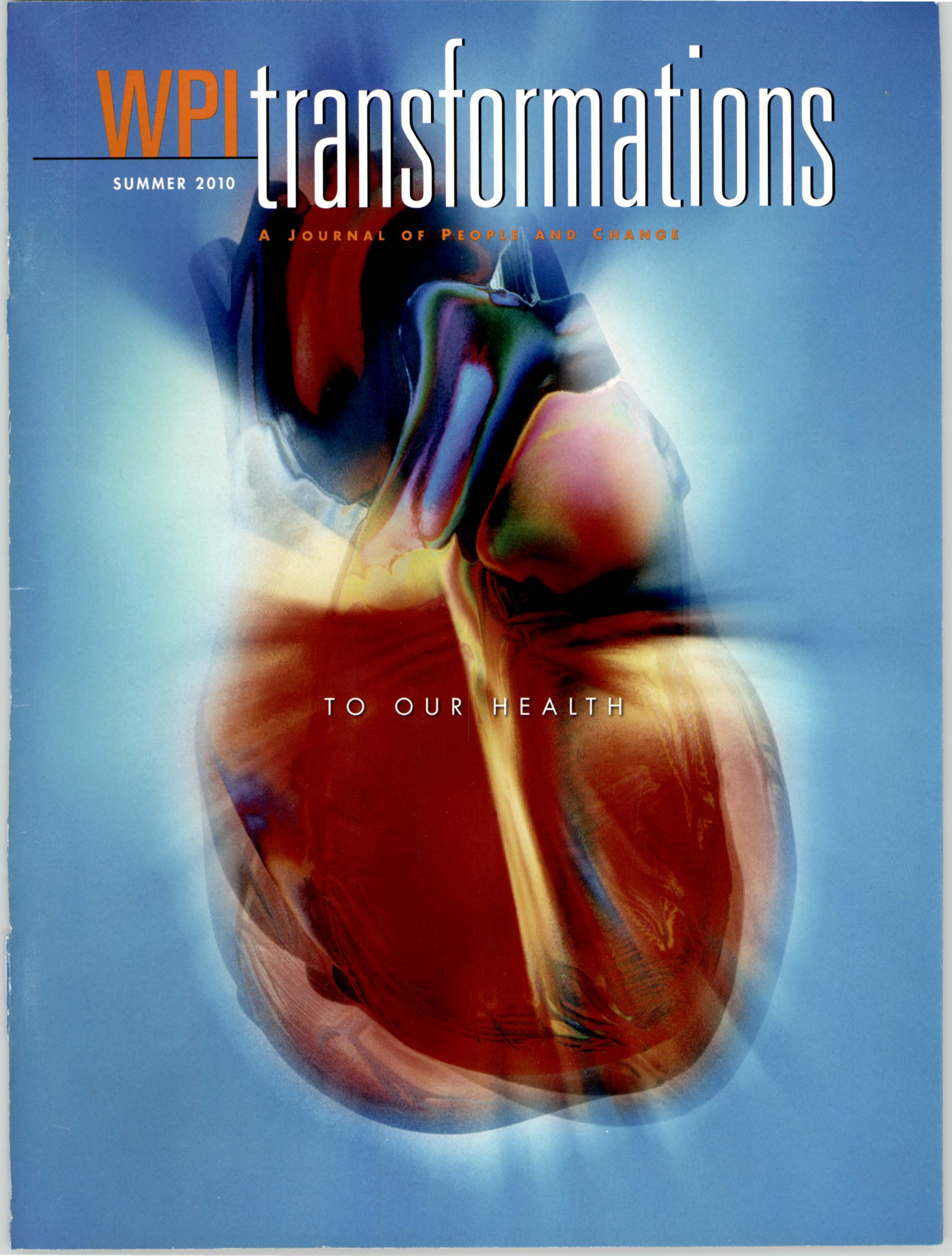
WPI transformations

SUMMER 2010

A Journal of People and Change



TO OUR HEALTH

Matthew Atanian

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WPI transformations

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A Journal of People and Change

"He who has health, has hope. And he who has hope, has everything."

—Arabian Proverb

This spring, I watched my husband cross the finish line of his first marathon—with, quite literally, blood, sweat, and tears. Rob's accomplishment was many months (and many pairs of sneakers) in the making. He spent countless hours running—before work or after work, and always on the weekends. Over the last six months, I happily cheered him on at various 5K races, a 20K, a half-marathon, and a 16-miler that wended its way through scenic New Hampshire—in January.

Through all of this mindful watching (and a little running myself—it turns out it's a contagious sport), I have learned that the key to running well and to running far isn't in the expensive sneakers or the friction-free socks. It's in the mind. It's in one's dogged determination.

I see that same purposeful resolve in so many WPI alumni, faculty, and students. The proof, I offer, is in the stories of this *Transformations*. In focusing this issue on health, it's quite clear that an inspiring number of WPI alumni have dedicated themselves and their work to this important field. Together, they're tackling critical, complex health problems. In the pages that follow, you'll read about a medical doctor turned software engineer, a biostatistician, a bioinformatics research scientist, and a hospice director, among others, who are finding ways to improve world health and our access to good care.

There's more: first year students in the Great Problems Seminars tackle global health concerns and faculty research helps better integrate information technology into the healthcare system.

During the months that this issue came together, U.S. healthcare became a highly debated topic in Washington and around the country. Regardless of the timing of our theme (purely coincidental), the future of healthcare affects us all, no matter your politics. Twenty-first century healthcare solutions require the brains of many—doctors and nurses, scientists and engineers, problem-solvers and leaders.

So, here's to your good health and mine. And to the important, determined work that WPI alumni, faculty, and students are doing in support of this noble endeavor.

Thanks for reading.

Charna Mamlok Westervelt, *Editor*

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Diverse views presented in this magazine do not necessarily reflect the opinions of the editor or official WPI policies. Address correspondence to the Editor, Transformations, WPI, 100 Institute Road, Worcester, MA 01609-2280. Phone: 508-831-6715; Fax: 508-831-5820.

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The Creative Side

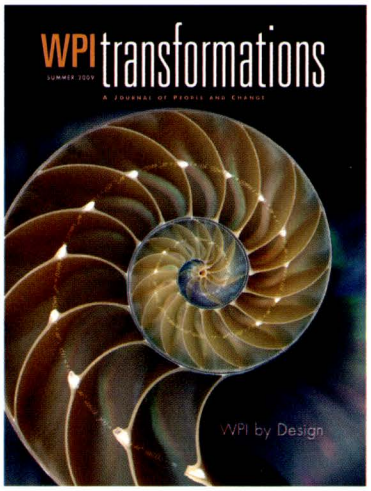
I just wanted to take a moment to show my appreciation for the mention of my work in the most recent issue of *Transformations* ["Starting Point," summer '09]. My experiences at WPI ultimately nurtured my creative side, and helped me find my direction as a budding designer. It is nice to know that others have seen and appreciated the immense creative potential of the WPI community, students, alumni, and faculty alike. I am proud to call myself a member of the WPI community, and hope that my studies in architecture can someday help to better Tech, just as it helped better me as an individual seeking a creatively fulfilling life.

Damien Rigden '08
Somerville, Mass.

Distinction for WPI

I received actual, physical mail from WPI and thought that congratulations are in order for a super job on the periodical. Distinct and really interesting. Keep up the great work!

Aresh Mehta '95
Karachi, Pakistan



Thriving Robotics, Thriving WPI

I always enjoy receiving my copy of *Transformations*, to learn even more about the great programs going on at WPI. In the most recent issue, President Berkey's message resonated with me and with our efforts in state government to help grow the economy in Massachusetts.

President Berkey wrote about WPI's practice of "not lurching from field to field but evolving and expanding by design in areas where we have real leadership to provide." He cited WPI's robotics program as a recent example of that approach. Robotics is an important growth sector for Massachusetts. It combines our historic strengths of innovation and technology development. I believe we can emerge as a global leader in robotics if we continue to improve public and private education in science, technology, engineering, and mathematics, the so-called STEM fields, so that companies will have the trained and talented workforce they need to thrive here.

In that regard, I know that WPI's leadership in robotics education, and across the STEM continuum, will continue to serve our commonwealth very well and will give our next generation of young people extraordinary opportunities to learn, to innovate, and to succeed.

Timothy P. Murray
Lt. Governor of Massachusetts

Correction: Last summer the WPI men's crew team competed in the Henley Royal Regatta for the first time as a varsity program. It was not, however, the first time WPI was represented in the world-renowned regatta, as the club crew team rowed there in the early 1980s. Thanks to Peter Clapp '82 for pointing out this distinction. "I was one of the proud oarsmen in those days that went over to represent WPI at that grand occasion," he says. "And I suspect that when this crew arrived, they found that our reputation was in very good stead."

A message from President Berkey

Toward Good

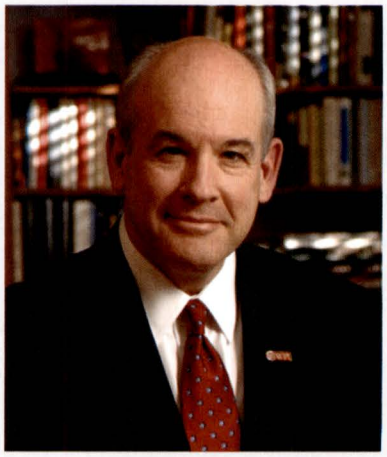
Descartes wrote that health "is without doubt the first good and the foundation of all the other goods in this life." And so, when I think about the biggest challenges afflicting our planet—and the subsequent opportunities that will arise—I turn immediately to health. Health is a concern for individuals in the narrow sense of freedom from disease or affliction; of course, the larger implications—physical, emotional, and social well-being—are critical for organizations, communities, and entire regions of the world.

It should come as no surprise that so many WPI alumni, faculty, and students are productively engaged in the pursuit of health solutions, approaching the issue from vastly different and important perspectives, as reported in part in the pages that follow. Finding solutions to some of the most critical issues of our day is, after all, at the core of the WPI ethos.

On campus, one natural focal point is WPI's Life Sciences and Bioengineering Center (LSBC) at Gateway Park. Now three years old, this 128,000-square-foot facility is already filled to capacity with faculty and graduate student research in such important areas as regenerative medicine, including tissue engineering, wound healing, repair of damaged heart tissue, and regeneration of damaged organs and digits; sophisticated advances in prosthetic device technologies; innovative medical devices including implantable sensors and related wireless communications; and many other instances of the ways in which the power of engineering and science are now being applied to advances in medicine and health.

The LSBC also houses one of the Massachusetts Biomedical Initiatives' small business incubators, which is filled to capacity with start-up companies in the life sciences industry, several of which benefit from active collaboration with WPI faculty and students, both formally and informally. Also residing in the Center are two rapidly expanding pharmaceutical companies and the Institute's Division of Corporate and Professional Education, which is providing extensive training programs to the commonwealth's life sciences industry. Much of this activity will move into expansion space to be provided in the next building at Gateway Park, an 80,000-square-foot facility that should be under construction by early 2011.

Beyond these more direct applications of science and technology, WPI faculty research addresses important related aspects of medicine and health. Several faculty in our new School of Business (formerly the Department of Management) are working to develop improved electronic medical record systems to provide more complete health data on individual patients. Even mathematical modeling is finding application in this domain. Professor Ki Chon, head of the Department of Biomedical Engineering, has developed an algorithm for the improved detection of potentially deadly atrial fibrillation, and math professor Dalin Tang has developed a medical software diagnostic tool using computational methods for noninvasive early identification and diagnosis of cardiovascular disease.



Health-related topics are also prominently part of the continuing development of our undergraduate and graduate curricula, none more so than the popular Heal the World seminar, one of five new Great Problems Seminars developed to engage first year students in meaningful projects that address some of the greatest challenges of our time. Our undergraduate concentrations in biomedical engineering and in biology and biotechnology are among the most popular and rapidly growing, and the recently approved graduate programs in bioinformatics will become the newest among several joint graduate and research programs between WPI and the University of Massachusetts Medical School. Bioinformatics is a powerful set of tools for the analysis of the voluminous amounts of health-related data now being produced. Like the fields of biostatistics and epidemiology, it is key to enabling evidence-based policy determinations important to the development of improved healthcare systems and practices.

More generally, WPI invests in programs and facilities to encourage well-being among our students, faculty, and staff. Our wellness programs and counseling services are important components of the Division of Student Affairs and Campus Life. Our new Sports and Recreation Center, for which we broke ground on May 14, will provide greatly expanded fitness and recreation facilities to encourage healthy lifestyles among members of the campus community. These will include a 14,000-square-foot fitness facility, a swimming pool, an indoor running track, racquetball and handball courts, and a four-court gymnasium. As important as this facility is to our varsity and club sports, it is every bit as important to the well-being of all members of our community.

Beyond the confines of the campus, our alumni are engaged in a wide range of endeavors to improve health and healthcare solutions: from the practice of medicine to the development of diagnostics and therapeutics, to the design and commercialization of medical devices, to the application of advanced sensing and communications technologies that enable remote diagnosis and monitoring of individuals both in medical facilities and in their homes.

Essential improvements in human health and healthcare systems will depend on innovative, thoughtful contributions to many of the related problems. It is a point of great pride for WPI to have so many of our alumni, faculty, staff, and students making such important progress on behalf of all of us, toward that first good.

"The preservation of health is without doubt the first good and the foundation of all the other goods in this life." —Descartes

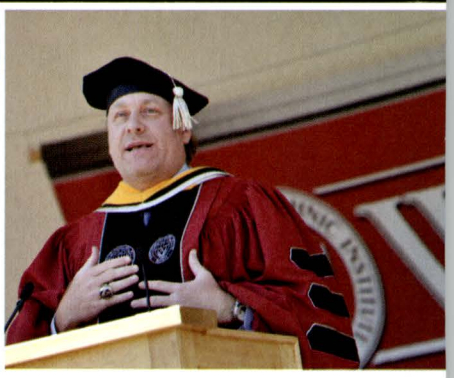
2010 Commencement

In his keynote address, Curt Schilling—retired Red Sox pitcher, philanthropist, and video game development company founder—urged the Class of 2010 to "make a positive impact on the world."

Indeed, WPI graduates are well positioned to do just that.

Schilling spoke during WPI's 142nd Commencement in May, when 1,140 students received bachelor's, master's, and PhD degrees—the largest graduating class in the university's history.

