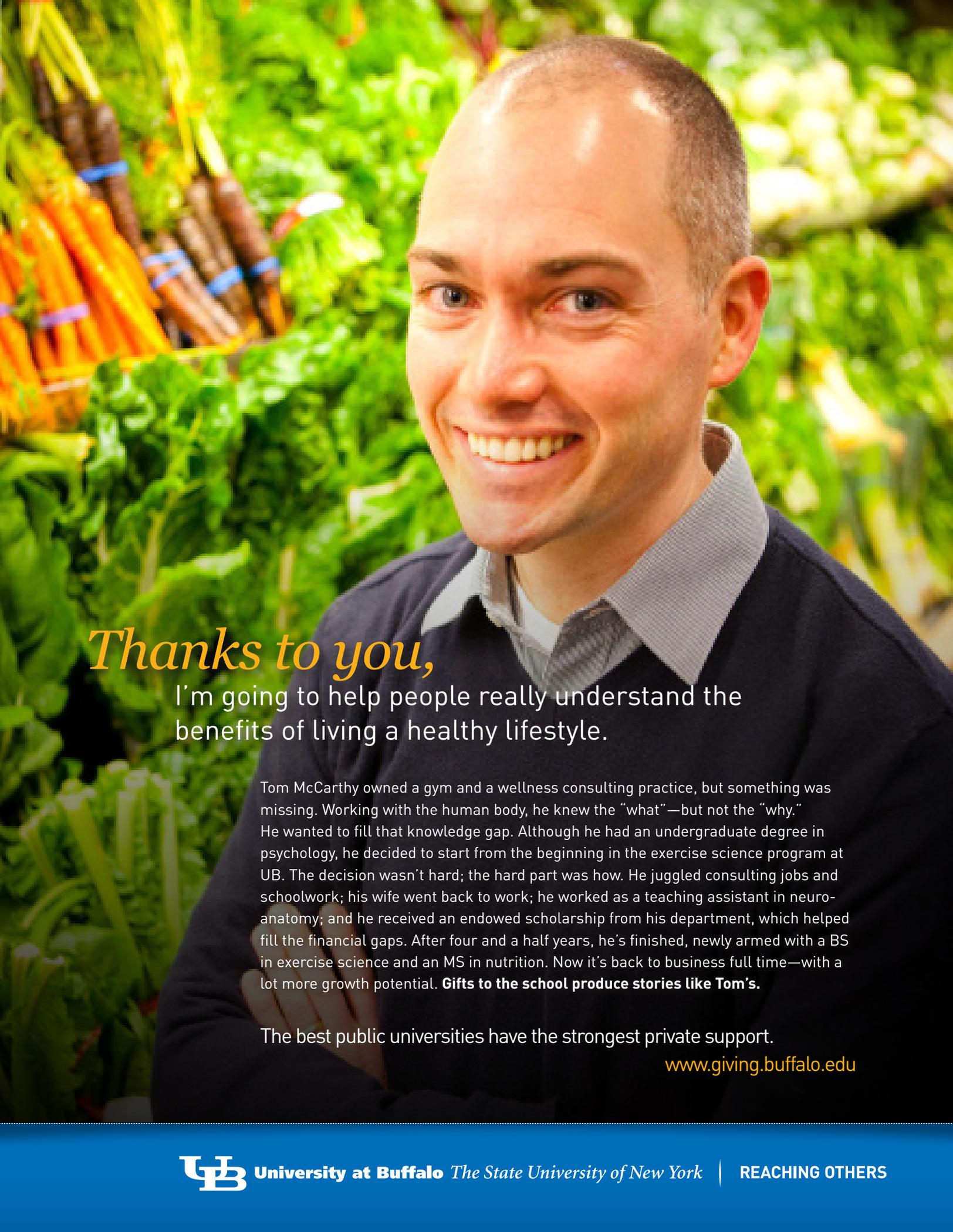
“I worked with many different occupational therapists and other professionals who taught me so much about various techniques used, along with how services are delivered in the various settings. There was so much to be learned by doing those fieldwork experiences,” says Merry, a clinician with LEAP (Language, Education and Play) for Kids OT & SLP in Rochester, N.Y.

At the celebration, guests were joined by UB faculty, deans, associate deans and department chairs for a tour and student demonstration of the Behling Simulation Center. The program also included a presentation on a new initiative, interprofessional education, which is focused on educating and training students in health programs to collaborate and communicate across disciplines to provide better care.

“These educators provide invaluable service to our school and our students...”

**PAUL T. WIETIG, ASSISTANT VICE PRESIDENT FOR THE OFFICE OF INTERPROFESSIONAL EDUCATION**





*Thanks to you,*

I'm going to help people really understand the benefits of living a healthy lifestyle.

Tom McCarthy owned a gym and a wellness consulting practice, but something was missing. Working with the human body, he knew the “what”—but not the “why.” He wanted to fill that knowledge gap. Although he had an undergraduate degree in psychology, he decided to start from the beginning in the exercise science program at UB. The decision wasn't hard; the hard part was how. He juggled consulting jobs and schoolwork; his wife went back to work; he worked as a teaching assistant in neuro-anatomy; and he received an endowed scholarship from his department, which helped fill the financial gaps. After four and a half years, he's finished, newly armed with a BS in exercise science and an MS in nutrition. Now it's back to business full time—with a lot more growth potential. **Gifts to the school produce stories like Tom's.**

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# UB Health Impact

The University at Buffalo is a premier research-intensive public university, the largest and most comprehensive campus in the State University of New York system. The School of Public Health and Health Professions is one of 12 schools that make UB New York's leading public center for graduate and professional education and one of five schools that constitute UB's Academic Health Center.

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## SPHHP RECOGNIZES ADJUNCT FACULTY, COMMUNITY EDUCATORS

*See the full story on page 13*