Honorary degrees were conferred upon Schilling, Clark University President John Bassett (who received WPI's first honorary Doctorate of Humane Letters), Angela Belcher, Germehausen Professor of Materials Science and Engineering and Biological Engineering at MIT, and Gordon B. Lankton, WPI Trustee emeritus and chairman of Nypro Inc.



Two Students Named Goldwater Scholars

Andrew Black '11 and **Andrew K. Capulli '11** were selected as 2010 Goldwater Scholars by the Barry M. Goldwater Scholarship and Excellence in Education Foundation. The Goldwater Scholarship program fosters and encourages outstanding students to pursue careers in the fields of mathematics, the natural sciences, and engineering, and is the premier undergraduate award of its type in these fields. Since 2002, 16 WPI students have been named Goldwater Scholars or honorable mention recipients.

Black, a native of Bridgewater, Mass., is a chemical engineering major and chemistry minor who plans to pursue a PhD and conduct research on fuel cells, chemical thermodynamics, and catalysis and to teach in academia.

Capulli, a bioengineering major from Hampstead, N.H., plans to pursue a PhD and perform research on regenerative implants, prostheses, and the biomechanics of tissues in either an academic or industrial setting.

WPI Sports and Recreation Center Breaks Ground

Construction on WPI's new Sports and Recreation Center kicked off in a most fitting way: with the help of a student-built robot. Alongside university dignitaries, Moonraker 2.0—the NASA Excavation Regolith Challenge winner (a $500,000 prize) built by Paul Ventimiglia and teammates—was one of the first to dig in, so to speak, at the ceremonial Groundbreaking on May 14. Moonraker 2.0 was assisted by President Dennis Berkey, James Carr '74, WPI Board Chairman Donald Peterson '71, and Trustees Stuart Kazin '61 and Judith Nitsch '75. The Center, which will be built into the hillside at the west end of the Quadrangle, next to Harrington Auditorium, is scheduled to open in August 2012.

"The Sports and Recreation Center is an exciting and much needed addition to the WPI campus," Berkey said. "We are not just building another gym. We are building a place for our community to come together—for competition, for camaraderie, for celebration."

Just days before the groundbreaking, the George F. and Sybil H. Fuller Foundation made a $1 million gift to support the new center, which will make possible a striking glass-enclosed, light-filled main entrance for the building, to be known as the George F. and Sybil H. Fuller Atrium.

The 145,000-square-foot facility will boast 14,000 square feet of fitness space, a four-court gymnasium, a competition-length swimming pool, a three-lane elevated jogging track, racquetball and squash courts, rowing tanks, and workout studios. The center will provide attractive space for large-scale events, such as admissions open houses, career fairs, national academic conferences, and alumni events. There will also be space dedicated to WPI's robotics program, enabling the university to support regional and national robotics competitions.

Berkey Appointed to STEM Advisory Council

President Dennis Berkey has been appointed a member of Massachusetts Governor Deval Patrick's Science, Technology, Engineering, and Math Advisory Council. Established last October and chaired by Lt. Gov. Tim Murray, the panel brings together public and private sector stakeholders in the commonwealth to boost student interest in and preparation for employment in the STEM fields.

"As a mathematics educator and as president of one of the oldest and most innovative technological universities in the nation, I am acutely aware of the central role that the STEM disciplines play in our economic development," Berkey says. "Engaging students in the wonder and fun of these disciplines at an early age enables them to develop and appreciate the analytical and innovation skills necessary for success in the careers of the future."

"I am acutely aware of the central role that the STEM disciplines play in our economic development." —President Dennis Berkey

Student Project: In Search of Clean Water

In Monwabisi Park, an informal settlement outside Cape Town, South Africa, 20,000 people have limited access to clean drinking water, toilets, showers, and drainage. Poor sanitation takes the lives of hundreds of residents there each year.

Marcella C. Granfone '10, Christopher R. Lizewski '10, and Daniel J. Olecki '10 hope to decrease that number significantly. As part of their student project, which won the 2009 WPI President's IQP Award, they designed and developed a communal water facility to help reduce the spread of waterborne diseases. Following the principles of sustainable development, the students designed a cost-effective model facility that can provide clean water, showers, toilets, and other facilities to 60 people in a manner that improves sanitation, discourages vandalism, and protects the environment. The students, who worked with the city of Cape Town Water and Sanitation Department, developed their design after interviews with community members and city officials and extensive field observations.

In Their Own Words

"We're excited that the machine did what we designed it to do."

—**Paul Ventimiglia**, WPI student and head of Paul's Robotics, whose robot Moonraker 2.0 won the NASA Excavation Regolith Challenge, a prize of $500,000
Oct. 19, *New Scientist*

"We hear from employers all the time that these students hit the ground running and know how to get a job done."

—**Constance Clark**, assistant professor, Humanities and Arts
Nov. 30, *Worcester Telegram & Gazette*

"The technology is proven."

—**Jim Duckworth**, associate professor of electrical and computer engineering, on the "Mantenna" technology, developed by Duckworth and a team of WPI researchers to locate firefighters in a burning building
Dec. 2, *Worcester Telegram & Gazette*

"Some students are interested in recycling, some are interested from a high-tech or engineering perspective, and some are interested in the social justice aspect."

—**John Orr**, electrical and computer engineering professor and chair of WPI's President's Task Force on Sustainability
April 15, *U.S. News & World Report*

Campus Appointments and Promotions

WPI is well positioned for continued growth in areas important to the university's academic programs and in its contributions to economic development, following the recent announcements of two inaugural academic deans and executive promotions.

Stephen Flavin has been promoted to vice president for academic and corporate development, in addition to his continuing role as associate provost. He has served since 2007 as WPI's dean of Corporate and Professional Education (CPE). In his expanded role, Flavin will have primary responsibility for all of WPI's corporate relations, with an emphasis on developing mutually rewarding, rich relationships with the wide variety of WPI's corporate partners. He will also oversee all of WPI's entrepreneurial academic programs, such as CPE, summer programs, and distance learning.

Flavin more than doubled revenues for CPE in four years, while increasing the number of new corporate programs by 300 percent. He has also promoted the development of new programs in Systems Engineering and Biomanufacturing. Through his leadership, CPE has taken a leading role in workforce development in the Northeast by working with industry and government to provide critical workforce education and training. He also played a key role in attracting a $6.6 million grant from the Massachusetts Life Sciences Center to support the next phase of life sciences development at Gateway Park.

Karen Kashmanian Oates has been selected as the first Peterson Family Dean of Arts and Sciences. She comes to WPI from the National Science Foundation's Division of Undergraduate Studies, where she is the deputy director of undergraduate education.

As dean, Oates will oversee seven academic departments—Biology and Biotechnology, Chemistry and Biochemistry, Computer Science, Humanities and Arts, Mathematical Sciences, Physics, and Social Science and Policy Studies—as well as interdisciplinary programs in Environmental Science and Interactive Media and Game Development. She will also have responsibility for helping promote and augment WPI's aggressive investment in the life sciences.

A biochemist, Oates earned her PhD at George Washington University, worked as a visiting scientist at the National Institutes of Health's Oncology and Hematology Division, and began her academic and research career at George Mason University, before being called to a number of increasingly prominent leadership positions. As an associate dean at George Mason she was central in creating its New American College environment. Later, she was recruited to help found, as its inaugural provost, the Harrisburg University of Science and Technology.

Eric Overstrom, biology professor and head of the Department of Biology and Biotechnology, has been named Provost *ad interim*, following John Orr's decision to return to full-time teaching and research in WPI's electrical and computer engineering department.

Overstrom's leadership in the life sciences at WPI was instrumental in the creation of the Life Sciences and Bioengineering Center at Gateway Park (LSBC), which opened in 2007. Over the past five years, with Overstrom leading the charge, WPI has brought outstanding faculty and students into the life sciences programs, and has tripled research funding in this area. Through his leadership, the LSBC has come to serve not only as the school's focal point for graduate education and research in the life sciences and related bioengineering fields, but also as a strong contributor to the continuing development of life sciences industries in the commonwealth.

Mark Rice begins his tenure as the first Dean of Business. Building on the success of WPI's Department of Management, he will lead the university's new business school. Rice comes to WPI from Babson College, where he served for six years as the Murata Dean of the F. W. Olin Graduate School of Business and holds an appointment as the Frederic C. Hamilton Professor for Free Enterprise. Prior to Babson, he was a member of the leadership team at Rensselaer Polytechnic Institute's School of Management and Technology, where he served as director of the Incubator Program and the Severino Center for Technological Entrepreneurship. His numerous scholarly publications on entrepreneurship and innovation include the best-selling book *Growing New Ventures—Creating New Jobs*, co-authored with Jana Matthews.

Rice will succeed McRae Banks who has led WPI's highly acclaimed Department of Management for the past 15 years.

Kristin Tichenor has been promoted to senior vice president for enrollment and institutional strategy. Since 2007 she has served as vice president for enrollment management. Tichenor's additional responsibilities will include overseeing the university's Division of Marketing and Communications and helping guide the Institute on major strategic challenges and opportunities.

Through Tichenor's leadership, WPI's applications for admission, both undergraduate and graduate, have increased dramatically. She has been highly successful in attracting women and underrepresented minorities to the university, where applications from these groups over the last five years have grown by 140 and 170 percent, respectively. Tichenor began her tenure at WPI in 2000; she previously worked in admissions at Clark University and Wheaton College.

Business Grows at WPI

Momentum continues to build for the university's business programs. Last fall, *BusinessWeek* ranked WPI's part-time MBA program No. 1 in the nation; WPI was also ranked No. 1 for student satisfaction in the program. It's the second time in two years that the university has made this top-10 list; in 2007, WPI was ranked ninth in the nation and No. 1 in the Northeast.

The university is poised to continue flourishing, following the Board of Trustees' vote in May to establish the WPI School of Business. Building on the myriad successes of the Department of Management, the new business school will be led by Mark Rice, the inaugural Dean of Business (see story, page 9), with a distinct focus on developing students who are innovative and entrepreneurial leaders, prepared for the global, technological world. Centered on programs that combine business acumen with technological, engineering, and scientific innovation, students will learn the practical aspects of creating, running, and growing a business.

New Voices, Original Plays

This spring, WPI's Department of Humanities and Arts and its theatre group Masque celebrated the 28th anniversary of *New Voices*, the nation's longest-running collegiate new and original play festival.

By the Numbers

800

Number of high school students who competed in the first WPI FIRST Regional Tournament, held in Harrington Auditorium on March 12–13

461

Number of students who completed off-campus projects this year through WPI's Global Perspective Program

215

Number of graduate students who showcased their innovative work on Graduate Research Achievement Day this spring

46

Number of new full-time faculty members who have joined WPI over the past three years

7

National rank, by The Princeton Review, of WPI's Interactive Media and Game Development program

1

National rank of WPI's part-time MBA, by *BusinessWeek*

By Eileen McCluskey

Solutions that Heal the World

South Africa suffers a runaway AIDS epidemic. Ugandan women die of breast cancer at alarming rates. Now, first year students address these and other health-related issues through team projects in Heal the World, one of WPI's Great Problems Seminars.

Launched in 2007, the Great Problems Seminars prepare first year students for the university's project-driven curriculum and serve as an introduction to university-level research. Students take problem solving out of the textbook and into the real world by focusing on themes of global importance, including societal problems and human needs. Supported by a grant from Eric Hahn '80 and the Hahn Family Trust, GPS is the result of a university initiative to enhance the first year experience, enabling students to begin working on solutions to real-world issues and problems from their very first day on campus.

Heal the World (HTW), which has been offered since 2008, is co-taught by Jill Rulfs, associate professor and associate department head of biology and biotechnology, and Helen Vassallo, professor of management. Together, they seamlessly combine biology, business management, and good research practices while inviting students, in teams of four or five, to explore any health topic they choose for their project. "There are a range of projects—they're not cookie cutter,"

Students take problem solving out of the textbook and into the real world by focusing on themes of global importance, including societal problems and human needs.

Rulfs says. The goal, she adds, is to identify not only an issue, but a feasible approach, too. "It's not only 'What's the problem?' but 'What's the action plan?'"

AIDS Prevention in the Aftermath of Denial

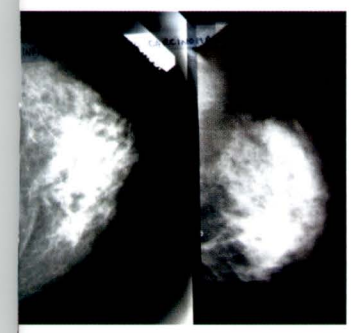
In one such project from this year, students addressed HIV/AIDS prevention in South Africa, where the government had denied, until 2006, that the HIV virus causes AIDS. A tragic example of the cost of mismanaging a biological threat, this colossal error has resulted in some of the highest rates of HIV infection in the world (approximately 5.4 million of its 47 million citizens).

A group of WPI students, including Xavier Miller '13, was drawn to this staggering problem. "I chose HTW because there are so many preventable health problems, and even though we were just freshmen, we could help solve them," says Miller, a chemical engineering major.

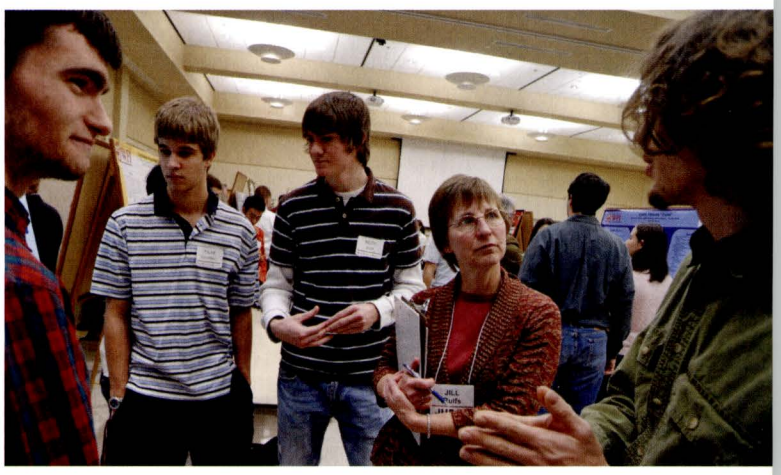
Since it would not be financially feasible to produce and distribute enough medicine for all of the AIDS victims in South Africa, the students chose instead to educate non-infected individuals so they can avoid exposure to HIV. The students' educational campaign would target middle school children, ages 13 to 15, because their research showed that the percentage of HIV infection jumps among individuals ages 17 to 23 years. "We wanted to reach the kids before they were likely to be exposed to HIV," explains Miller.

The team focused on Cape Town for their project. The metropolitan area has school systems, public Internet access, and a WPI project center, which opens the possibility of a follow-up IQP in a couple years. The team would teach children the facts about the number of people with HIV/AIDS in their community, debunk myths (e.g., casual contact can spread HIV), and spread the word about how to avoid exposure to the disease. South African AIDS patients would speak at middle schools about their experiences with the disease. A website the team designed would disseminate educational information and allow online scheduling of speakers.

Bringing Mammograms to Ugandans



Another of the projects also addressed a major problem: breast cancer deaths in Uganda. Autumn Silke '13 worked on the student team that confronted this issue. "I wanted to take HTW," says Silke, "because it would help me develop my group discussion and presentation skills, and give me the chance to learn about important issues." A biology and biotechnology major, Silke also picked up key project management skills. "The seminar broadened my abilities to assess team members' strengths, so we could each decide which aspects of the project we'd focus on and research."



Jill Rulfs talks with students from Power the World, one of the Great Problems Seminars, during GPS project presentation day. Rulfs co-teaches Heal the World.

The students chose the Uganda project because of the profound differences they found in breast cancer survival rates there, compared to the United States. In Uganda only 45 percent of breast cancer patients survive beyond five years, versus 81 percent in this country. Seeking reasons for that stark discrepancy led the students to discover that fully 95 percent of Ugandan women with breast cancer have reached stage 4 at their first diagnosis. In the United States, that statistic is just 15 percent. At the heart of the problem lies a startling lack of resources. Uganda, with its population of 31 million, has only one oncologist and two mammography units, versus the 10,400 oncologists and nearly 13,000 mammography machines in the United States.

The students were determined to find a way to boost the survival odds for Ugandan women who develop breast cancer. Since many of the nation's citizens live in remote rural areas, the team's strategy centered on a mammography van that could bring this lifesaving technology to women. As they continued to research their idea's feasibility, the students discovered that Yale University has launched such a project in Uganda—proof positive that their idea would work. Better yet, the van could serve triple duty: transport women needing treatment back to the clinic (at no charge), and carry educational brochures about self-exams. Fundraising could build a fleet of vans.

Rulfs and Vassallo, looking back on their first two years teaching the HTW seminar, say they find their work especially rewarding, particularly when they see students become inspired by their projects. "It's wonderful for these kids to find that passion," Vassallo says.

By Michael Dorsey

Translating IT into Better Healthcare

As the nation seeks to solve the conundrum of its troubled healthcare system, information technology—including electronic medical records and telemedicine—will be a critical element of the solution. But healthcare has been slow to adopt IT, for a variety of reasons. WPI's Bengisu Tulu is helping the industry clear the hurdles that stand in the way of its realizing the full benefits of modern information systems.

When you think about modern medicine, you think about technology: advanced imaging systems, diagnostic labs filled with analytical equipment, even robotic assistants in the operating room. Ironically, the healthcare industry has been one of the slowest to embrace information technology. The reasons are complex, says Bengisu Tulu, assistant professor of management at WPI, whose research focuses on finding ways to overcome the hurdles that keep medical professionals from making use of the full benefits of information systems.

Tulu says that some of the IT problems in healthcare stem from communications breakdowns. Developers of information systems fail to understand what users want the systems to do. Computer systems that manage medical records and billing follow different rules and can't easily share information. Systems made by different manufacturers can't talk to each other seamlessly. "Often," she says, "my role is to serve as the translator."

A good case in point, Tulu explains, is the way electronic medical systems deal with (or more often, don't deal with) the particular issues that face people with disabilities. "Typical medical records systems are focused on treatment, but people with disabilities are also concerned about benefits. They need to be compensated for their medical care, and their medical records are the legal evidence required to support their claims."

Benefits administrators use a ratings system to evaluate claims, but those ratings don't map well onto the treatment codes that doctors use, causing delays in payments. While working on her PhD in the School of Information Systems and Technology at Claremont Graduate University, Tulu was part of a research group that helped gain national visibility for this issue and proposed solutions that will help electronic medical record systems bridge this costly gap.

The work caught the attention of the Social Security Administration, one of the nation's largest payers of medical benefits, which is now committed to working toward the seamless transfer of medical evidence from healthcare providers to the agency, notes Tulu. "This is exactly why we work in this field. This issue matters to a lot of people, and the impact of this work can be significant."

As an information technology translator, Tulu often works to open a productive dialog between teams in healthcare organizations charged with improving processes and those that implement new technology. "You really need to be sure these groups talk to each other," she says. "Technology and processes need to be planned and designed together. When that does not happen, people become frustrated because there are many changes coming at them and they may well conflict."

Over the past two years, Tulu has had the opportunity to put this theory into practice in a project that produced a rare medical IT triumph. Tulu worked with one of the largest not-for-profit health organizations in Oklahoma to set up a telestroke network. Telestroke is a way of using video technology to connect rural hospitals that don't have stroke specialists on staff with larger medical centers that do. It allows patients in remote areas who may have suffered a stroke to be diagnosed and treated with the clot-busting drug tPA in the brief window of time when that medication can be safely administered.

The health organization in Oklahoma had been involved with telehealth for

more than 15 years, Tulu says, before embarking on the telestroke project. "They said, 'We've made a lot of mistakes and learned from them. We want to do this one right.'"

Tulu and her team were offered the opportunity to become involved before the first site was set up and observe the implementation process as new sites were brought up. The health system paired someone from the process development group with the telehealth group so the process design and the technology were integrated seamlessly. "The people in the emergency rooms using the system are very happy," she says. "It shows that if you come in as one group and make all of the changes as one solution, the healthcare profession will find that it makes sense."

Currently, Tulu is applying the lessons learned in Oklahoma to a new telehealth project with the plastic surgery division of the University of Massachusetts Medical School. Patients with chronic wounds need to be seen by a group of specialists regularly, but the consultations tend to be brief. "The patients, who usually have other serious medical problems, sometimes have to be transported by ambulance from hours away, and those trips can have a deleterious effect on the wounds."

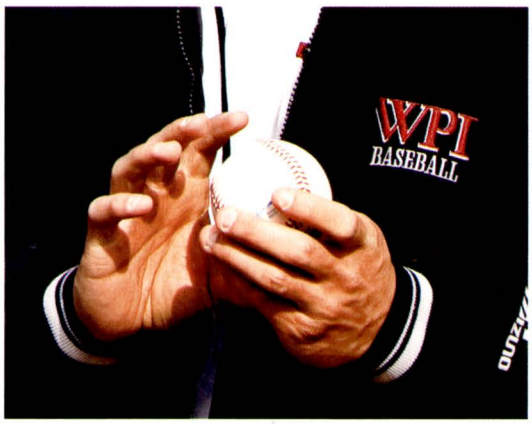
Working with Dr. Raymond Dunn '78, chief of the division of plastic surgery, and Peder Pederson, professor of electrical and computer engineering at WPI, Tulu hopes to help develop a system that will enable wound care specialists to view images of patients' wounds remotely and decide if an in-person visit is warranted. "This could result in considerable savings and better outcomes for patients," she says.

Tulu is pursuing this and other projects through WPI's new Center for eHealth Innovation and Process Transformation, an interdisciplinary research center working to improve healthcare delivery through engineering, management, and information technology. The task before the center is daunting, Tulu says, for as the nation seeks to reform its troubled healthcare system, technology—from electronic medical records to telemedicine—will play an increasingly important role. "We will continue to have problems with adoption," she says, "until we can get to a point where we can create good systems that are designed for the user and supported by a good mechanism. We need to be happy with the whole healthcare system, not just the technology."

By Jim H. Smith

THE CHARACTER OF

Athletics at WPI



WPI Basketball Head Coach Chris Bartley has a little code that summarizes what he expects of his team. He calls it the "ABC's for Success at WPI" and it's all about embracing life with passion. "A" stands for academics. "B" is for basketball. And "C" is about commitment to your community.

One morning last winter, just before Christmas, the team was rigorously adhering to "B." The season was still young, but another NCAA Division III tournament appearance seemed within reach. In little more than a month the team had shown what it was made of, losing just one game while posting nine wins, including a hard-earned double overtime tilt with Gwynedd-Mercy in the Regis Tournament.

Good teams don't think about the last game, though, or the tournament two months down the road. They concentrate on the here and now. So that morning Bartley's guys were in the weight room. That's where they got the news.

There is a meditative quality to the repetitive nature of fitness training. Grinding out the laps, the sprints, the lifts, the steady one-foot-after-the-other pace of the long distance run can be good not only for the body, but for the spirit as well. Somewhere in the rhythm of the reps you find your center. You achieve balance.

But after the team learned about Mary Chatfield, no one felt like lifting anymore. It was like the light had suddenly drained out of the day.

Bartley himself delivered the news. A lot of tasks fall upon the shoulders of collegiate coaches, but nothing prepares you for this. Mary Chatfield, who coordinated the Big Brothers Big Sisters Program at Worcester's Elm Park School, where all the members of the team serve as mentors to a group of young boys every week, had slipped away during the night. She was just 54 years old.

"The guys were devastated when I told them," Bartley remembers. "Ms. Chatfield was a powerful role model for them. She had a terrific way with kids—firm, but fair. She had great strength."

All of the players knew what they had to do. They had to show great strength, too. They had to be there for their "little brothers," many of whom do not have a real big brother or a dad to be there for them when the light suddenly drains out of the day. They had to be there for Chatfield, whose wake they attended and at whose funeral they served as ushers. And they had to be there for each other, their community.

The Best Role Model You Can Be

Bartley, now in his ninth year at WPI, reached out to Big Brothers Big Sisters seven years ago, joining the organization's board and recruiting his players as volunteers. There were 15 WPI Big Brother matches that year. Today, while every member of Bartley's team still serves as a Big Brother, involvement in the program has spread well beyond athletics, and there are nearly 200 WPI Big Brother and Big Sister matches.

"A major part of the WPI mission is to take what you learn and use it to make the world a better place," Bartley says. "Participation in Big Brothers Big Sisters helps us instill in our student-athletes a willingness and desire to be servants

"A big part of our success is attracting the best young student-athletes we can find. We put a high emphasis on character."

—Chris Bartley

in the community. All of our student-athletes understand that they are very fortunate to be here. This program is a way for them to give something back to others who are less fortunate. At the same time, it helps the athletes mature."

Ask David Brown, a junior guard from Lowell, Mass., who comes from a background not unlike many of the kids served by Big Brothers Big Sisters. Brown met his "little brother," Juan Garcia, when he was a freshman. They've built a tight bond in three years. "These kids really look up to us," says Brown. "It's important for them to see older guys who are succeeding as college students. When you realize what an influence you can have on a little kid, it makes you want to be the best role model you can be."

A Structure for Success

"A big part of our success is attracting the best young student-athletes we can find," Bartley says. "We put a high emphasis on character." At WPI, those best young student-athletes must be able to cut it in the classroom, too. "A lot of people ask me how I could play two sports and handle the course load required to earn a degree in civil engineering," says Mike Swanton '10, who played varsity baseball and football during his four years at WPI. "I'm not so sure I would have made it without playing sports."

Sports helps provide the structure that is absolutely essential for students who must be effective time managers if they are going to succeed at WPI, says Kelly Johnson '10, who knows a thing or two about time management. Another two-sport student-athlete (field hockey and softball) she also served a term as president of SocComm, WPI's social committee, and actively participated in Alpha Phi Omega National Service Fraternity while maintaining a 4.0 GPA.

"You really need a structure at WPI," says Johnson. "Sports provides that. It also gives you an instant group of friends, a team whose support, resources, and connections you can rely on."

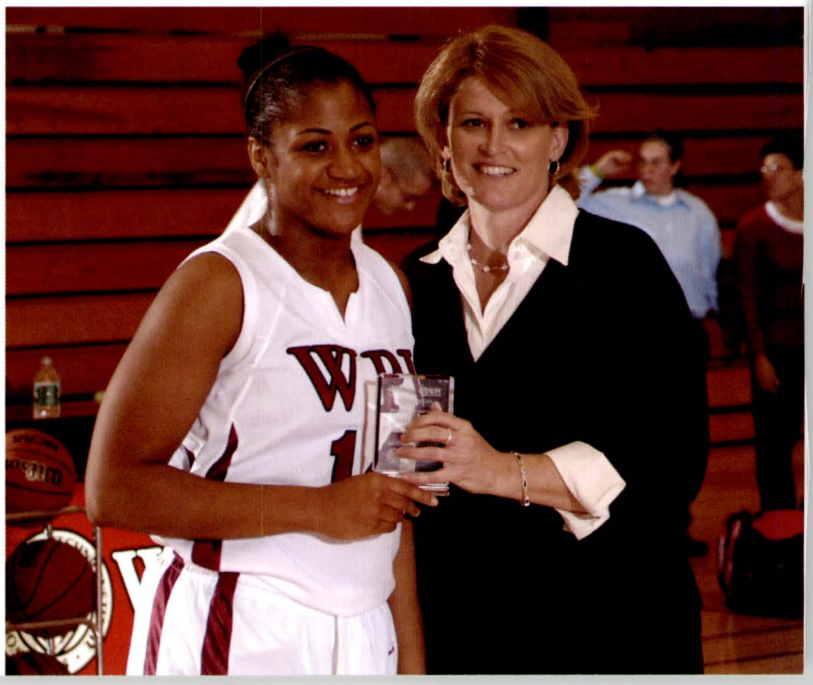
In fact, athletics and academics enjoy a symbiotic relationship at WPI. Head Women's Basketball Coach Cherise Galasso says sports offers students a way to be balanced and focused.

At the same time, she says, "our student-athletes succeed because they are well-rounded, high achievers. They have great time management skills and a strong work ethic. They like challenges and they are very competitive. They thrive on that."

All told, WPI's varsity programs succeed because the teams comprise students who are good at both academics and athletics, and who are deeply devoted to both, says Dana L. Harmon, director of physical education, recreation, and athletics.

"Our job is really to address 'the whole person,'" she says. "We help them work with others and develop self-confidence. They have a sense of responsibility about their academic work and they're accustomed to being on teams. They have an understanding of the sacrifices you sometimes have to make, the choices in life that are so important. These are remarkable young people and they do well."

So well, in fact, that WPI student-athlete GPAs are on par with, or higher than, the general student population, Harmon says. Student-athletes graduate in four years at a rate that's 6–10 percent higher than the overall student body. And that fact, which speaks to perseverance as much as intelligence, says a lot about the success of WPI's student-athletes.



"WPI's varsity programs succeed because the teams comprise students who are good at both academics and athletics, and who are deeply devoted to both."

—Dana Harmon

"You have to have a certain skill set to be successful at both academics and athletics at a school like WPI," says Galasso, whose team boasted a collective 3.45 GPA while winning 20 of 25 regular season games last year. "You definitely can do both sports and academics, and do them well, but you have to stay focused and balanced. The student-athletes we recruit are accustomed to teamwork. They are actively involved in learning. And they tend to like having a routine."

Head Baseball Coach Mike Callahan thinks intelligent student-athletes bring an edge to the game. "Smart players play better," he says. "They understand the game better. They see it right away. But what's more important—the biggest thing—is they really want to get better. They want to fix problems."

Brian Savilonis '72, head men's and women's cross country coach, echoes that work ethic. "Many of my most effective student-athletes have been young people who never participated in athletics in high school," said Savilonis, the longest tenured active WPI coach. He recalls three alumnae—Athena Demetry '91, Maura (Collins) Pavao '91, and Chris (Mikloiche) Scott '90—who hadn't run in high school. "Here at WPI they became All-New England together," he says. "It is wonderful to see young people like these come here and find something special in athletics, something enduring that they can take with them when they leave."

Demand for Recreation

Since Harmon arrived on campus in 2002, WPI has continued to grow its athletic reputation and success. In 2009 the men's basketball program returned to the NCAA tournament for the fifth straight year. At the same time, the women's basketball team won 20 games, a new school record, on its way to another ECAC New England championship, its second in three years. And the men's baseball team competed in the NCAA championship for the first time in the program's history.

The 2009–10 season also marked an important milestone: WPI had the greatest number of women participating in varsity athletics in school history. Still, athletics at WPI is not just about varsity sports. Fully 60 percent of students participate in intramural sports, Harmon says. And another 20 percent are engaged in club sports.

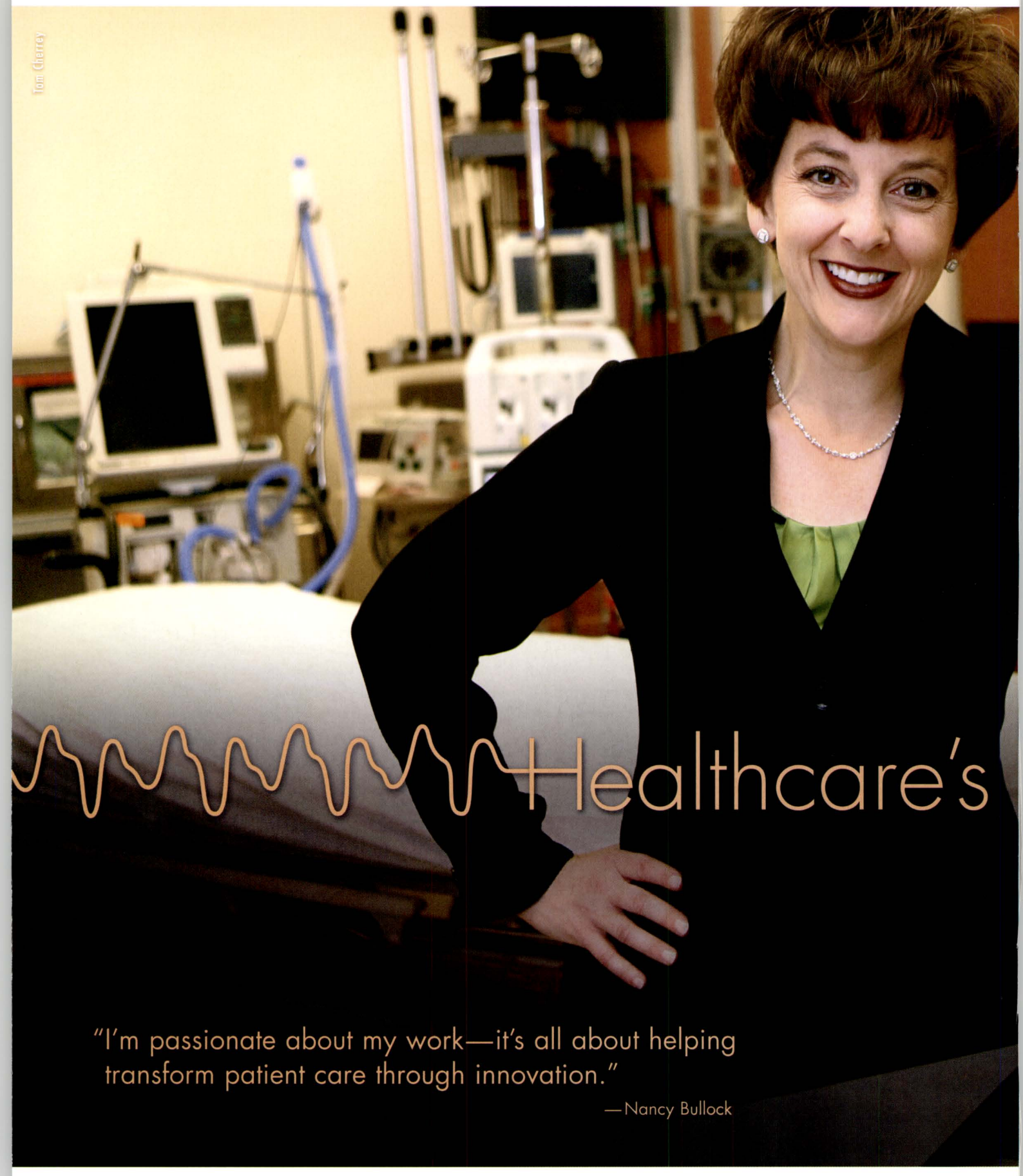
So great is the demand for recreational options that the Institute has just broken ground for the new Sports and Recreation Center. The 145,000-square-foot facility will include a modern 25-meter stretch swimming pool with spectator seating for 250; a 29,000-square-foot gymnasium that can accommodate indoor sports and help with large community events like admissions open houses and robotics competitions; an elevated, three-lane jogging track around the perimeter of the new gym; workout studios; and 14,000 square feet of fitness and cardio space.

"WPI's beautiful campus and extensive facilities are critically important to its continuing success as a high-performance university, producing women and men well prepared for the rigors, opportunities, and challenges of 21st century life," says WPI President Dennis Berkey.

Indeed, Chris Bartley sees firsthand the importance of sports and recreation for students. As basketball coach, his job extends beyond the court.

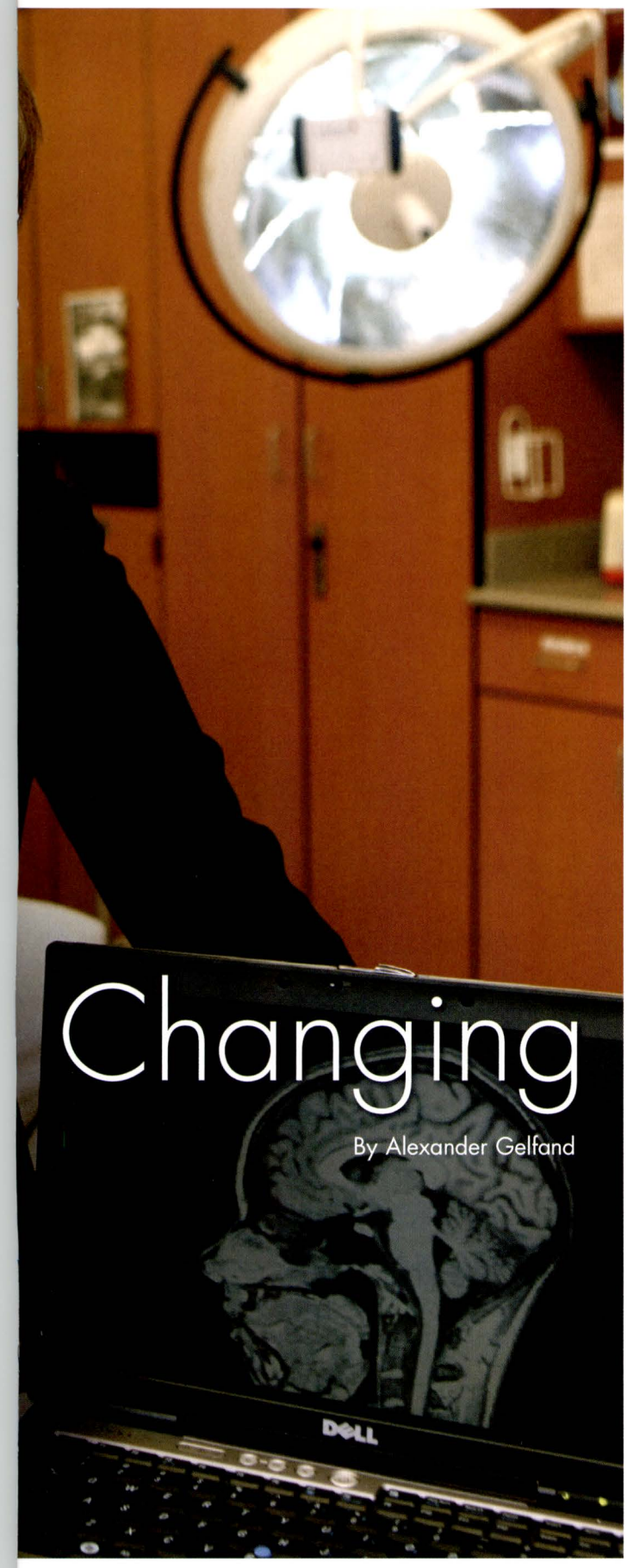
"We have a special privilege," he says. "We get to play a role in shaping the lives of great young people during their four years of college. My job isn't just about developing a winning team. What I love about coaching is working with student-athletes and helping them to be really successful—in all aspects of their lives." ■

[To read more about the Sports and Recreation Center, see page 6 and visit sportsandrecreation.wpi.edu]



"I'm passionate about my work—it's all about helping transform patient care through innovation."

—Nancy Bullock



Changing Marketplace

By Alexander Gelfand

It's an exciting time to be in the healthcare business. Spurred by technological advances, demographic changes, and product innovation, the healthcare technology and services industry is booming. Not surprisingly, WPI alumni are leaders in this field, helping bring innovative healthcare solutions to market in a changing world. Nancy Bullock '91, '92 (MBA), Vera Tice '86 (MS), and Steve Rusckowski '79 are three such alumni.

As a student in WPI's undergraduate biotechnology program, Nancy Bullock loved her hours in the biotechnology lab. But she wanted to get the same hands-on feel for the business of biotech, which was just beginning to boom. In her junior year, after being accepted into WPI's dual-degree bachelor's MBA program, Bullock began her graduate business studies as an overlay to her undergraduate work.

To complement her studies, she landed a business development role with Genica Corporation (now part of Thermo Fisher Scientific), one of Worcester's first biotech start-ups. She completed her MQP through a project for this provider of neurological diagnostic testing services. "This early role was pivotal in enabling me to experience how I could marry the business with the science," she says. In fact, she's made a successful career at that intersection of science and business.

For 18 years, Bullock led business development and marketing initiatives at various biotech and medical technology companies, from start-ups to major players in the healthcare space like Medtronic and Johnson & Johnson. She helped develop and launch cutting-edge medical implants, instruments, and capital equipment for neurological conditions, minimally invasive cardiovascular surgery, and pain management. She also identified the best opportunities for expansion—in new products and services, and in established and emerging global markets. Now, as principal of her own consultancy, Breakthrough Healthcare Solutions, Bullock does the same for her clients.

"An incredible amount of innovation comes from start-up companies who have a great concept, but who aren't sure how to develop a sound business plan to bring the product to market," she says. Those firms, and their larger multinational brethren, all face similar challenges, from figuring out what their products should look like to identifying the most lucrative geographic markets for them.

They are also riding many of the same trends, such as the transfer of patient care from hospitals to outpatient clinics, physicians' offices, and even home—a shift that is being propelled in part by the development of smarter, less invasive technology and the drive to improve patient quality of life while reducing the cost to provide the associated care.

"Over the past 20 years, we've completely transformed the way surgery is done. Many procedures that previously could be done only in a hospital operating room now are safely, effectively, and economically performed in more accessible settings," Bullock says. "We're doing procedures less invasively, using instruments designed to provide access into the body through smaller incisions. For many procedures, surgeons no longer need to make a large incision. Instead, they're able to operate through natural orifices or openings the diameter of a nickel." All of this can make for greater safety, faster recovery, and lower costs. It does not, however, make the process of capitalizing on these innovations any simpler.

Recently, Bullock consulted for a Minnesota-based start-up that had developed an innovative device used to maintain long-term vascular access for chronic hemodialysis patients. With an early successful track record in the United States, the company wanted to expand internationally but didn't know where to start. So she researched what the group might face when entering markets across Europe and the developing world, from regulatory hurdles to economic barriers to local infrastructure limitations. She then used that information to prepare a global go-to-market plan, recommending where the company should focus first and how it should approach market entry. This plan enabled the start-up to seek the necessary funding from its investors.

Interestingly, Bullock points out that not all of the innovation in the healthcare market takes the form of new technology. Some of it has to do with the way in which businesses are structured and services delivered.

While working for Medtronic, for example, Bullock helped change the way the company delivered its deep brain stimulation solutions, which center around accurately implanting one or two electrical wires the size of a human hair that are then connected to a pacemaker-like implant to stimulate the brain and alleviate symptoms of neurological disorders such as Parkinson's disease. Previously, hospitals had to spend upwards of $1.5 million in capital, often waiting a full year to purchase, install, and train on all of the necessary technology. Bullock led the shift to a fee-for-service model that depended in part on technological improvements, but that was really about changing the way the procedure was delivered and paid for.

"We took the most essential technology, miniaturized and customized it for the deep brain stimulation procedure, then packaged it together with all the necessary devices, instruments, and one highly trained Medtronic professional, and provided a one-stop shop solution to the hospital on a fee-per-procedure basis," she says. No more large capital expenditures, and no more excessive wait-times for treatment; instead, there was an easier way for the hospital to pay for state-of-the-art technology, and surgeons could provide patients much faster access to this life-changing procedure.

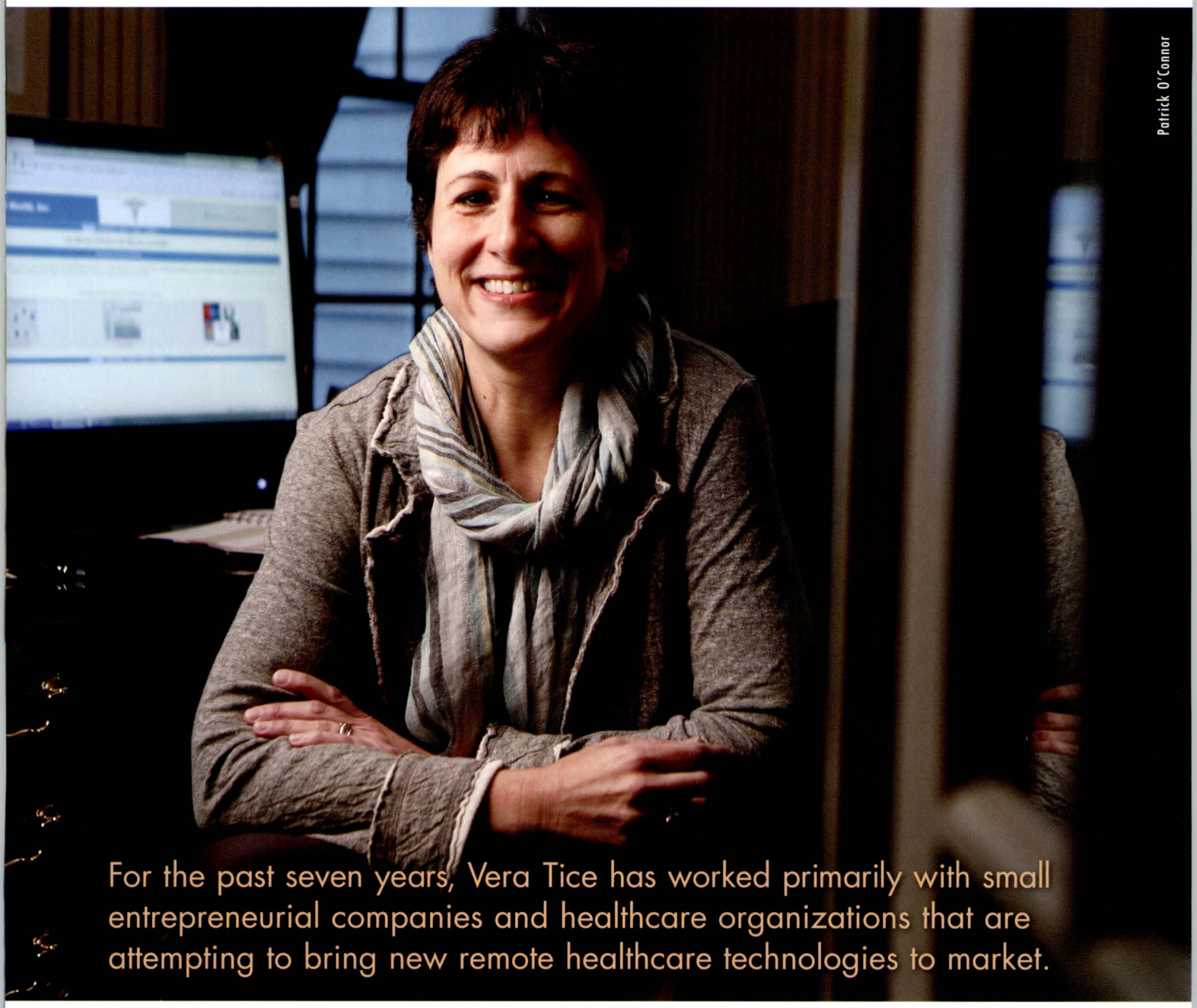
"I'm passionate about my work—it's all about helping transform patient care through innovation. The breakthroughs in healthcare are evolving not only from the products themselves," Bullock says, "but also from the market dynamics and patient care delivery methods."

With over 20 years of experience in the telecommunications and healthcare technology industries and a resume that covers everything from R&D product development to executive management, Vera Tice has the kind of technical savvy, managerial know-how, and sector-specific expertise needed to navigate the telehealth market. Which is good, because her clients sometimes don't. [Telehealth covers anything that involves delivering healthcare services using telecommunication technologies, from conducting remote doctor's visits via webcam, to monitoring a person's vital signs using wireless sensors.]

Not long ago, Tice was approached by a start-up founder who envisioned a software system that would allow consumers to manage all aspects of their healthcare, from electronic visits and accessing of test results to online billing. The problem? "He had no experience in either software development or the healthcare industry," she says.

Tice, who takes obvious pleasure in turning ideas into reality, not only reworked parts of the CEO's business plan, she also recruited a team of software developers to prototype elements of the system, giving her client something to show potential investors. "Now he's back on track," she says.

Tice spent 15 years working on networked patient-monitoring devices and healthcare information systems in the medical products group at Hewlett-Packard (now part



Patrick O'Connor

For the past seven years, Vera Tice has worked primarily with small entrepreneurial companies and healthcare organizations that are attempting to bring new remote healthcare technologies to market.

of Philips Healthcare), and another four years at Nokia, where she led the development of mobile device applications and network security products. As Nokia and its competitors began to explore the possibility of using smartphones and similar mobile gadgets to deliver telehealth, Tice saw an opportunity of her own. For the past seven years, she has worked primarily with small entrepreneurial companies and healthcare organizations that are attempting to bring new remote healthcare technologies to market.

It's a niche that has expanded rapidly over the past few years, as giants like Philips and GE have begun to acquire smaller entrepreneurial companies in order to beef up their telehealth portfolios, and as large healthcare organizations like Partners Healthcare have begun to commercialize the remote healthcare technologies they've developed in-house. A growing number of universities are entering the mix, as well. For example, Tice has consulted with Advanced Body Systems, a start-up built around a novel sensor developed by Yitzhak Mendelson and James Duckworth, WPI professors in biomedical engineering and electrical and computer engineering, respectively. Originally developed to monitor soldiers on the battlefield, the sensor could potentially be used to keep tabs on people who work in all sorts of extreme conditions, from firefighters to miners.

Government promotion of electronic health records (EHR) and the federally mandated expansion of health insurance coverage are also giving the industry a boost, as an aging cohort of

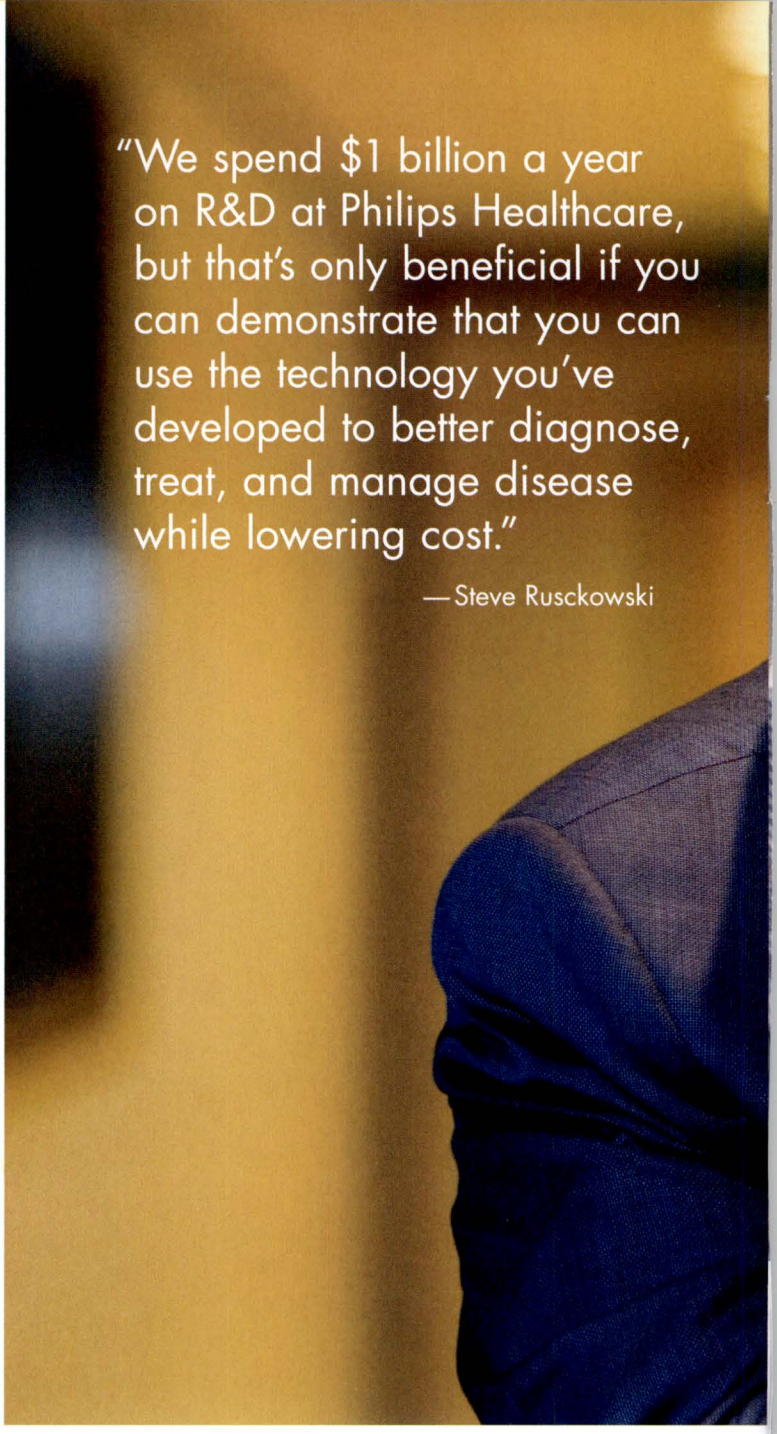
Philips telemonitoring devices support remote patient education and enable healthcare providers to remotely monitor patients with chronic illnesses in their homes. Photo courtesy of Philips Healthcare.

baby boomers with chronic conditions—and a looming shortage of primary care physicians—makes remote healthcare a more viable means of serving everyone who needs help. In the future, rather than trudging into your general practitioner's overcrowded waiting room just to see if you need a specialist, you might simply dial into a call center and be triaged with the help of streaming video and remote biometrics, your data automatically entered in an EHR.

Yet government involvement is a double-edged sword. Recently, Tice worked with a home-care product development company that developed a healthcare information system that would allow visiting nurses to record a patient's medical data and related billing information on a standard PDA, then upload it all to an online database to be accessed at the home-care agency offices. Home-care agencies could pay to use the system on a subscription basis.

Systems such as these would allow agencies to replace their dedicated data recorders and databases with commonly available mobile devices and secure hosted data center storage. Cheap cloud storage could follow. Yet they could also run afoul of FDA regulations governing medical devices—a category that includes anything used for diagnostic purposes. While a PDA such as an iPhone might not resemble an EEG cart, with the right app and enough patient data, "it begins to cross the line," says Tice. This past January, the FDA ruled that an iPhone running medical imaging software was indeed a class III medical device, and hence subject to pre-market approval.

Scenarios like this make telehealth companies nervous. And that makes Tice very, very busy.



Steve Rusckowski speaks like a physician.

"We've always been focused on the need to understand what healthcare does every day: to care for a person with a health problem," he says.

But Rusckowski is no doctor. He's the CEO of Philips Healthcare, the medical technology and services arm of Dutch multinational Royal Philips Electronics.

Philips Healthcare is a major provider of high-end imaging equipment and healthcare information systems, and a leading purveyor of high-tech home monitoring devices, with sales of approximately $10 billion and employing 34,000 people globally. In recent years, the company has also developed cutting-edge handheld diagnostic tools that use exotic technologies like magnetic nanoparticles to scan for signs of drug use and heart disease.

Despite all that technical firepower, however, technology actually comes last at Philips, says Rusckowski, whose first job after WPI involved managing the mechanical support team of a chemical factory for Procter & Gamble. (He later served as a production supervisor in the company's soap and detergent division before earning a degree from MIT's Sloan School of Management, and went on to run the medical products group at Hewlett-Packard and the healthcare group of Agilent.)

"We think about the biggest healthcare issues around the world," he says, "and rather than looking at technology, we consider the biggest problems associated with those issues. Then we try to understand the full care cycle that a doctor would go through in diagnosing, treating, and managing that problem over time." Only then, Rusckowski says, do they ask what technological solutions are most likely to improve care while reducing costs.

The answer to that question may depend on factors ranging from biology to geography. Clinics in rural China, for example, might benefit most from inexpensive diagnostic equipment that doesn't require a lot of skilled technical support, like simple, reliable ultrasound scanners. Developed countries like Japan and the United States, however, might benefit from a more technologically robust approach.

Photo courtesy of Philips Healthcare

American hospitals, for example, are faced with a growing number of ICU patients and a shortage of specially trained physicians, or "intensivists," to care for them. So Philips acquired Visicu, a Baltimore-based firm that developed an "eICU" system to permit a small group of intensivists in a central station to remotely monitor all of their acute-care patients. Software algorithms sift through reams of patient data to help identify who needs help before complications can arise. That, in turn, cuts down on unnecessary fatalities, reduces the amount of time patients need to stay in intensive care, and lowers overall staffing levels.

Sometimes, even a simple fix can make a big difference. As populations in the developed world grow ever greyer, more and more people are going to want to spend their remaining years at home, rather than in some kind of elder-care facility. But those people are going to need help if they suffer a fall—and many of them do, leading to serious complications (broken bones, hypothermia) and expensive hospital stays. In this case, Philips came up with the AutoAlert pendant, a tiny gizmo containing an accelerometer and altimeter that automatically calls for help if its wearer takes a spill. With better software, it may one day learn to recognize the behaviors that lead to falls and sound the alarm before they can even occur.

It's hardly a tricorder; but again, the idea is not to aim for the flashiest technological solution, but one that solves a genuine problem and delivers real value.

"We spend $1 billion a year on R&D at Philips Healthcare," says Rusckowski. "But that's only beneficial if you can demonstrate that you can use the technology you've developed to better diagnose, treat, and manage disease while lowering cost." ■

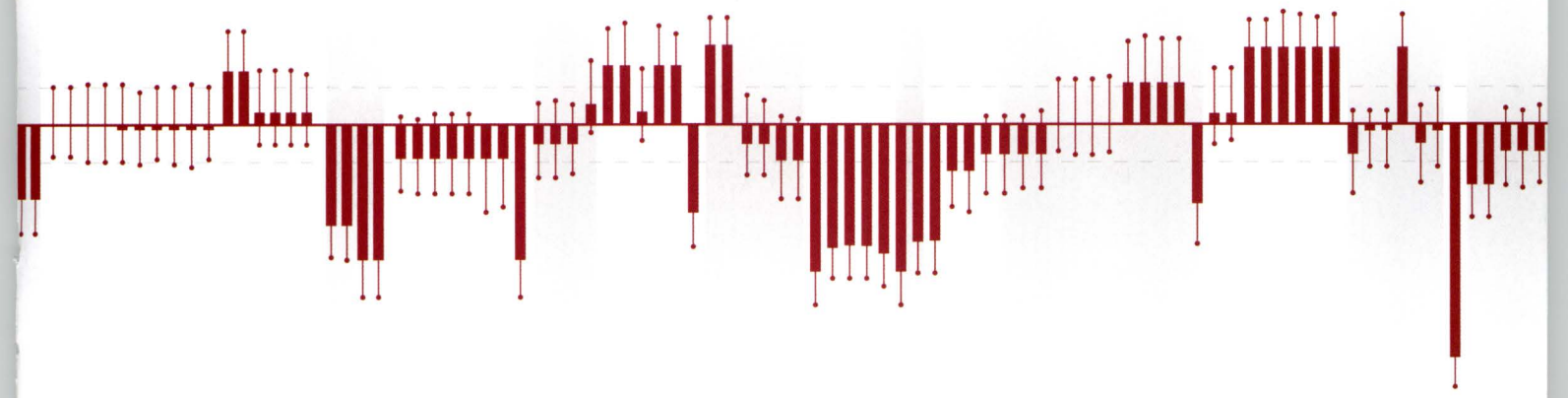
AutoAlert is the only pendant-style help button that can automatically place a call for help if it detects a fall and you're unable to push the button yourself. Photo courtesy of Philips Healthcare.

Numerical Value

By Joanne Silver

"I'm not sitting crunching numbers all day. I'm working with people, with teams. I work with physicians, with business people, marketing people."

Tony Rinaldo



Not all medical research takes place on animals and in petri dishes. Increasingly, numbers are the raw ingredients of those looking to cure diseases. Jovanna Baptista '00 and Brian Weiner '04 address this challenge by tapping into the ability of computers to sort through vast quantities of data in search of information that could hold the secret to the next medical breakthrough.

For almost as long as Jovanna Baptista has loved math, she has found ways to keep the nerd factor from defining her life. In high school it meant becoming captain of the cheerleading squad, while still belonging to the math team. At WPI—where in 2000 she received a BS with high distinction in actuarial mathematics and a minor in management—she relished the chance to work at a London hospital for her IQP, helping design a system for prescribing appropriate wheelchairs for patients with neurological disorders. There, she valued the teamwork with WPI biomedical engineers; the subsequent multimedia presentation back at school led to winning the President's IQP Award. And now that Baptista is a respected biostatistician for pharmaceuticals, she talks excitedly about the human side of her career.

At her condo in Boston's Roslindale section, where paintings by her brother Joshua complement the stylish but comfortable furnishings, Baptista says, "I'm not sitting crunching numbers all day. I'm working with people, with teams. I work with physicians, with business people, marketing people. Although I love statistics, it's very little of what I do. My job is using tools to present the information to nonstatisticians. Doctors are the experts. My job is to understand what they need and work it into a clinical trial."

The ultimate goal, of course, is for a pharmaceutical company to create a drug that will benefit patients, with the fewest adverse effects. Reaching that point, however, involves lengthy and often byzantine processes, both scientific and bureaucratic. In the decade since Baptista graduated from WPI, she has gained insight into virtually every aspect of this vital path, both at a number of pharmaceutical companies and at the Harvard School of Public Health, where she received an MS in biostatistics in 2002.

Whether constructing a clinical trial, or going before the Food and Drug Administration (FDA) to make a case for a drug, Baptista has proved a skilled observer of people. She is sensitive to the suffering of the individuals for whom a future medication might be beneficial, but committed to the highest standards in structuring a trial. She understands physicians' desires to get a potentially helpful medicine to patients as quickly as possible. And she is able to maintain the diplomacy needed to ensure a study satisfies all involved—from the FDA to the pharmaceutical company—by "not being caught up in the moment."

A visible record of Baptista's research shows up in the insert inside the packaging of an approved drug. There, in small print, are the conclusions drawn from the many questions she had to ask along the way. Among the main ones, she says, are, "How do you figure out how many patients you need for a study? What will be a clinical benefit—a meaningful difference? You try to have a study that is clinically meaningful, statistically significant, and cost effective."

Baptista, who has investigated drugs for cystic fibrosis, cancer, anemia, and other conditions, must focus on the risk versus the benefit of a particular drug in the context of the

situation it would treat. A life-threatening disease clearly allows for more potential adverse effects than one addressing a more benign ailment. At Infinity Pharmaceuticals in Cambridge, Mass., where she handled oncology trials, Baptista explains the complexity of figuring out dosing for a protocol. "You don't know the effective dose," she says. "You keep bumping it up until you reach dose-limiting toxicities."

Even though Baptista must weigh negative repercussions in everything she studies, by nature she prefers to focus on positive outcomes. In fact, she decided while at WPI not to become an actuary because it was too downbeat. She did her MQP at John Hancock, assisting on a project to price a disability waiver for the insurance company. She concluded, "Pricing insurance is dry and morbid. You think about how people become disabled and die. You come up with a figure so that the insurance company can make a profit off people becoming disabled."

The career she chose instead seems full of promise by comparison. She believes biostatistics is "an opportunity, if you're a person who wants to work in teams of people from different backgrounds. I work in a medical environment. I may not know about disease or the biology of disease, but I go in and start learning. I'm a piece of the puzzle. All these disciplines come together to get a drug approved."

It's a disease that has been identified in an ancient Egyptian mummy and that still plagues a third of the planet's six billion residents as a dormant threat. Every year the microbe that causes tuberculosis infiltrates the lungs of many, killing two million individuals and destroying the well-being of countless others in the process. For Brian Weiner those statistics represent a challenge, which he is addressing with his own arsenal of computations. Working at the Broad Institute of MIT and Harvard, he wrestles vast quantities of data into revealing some of the secrets of what he calls "this horrible bacterium." As he sits at his desk on the seventh floor of the Broad's 7 Cambridge Center building, overlooking the technological hub of Kendall Square in Cambridge, he appears hopeful and his bright eyes shine: "The work we're doing is laying the foundation for good things to come: diagnostics, new drugs, new vaccines."

The battle between Weiner's team and the disease requires weapons so potent and sophisticated they could not have existed a mere decade ago. Central to his strategy—and to the field of bioinformatics—is an ability to understand and manipulate genomic data. On twin computer monitors, a colorful array of graphs and charts depicts the strengths and potential vulnerabilities of tuberculosis DNA. Weiner admits that his two Dell desktops are nothing exceptional, however. "They're standard," he says. "You could go to Best Buy and pick them up."

What lends power to Weiner's quest lies on a different floor of the bright and ultramodern Broad building, which opened only four years ago. Behind a secure door, row upon row of towering steel-gray machines punctuated by blue lights hum with activity. This load-sharing facility—"the farm" to Weiner and his colleagues—can analyze sequenced DNA at dazzling speeds, enabling scientists to discern the location of mutations in the microbe. By comparing drug-sensitive TB, multidrug-resistant TB, and, the most worrisome, extensively drug-resistant TB, the researchers are hoping to pave the way for more targeted treatments.

To explain complicated concepts such as gene expression and the transcription network in an organism, Weiner clutches his arm. The area he grabs represents a protein called the transcription factor, which "sits down on the DNA" and activates it. The graphs on his computer screens, with their sharp peaks, "allow us to see where they're sitting down, where they're located, which genes they're controlling," he says.

In the whirlwind decade that has included the decoding of the human genome and invention of the Illumina DNA-sequencing machine, Weiner has gone from a high school student in Brookfield, Conn., to an associate computational biologist with a BS with distinction in biotechnology from WPI and an MS in bioinformatics from Boston University. WPI's Odyssey of the Mind—a team-oriented science competition for schoolchildren—left a lasting impression on him as a talented young scientist, who would be growing bacteria, running DNA gels, and taking a biotechnology elective before graduating from high school. When it came time for college, Weiner wanted a school that took a similar team approach to creative problem solving.

Investigating bone biology at the University of Massachusetts Medical School for his MQP confirmed Weiner's passion for biology—but with the computational slant that had just begun to be offered as a concentration at WPI. He wanted to "analyze data and get to the bigger picture," he says. Biology's links to the human condition made the field particularly appealing to Weiner; adding math to the mix only enhanced what he perceived as the long-term potential of his efforts.

First at the nearby Whitehead Institute, and since 2006 at the Broad, Weiner has found exactly the sort of environment he was seeking. While he has been assembling such databases as the one for mutations associated with drug-resistant TB, he has been able to look around him and witness astounding work on other gene-related problems. Modest about his own accomplishments, Weiner is quick to praise the achievements of others, who are training their genomic sights on HIV, cancer, diabetes, malaria, and other global maladies. "Working at a place like the Broad, you feel

Patrick O'Connor

"The work we're doing is laying the foundation for good things to come: diagnostics, new drugs, new vaccines."

like you're in school. You're continually learning while you're doing professional science," he says. "The Broad, as a model, is a gigantic institute structure where all collaborate." Weiner gives a shout-out to the Bill and Melinda Gates Foundation for funding a grant for the TB database, and to Eli and Edythe Broad for recently doubling their contribution to their eponymous institute after being impressed by the research being done there.

For Weiner, ultimately it's not about the numbers. In the Broad lobby—where a mini-museum houses a luminous interactive display of ongoing enterprises at the organization—he takes an iPod-style clicker and flashes onto the TB section. There, in vivid hues, charts and maps and photographs tell the stories of people ravaged by disease. Weiner's research numbers—untold millions and millions of them—will add up when the pictures in the display become obsolete. ■

"Today, medical data is not portable across all systems. That's the big problem we're ultimately trying to fix."

—Michael Gagnon

Digital Healthcare

By Michael I. Cohen

Fueled by advancing technology and the unprecedented infusion of federal funding, the United States is speeding toward a digital evolution in healthcare information. The promise holds that better use of technology will improve patient care and save the system billions of dollars. It's a massive transformation, affecting myriad individuals and institutions, and Michael Gagnon '81 and John Janas '79 are just two WPI alumni who are leading the change at both ends of the spectrum.

+ + +

It's easy to imagine: A guy from Detroit is vacationing on Michigan's upper peninsula and falls off his all-terrain vehicle, breaking his leg and suffering a concussion. He is rushed to the local emergency room, unconscious, and with a few key strokes his entire medical history is displayed on a screen to help guide the ER team.

What's easy to imagine in our digital age, however, is not yet possible in practice. Making it so is the latest challenge for Mike Gagnon. "Today, medical data is not portable across all systems. That's the big problem we're ultimately trying to fix," he says. "I like to fix big, messy problems, and this is a big one."

Gagnon is the technical architect for the Michigan Health Information Network (MiHIN), the public-private partnership working to link healthcare providers across the state into a single network. Their goal is to have the medical records for each of Michigan's 10 million residents accessible whenever, and wherever, they're needed. He's taken on the challenge in Michigan after helping the states of New York and Vermont design and launch various elements of their health information networks.

Getting an entire state healthcare system working on one network is a massive undertaking. Beyond the complexities of making incompatible systems talk to each other, details such as ensuring that a patient's identity is correct across the network

Andy Duback

are not as straightforward as one might imagine. It's very common for a person to be identified in different ways by different healthcare providers, Gagnon says. A patient may use her full name at her primary care doctor, but drop her middle initial when registering with a specialist. A lab report with blood sugar results may list a patient as Bob instead of Robert. So when our fictional tourist is on the bed in the ER, a networked health information system needs to know which records are really his.

In Michigan, Gagnon leads a multifaceted team to conceptualize the design of a workable network for the state. "Right now, we're at the very-high-level design stage of the system," he says. "We're evaluating the status of our providers, looking at what core technologies we need, and starting to develop standards for interoperability, privacy, and security that we will embed in the system. Every state in the country will be doing this eventually."

Crafting the big picture for healthcare information technology was not on Gagnon's radar screen growing up in Hopedale, Mass. He knew he wanted to be an engineer, but he was not focused on any particular area. When WPI offered a scholarship, his father suggested studying computer science because, as his dad presciently told him back in the 1970s, "this computer thing is going to be big."

"My father worked for the state department of employment security, so he saw where people were getting laid off and where the job opportunities were good," Gagnon says. "His advice to me was right on target."

After earning a degree in computer science, Gagnon went to work for a defense contractor—now part of BAE Systems—where he developed a networking algorithm for the Patriot Missile training system that allowed a battalion commander a unified view of the battlefield so he could direct each missile battery from a single location. In 1990 Gagnon moved to Wisconsin, following his future wife, Heidi, an engineer trained at UMass Lowell. He landed an IT job in the department of laboratory medicine at the Mayo Clinic, which set him on a new career path. "Working at Mayo was an amazing educational experience," Gagnon says. "I learned a lot about the business of healthcare."

At Mayo he developed the clinic's first electronic system for sending test results to hospital-based laboratories. He also designed Mayo's electronic clinical trial control system. In 1997, after the family had moved back to New England, Gagnon became the director of IT infrastructure at the Fletcher Allen Medical Center in Burlington, Vt., where he led the development of several new health information systems, and helped set the standards for Vermont's nascent health information network.

Now as a consultant and president of Health Information Exchange Partners, LLC, Gagnon sees no turning back on the digital evolution in healthcare systems in the United States. "The technology is definitely there—it's ready," he says. "I think we're about five years away from seeing the core elements of these large health exchanges in place and starting to have meaningful use."

One-on-One

Spend any time on the Internet and you'll see them—annoying pop-ups or artfully integrated displays specifically aimed at you, based on your demographics and your web-surfing history.

But long before this idea of selling soap through personalized information delivery became commonplace, John Janas saw the potential of using digital tools to deliver personalized medical information to help doctors take better care of their patients. "What we're trying to do," he says, "is take the best of evidenced-based medicine and integrate the relevant data into the doctor-patient encounter."

A medical doctor turned software engineer, Janas developed a novel system to link established medical information, like guidelines for managing diabetes, with a patient's electronic chart. In 2006 General Electric bought his patented software and it's now embedded in GE's Centricity® Physician Office system. "We want the technology to allow physicians to spend less time worrying about paperwork, and more time assessing their patients and developing treatment plans based on the best relevant information," he says.

Growing up in Lowell, Mass., where his father practiced family medicine, Janas knew early on that he, too, wanted to be a doctor—even though his father was becoming disillusioned by the non-medical burdens placed on physicians. "My father actually tried to talk me out of becoming a doctor because he was concerned with the direction medicine was taking," he says. Janas chose WPI because of its strength in the sciences and its project-enriched curriculum. His MQP work optimized techniques for isolating immune-system cells known as lymphocytes from human blood samples. [Lymphocytes help the body identify and fight off infections.] "This was the late 1970s, before people understood what was unfolding with HIV and AIDS, so my project turned out to be in a very important field," says Janas.

Upon receiving his MD from Creighton University Medical School, Janas completed a combined internal medicine/pediatrics residency at Bay State Medical Center in Springfield, Mass., then joined a family practice in Bar Harbor, Maine. After nearly four years on the island, he moved to the Dartmouth-Hitchcock clinic in Concord, N.H., where, in addition to seeing patients, he served as assistant director for managed care, focusing on improving the efficiency and quality of care.

During those years in New Hampshire, some of his father's forebodings were realized. "The demands of the insurance companies and the government were hitting physicians with hours and hours of paperwork," Janas recalls. "Paperwork can become overwhelming and it cuts into the time you spend with patients."

Janas made a fateful decision. He left Dartmouth-Hitchcock to build a private practice, one with an electronic medical records (EMR) system. "We had an advantage because we were small and starting from scratch," he says. "We decided to do things differently and we became the first private practice in New Hampshire to implement EMR."

Using such a system yielded benefits right away. It saved

Patrick O'Connor

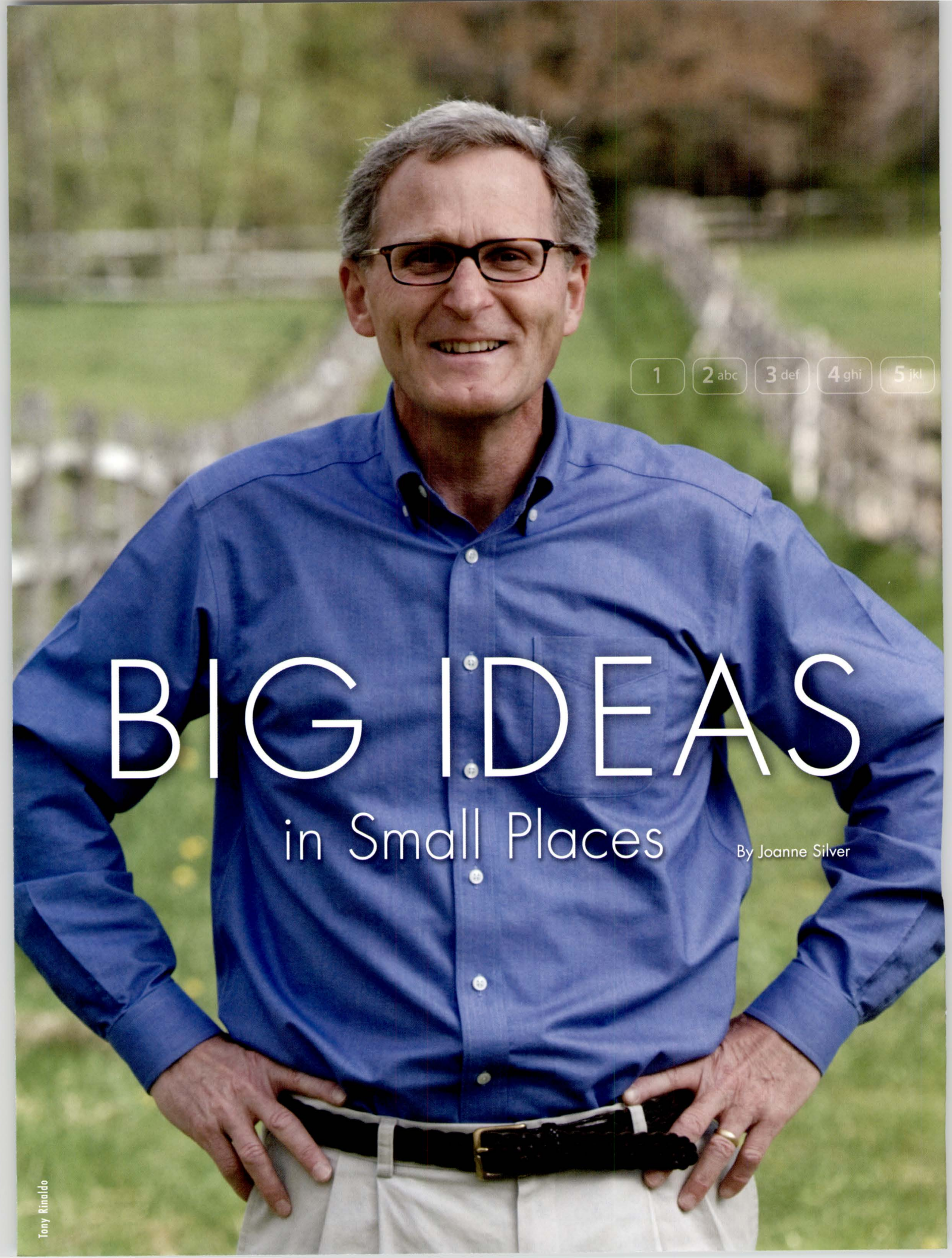
"The electronic medical records (EMR) system not only made us more efficient, it improved patient satisfaction."

—John Janas

physician, nurse, and staff time by having patient records always available. No more chasing down charts. Janas could communicate with patients by secure email, instead of returning phone calls from messages that piled up all day, or all weekend. The system handled reminders for visits and prescription renewals, cutting down on incoming phone calls. "It not only made us more efficient," he says, "it improved patient satisfaction." As helpful as the early EMR was, Janas saw a gap and an opportunity that ultimately led to his patented software. Until then, the growing amount of evidence-based clinical information on best treatment practices was available only by reading reams of medical literature. "And the reality is, not every physician can take the time to read all the literature," Janas says.

So he began tinkering with computer code and developed applications for his EMR system that aggregated medical information from respected sources, and then brought that data into a patient's record, as appropriate. When he saw a patient with high cholesterol, for example, the latest peer-reviewed guidelines for treating high cholesterol would pop up on the screen alongside that patient's medical history and recent lab results.

With a colleague, he founded Clinical Content Consultants, which continues to develop new software tools to make the doctor-patient encounter more effective. He also consults with hospitals and physicians groups to help them effectively implement the GE system and to use the technology to drive better quality of care. "The software is important, but if they put only existing processes on the screen, it will fail," Janas says. "What's more important is training physicians and adapting their processes to use the technology." ■



BIG IDEAS in Small Places

By Joanne Silver

Tony Rinaldo

Jeffrey Tingle has glimpsed the future in the keypad of a cell phone. After years of developing software for medical applications, he has turned to an idea both bigger and smaller than any he has explored before: using mobile technology as an instrument to deliver healthcare. He has figured out ways to use the most basic phones to ask questions and generate answers about symptoms, dosing, and other issues, to offer medical assistance to those who otherwise might have to do without it or obtain it only at a sacrifice to their families—and livelihood.

Last summer, Tingle—a chemistry major from WPI's Class of '77, who also has an MS in geological sciences from Brown University—took a detour from the corporate path and volunteered on a project that placed cell phones in the hands of community health workers in rural Chiapas, Mexico. Now, he is considering not only how to expand this idea among the world's most underserved populations, but also ways in which mobile phones can facilitate healthcare delivery here in the United States.

On a spring afternoon at his home in Harvard, Mass., Tingle describes himself as "very focused, very driven" in his dot-com days. Medical enterprises ranging from drug discovery to risk management benefited from his know-how and, in turn, he became highly informed about the intersecting fields of medicine and technology. A skilled climber and "fanatical" cross-country skier, Tingle exudes vigor, even while sitting on a wicker chair with a laptop nearby. He traces his enthusiasm for physical challenges to WPI, where he got hooked on the outdoors first at a winter session at Baxter State Park in Maine, and then as an avid member of the outing club. Thinking back on the allure of climbing, he asks, "Was it for the thrill or for the problem solving and management of risk?" He has concluded that it was the latter, and he believes these forces remain powerful motivations in his current, more alternative, exploits.

He calls up an image of a cell phone on his computer, with the word MicroEmulator in place of the brand name. In the cell's window, three headings appear, in Spanish or English, depending on the user's selection: pediatric dosing, adult epilepsy, and diarrhea in children. The emulator can furnish a sequence of questions and the corresponding answers for these problems and others confronted by a community worker administering healthcare in a remote location, far from a clinic or hospital.

This two-dimensional picture represents Tingle's efforts as a volunteer for the initiative in Chiapas, supported by Partners in Health, a Boston-based nonprofit dedicated to providing medical care and social justice to some of the world's destitute people. For this project, Tingle worked on software to be installed in the phones distributed to community care workers chosen to serve their villages. One worker per village received a phone, so that in this very poor and remote region, perhaps 5,000 people in a dozen villages could be aided by the software Tingle devised.

"I was updating clinical protocols, recoding the logical stream," he explains. "They needed a way to help community health workers provide medication to children. They have a toolkit that contains about 10 different drugs. I worked with clinicians to build an application around the dosing protocols. Before, it was ad hoc. If they had a big kid, they might give him ¾ of an adult dose. There is a diagnostic component as well. If the fever is this high and there is diarrhea, what is it? We're not trying to treat more insidious diseases. The program is trying to take care of 80 percent of the people 80 percent of the time."

But that improvement can significantly affect both the physical and the economic health of patients. "These are isolated villages," Tingle says. "If a woman in harvest season has a sick child and has to walk two days to a clinic, that is an enormous economic hit." If that woman, in turn, can be home picking crops with a child on the mend, the help extends to multiple individuals.

Tingle is an astute observer of high-tech trends. "If you're going to survive in technology," he says, "you're going to have to reinvent yourself every three to five years." And so he was primed to think of mobile devices as the next wave, especially after a case of undiagnosed low sodium sent his elderly mother on a circuitous journey through the U.S. healthcare system, while she experienced dementia, falls, mixed-up medication, and an assortment of other problems.

"It took some smart doctors a long time to figure out what was wrong," he says. "Could we have shortened the cycle and made it less disruptive?" Tingle's mother does not live in a remote Mexican village. She lives in Rhode Island with her husband. Tingle and his three younger brothers are all within an easy day's drive. Nevertheless, the crisis got Tingle thinking about the potential for mobile technology as a healthcare tool even in a country where doctors are plentiful.

Tingle is certain that, just as a phone assisted in delivering better support to isolated villagers, a similar system could prove valuable in coordinating care for seniors. He imagines being able to combine a host of options within a single device. Along with a list of medications, there could be a way of checking that these were being taken, as well as guidelines regarding missed doses. A Twitter-style status update could simultaneously inform all family members about appointments and allow someone to sign up to accompany the patient to the next one.

The software hasn't been created yet, but Tingle is already reaching out to possible partners in this venture. At "meet-ups" in Cambridge's Kendall Square, he and others consider what the product would be, how to bring it into existence, and then market it. "With any software development, people build upon the generations before," Tingle says. In his hands, that process is continuing. ■

Finding *Comfort*

By Joan Killough-Miller

"Everyone knows they're going to die, but nobody believes it. If we did, we would do things differently."

—Morrie Schwartz, in *Tuesdays with Morrie*, by Mitch Albom

John Gregory '53 practiced cardiology and was a clinical professor at Columbia University until 1999, when he became director of the Palliative Care Program at Atlantic Healthcare's Overlook Hospital in Summit, N.J. In 2006 he was appointed administrative medical director of Atlantic Hospice. His son John is a pediatric oncologist in the Atlantic hospital system and has been a driving force in establishing family-centered care for critically ill children. His wife, Alice, is a nurse, and two more of his five children are also in the medical field.

Ironically, he shares a name with another John Gregory, the 18th century Scottish physician-philosopher considered to be the first medical ethicist, who wrote that being frank with seriously ill patients was a "painful office" and one of the "most disagreeable duties" of the physician. Gregory has found that duty very meaningful.

In 2008 he was honored by the Karen Ann Quinlan Memorial Foundation for his vision and his dedication to bettering end-of-life care.

What is palliative care?

Sometimes called comfort care, palliative care is a specialty that offers seriously ill patients treatment for their symptoms. Our team approach deals not only with the physical problems, but with spiritual, psychological, and social issues. We also help families deal with issues their loved ones face. Palliative care is for patients who are not necessarily at the end of life, but need help managing their symptoms.

It grew out of the hospice philosophy and program that evolved in England in the late 1960s and spread to the United States in the mid-1970s. The goal is similar to hospice, but it is not dependent on prognosis and can be provided at the same time as curative treatment.

How did you evolve into your current role?

I have been involved with the Bioethics Committee of Overlook Hospital from the start, and have served as chair for some time. When the committee first evolved, we spent a lot of time learning about death and dying. Our bioethics consultations frequently involved decision making about goals of care at the end of life. We were trying to get at what a patient whose prognosis was not very good would want in that situation. That gradually evolved into Overlook Hospital's palliative care practice.

What happens in a palliative care consultation?

Members of our team meet with the patients and their families, and sometimes a chaplain or social worker. We talk with the physicians who are caring for the patients and get their viewpoints, so we can explain what the professional caregivers are thinking. There are often several different specialty physicians involved in the care of the patient, and the communications can be confusing to families. We give them a chance to ask questions and have them answered. We make sure they have all the information they need to make decisions, and we try to guide them along the appropriate pathway, to work out goals that are appropriate for that patient.

What's the family response?

In general, they're very grateful for our help and input. Many times the family has not had these kinds of conversations. Even if they have, these are still difficult decisions for family members. It's not an easy topic for people to talk with their children about, or children to talk with their parents about.

What can be done to make the process easier?

Advance directives, living wills, healthcare proxies, and so forth, are the ways we encourage families and patients to have a plan in the event that they become seriously ill. The Patient Self-Determination Act passed in 1990 states that hospitals must ask patients if they have an advance directive and offer them the opportunity to develop one, if they wish.

We developed a video called "Anna's Story." It involves an elderly patient who is brought into the emergency room with trouble breathing. She winds up in intensive care on a ventilator, and a lot of things happen that, in retrospect, she wouldn't have wanted. We use this as a teaching tool to facilitate discussion in our lectures at the hospital, and in presentations to local groups.

Are there consequences of not planning ahead?

Patients can sometimes receive excessive treatment when the prognosis may indicate that the chance of survival is not very good, where the burdens of the kind of high-tech care that now exist might outweigh the benefits. There's a lot of suffering that goes on when patients become unable to express what they would really want. Younger people tend not to worry about those things; yet an accident could cause them to become comatose or otherwise unable to speak for themselves. Ideally, all patients would have had a conversation with someone who can speak for them, so that they don't lose the right to choose their medical care. The best time to do that is in a physician's office, when an individual is not critically ill.

What changes have you seen in this field?

Mainly, that it's become a specialty. There are fellowships, residencies, conferences, and professional associations. They are now teaching end-of-life care in nursing schools and medical schools. All of that has evolved over the last 10 years or so. There's also been a huge educational effort to make the public aware that such services are available. But there's still a lot of education that needs to be done.

Some misinformation came about during the national discussion on health reform that was very distressing for caregivers in the palliative care movement. Our goal is to determine patients' wishes and do what *they* want. This was totally misrepresented. In the United States, euthanasia is not accepted at all. Only a few states allow physician-assisted suicide, which involves writing prescriptions that could be taken by patients who choose to end their own lives. Many people in the field feel that if you offer good palliative care, there shouldn't be a need for physician-assisted suicide, or that the desire for it would be relatively rare.

What other issues need to be addressed?

Hospice provides a beautiful caring for patients, and a lot of people who are near the end of life miss out on it because they aren't referred early enough. Hospice is a benefit that is supposed to be given when patients have a prognosis of less than six months, but 35 percent of patients referred to hospice die within seven days of being placed there. Enrolling in hospice often is looked on as giving up, and no one wants to give up. But it's a time when patients can be relieved of a lot of the burdens they suffer near the end. If they're only getting that for three or four days, they miss a lot of the benefits, which are really wonderful for patients and families. ■

Stay connected. Material for Class Notes comes from newspaper and magazine clippings, press releases, and information supplied by alumni. Production schedules vary; please allow up to 6 months for your note to appear in print. We welcome your news by Web: **wpi.edu/+Transformations** Email: **alumni-editor@wpi.edu** Fax: **508-831-5820** Mail: **Alumni Editor, Transformations, WPI, 100 Institute Road, Worcester, MA 01609-2280**.

1940s

WPI mourns the passing of Janet Forkey, wife of **Ray Forkey '40**, on Oct. 19, 2009. Together, they have been staunch supporters of WPI.

Burton Hinman '45 is president and owner of Change Systems Inc. He lives in Barrington, Ill., and has three children, five grandchildren, and six great-grandchildren scattered throughout the country.

1950s

Milton Meckler '54 and his wife, Marlys, traveled to Delhi, India, to join in a four-day wedding celebration for a client's son, which, he writes, "put the movie *Monsoon Wedding* to shame." In 2009 he presented a paper on evaluation decisions related to climate change at the ASME International Mechanical Engineering Congress and co-authored a paper on IT metrics. His recent book is listed in Bookshelf, page 40.

Dick Emery '56 snowmobiled 4,000 miles from Michigan to Alaska this winter, enduring sub-zero weather and frostbitten cheeks to raise money for diabetes research. At the end of the 20-day expedition with MichCanSka 2010, his group had generated more than $70,000 in donations and was hoping to exceed $100,000 by the final tally. For more photos and a full account of the expedition, visit michcanskag2.wordpress.com.

Cliff Wiersma '58 joined RE/MAX Realty Group in Fort Myers, Fla., as a broker in the commercial division.

Bernard Lally '59 received the prestigious Paul Harris Fellowship Recognition for Distinguished Community Service, named for the founder of the Rotary Club. He was honored for his longtime service to the town of West Springfield, Mass.

1960s

Richard Brewster '60 embarked on six weeks of volunteer service aboard Mercy Ships' newest vessel, *Africa Mercy*, this winter. "That's me," he says, "lying down on the job!" He and his wife, Susan, have participated in 10 previous missions with the floating hospital program.

Chuck Burdick '62 won election to the Town Council of Duck, N.C., the youngest town in Dare County, incorporated in 2002. He has served as Duck postmaster and is the former vice president of operations for Sudamtex de Venezuela.

Bruce Maccabee '64 received the 2009 annual Award for Excellence in UFOlogy from MUFON (the international Mutual UFO Network). An expert in the field of photo analysis, he has been active in UFO research for over 35 years.

Pete McCormick '65 retired from IBM after 41+ years.

Phil Hopkinson '66 continues as president of HVOLT, his power transformer consulting business. He has been active in the movement for national policy for energy independence.

Allen Ikalainen '67 was promoted to vice president at MACTEC. Based in Wakefield, Mass., he manages three of the company's New England offices.

Arnie Miller '67 received a Governor's Citation from the Commonwealth and the 2008 Mack I. Davis II Award from the Harvard Graduate School of Education for his work in Boston-area schools. In addition to tutoring math students, Arnie developed a Math & Magic club for the Brockton Boys and Girls Club as a fun way to develop problem solving skills.

Jon Titus '67 continues to blog on electronics design news for EDN.com.

Gene Dionne '65 (left) reached the East Coast after a 50-day cross-country bicycle ride with John Robinson, his best friend from his Air Force days. Their tour was named HOPE Across America to draw attention (and contributions) to the work of Operation HOPE, an organization that provides economic tools and services to combat poverty in Los Angeles. See their blog at hopeacrossamerica.blogspot.com.

More than 200 alumni and guests returned to WPI for Reunion 2010, June 3–6. You may view and purchase photos and watch videos from the weekend at alumni.wpi.edu/reunion.

2010 Awards

Goddard Award

Bob Whyte '60
Peter Rado '70
Mark O'Neil '80

Taylor Award

Philip Wild '50
John Wilson '65
Paula Fragassi Delaney '75
John FitzPatrick '75
Ginny Giordano FitzPatrick '75
Judy Nitsch '75

Grogan Award

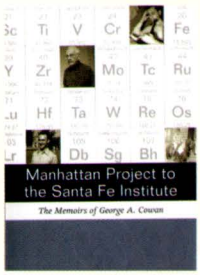
Yi Hu (Ed) Ma

Humanitarian Award

Sang Ki Lee '60

Bookshelf

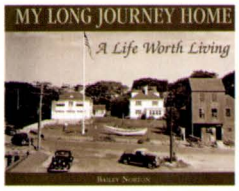
Recent and new publications by WPI alumni, faculty, staff



Manhattan Project to the Santa Fe Institute: The Memoirs of George A. Cowan

by George Cowan '41 *University of New Mexico Press*

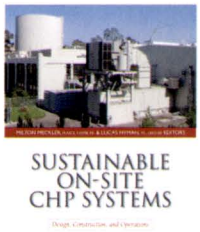
Cowan's distinguished career in nuclear physics included 39 years at Los Alamos National Laboratory, and serving on the White House council of science advisers in the 1980s. He offers an eyewitness account of the race to develop the world's first atomic bomb, filled with colorful anecdotes about famous scientists and politicians. His opening chapters describe growing up in Worcester and studying at WPI. It was his physics professor—the notorious Morton Masius—who noted Cowan's excitement about the discovery of nuclear fission and helped him get his first job with the cyclotron research group at Princeton, which drew him into the government's Manhattan Project program.



My Long Journey Home: A Life Worth Living

by Bailey Norton '43 *Available through Edgartown Books*

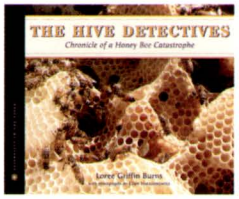
Urged by his son to record some family stories, Bailey Norton produced and published a 150-page history of Edgartown, Mass., illustrated with vintage photographs of his seafaring ancestors. This beautiful coffee table book traces his family tree back 10 generation to the early settlers of Martha's Vineyard. Included in Norton's own life history is a chapter called "From WPI to WWII." He received a Lifetime Achievement Award from the Edgartown Library Foundation in 2009.



Sustainable On-Site CHP Systems: Design, Construction, and Operations

by Milton Meckler '54 and Lucas Hyman, eds. *McGraw-Hill*

This practical guide provides detailed information on CHP (combined heat and power) systems that substantially increase the energy efficiency of commercial, industrial, institutional, and residential buildings. In-depth case studies illustrate real-world applications. Meckler is president of Design Build Systems (DBS) and one of four Global Award Finalists for McGraw-Hill's Platts Energy Lifetime Achievement Award.



The Hive Detectives

by Loree Griffin Burns '91 *Houghton Mifflin (Junior Library Guild Selection)*

Burns's second book in the "Scientists in the Field" series probes the mystery of colony collapse disorder, or CCD, which is decimating the world's honey bee populations. To get "hands-on" with her subject, Burns visited bee wranglers and researchers throughout the country, learned to smoke hives from the president of the Worcester County Beekeeper Association, and even earned two certificates from beekeeping schools. She discloses that she was stung five times in the making of the book.

1970s

Fred Aspinwall '70 is retired from Norton Co. after 35 years of service. A trustee emeritus of the Mohegan Council of Boy Scouts of America, he was honored for his years of service at a recent banquet hosted by Troop 109 of Millbury, Mass.

Lothar Kleiner '70 is working on polymer-coated resorbable stents that remove blockages in coronary arteries through the use of controlled-release drugs. "These devices have provided positive results in human clinical trials," he writes.

Charles Pickett '70 retired in 2009, after 37 years with Knolls Atomic Power Laboratory. For the last five years he headed up chemical, hazardous, radioactive, and mixed waste management and disposal at the company's Kesselring site in upstate New York. "Retirement allows me to devote more time to my small gunsmith business," he writes.

Bob Allard '71 writes, "I retired as Worcester's city assessor after 15 years of service. Previously, I worked in the nationwide real estate arena, primarily as a retail site selection specialist. Judy and I have relocated to Redlands, Calif., the 'jewel' of the Inland Empire, where we are enjoying the more favorable climate and the proximity to many of Judy's relatives."

John Boursy '71 recently retired after more than 20 years at International Telecommunication Union in Geneva, Switzerland. He and his wife live in France.

Paul Cleary '71, a U.S. magistrate judge since 2002, received the Golden Rule Award from the County Bar Association of Tulsa, Okla. The award is given to lawyers who exemplify high standards of professionalism and civility in their legal practice.

Jim Kaufman '71 (PhD) is president and CEO of Laboratory Safety Institute in Natick, Mass. The nonprofit has trained more than 60,000 scientists and science educators since it was established in 1977.

Jazz educator and bassist **Bob Sinicrope '71** is a featured musician on the New England Jazz History Database. He came to campus recently to jam with students and record some interviews.

SEE PAGE 49

James Tarpey '72 was promoted to chairman of the Northeast Gas Association.

Roger Lavallee '73 was elected to the board of directors of BALTNET, a nonprofit organization that promotes collaboration between the Baltic States (Lithuania, Latvia,

and Estonia) and the Southern New England states. BALNET's main objectives are to facilitate trade and investment, and to provide a forum for networking and information exchange between the U.S. and Baltic countries' business and academic communities. Roger continues to serve as a director of both BEACON and The BEACON Foundation in Hartford, Conn.

Steve Dacri '74 unveiled Xtreme Close-up Magic in Worcester, with shows at La Scala Restaurant and The Fifth Amendment. He also performed at the Boston Harbor Hotel and the Comedy Studio's Mystery Lounge in Cambridge. His December 2009 Massachusetts tour concluded with a lecture for the Society of American Magicians in Springfield.

Mark Mahoney '74 is president of the medical staff at St. Luke's Hospital in New Bedford, Mass., and serves on the board of Southcoast Hospitals Group.

Stephen Page '74 was recognized as a 2009 Florida Super Lawyer by *Super Lawyers* magazine. He is a founding member of Page, Mrachek, Fitzgerald & Rose. His trial law practice focuses primarily on complex business and commercial litigation.

Art Aiken '75 is an adjunct instructor of mathematics at Ocean County College, where he also teaches chess in the Continuing Education department. He resides in Beachwood, N.J., with his brother, Doug.

Exxon Mobil Corp. vice president **Mike Dolan '75** delivered WPI's inaugural "Sustaining our World: Energy for the Future" lecture in September. His talk, "The Outlook for Energy: A View to 2030," described integrated solutions to meet the world's growing energy demand

Rich Allen '76 of Canton, Mass., was appointed COO at Boston-based Stantec.

John Germaine '76 received the Award of Merit from ASTM International Committee D18 on Soil and Rock. He is a senior research associate at MIT, where he focuses on geotechnical and geoenvironmental engineering.

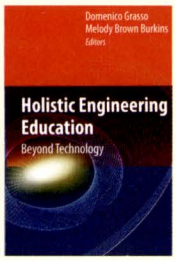
Jeremy Jones '76, '78 (MS) was appointed to Naturally Advanced Technologies' board of directors.

Bill Cunningham '77 is director of the Northern Kentucky University Entrepreneurship Institute. He teaches courses in new venture creation, finance, and marketing.

Eric Hertz '77, who spent a month cycling around New Zealand in the '80s, is now posted there as the new CEO of 2degrees, a mobile telecommunications company.

Bookshelf (continued)

New book features chapter by WPI President Dennis Berkey and the work of several WPI alumni



Holistic Engineering Education: Beyond Technology
edited by Domenico Grasso '77 and Melody Brown Burkins *Springer*

Holistic Engineering Education presents a blueprint for restructuring engineering education to address the complex challenges of the 21st century. In an invited chapter called **International Education and Holistic Thinking for Engineers**, WPI President Dennis Berkey presents the WPI Plan and WPI's Global Perspective Program as effective models for learning in an increasingly interconnected world. Co-editor Grasso, who is vice president for research and dean of the Graduate College at the University of Vermont, has written several chapters that demonstrate the need for a holistic approach to educating engineers. Other WPI contributors include Alfred Grasso '93 (MS CS), president and CEO of MITRE Corporation, and Gary Wnek '77, faculty director and Joseph F. Toot Jr. Professor of Engineering at the Institute for Management and Engineering at Case Western Reserve University. More information is available at wpi.edu/news/perspectives/101191.htm.

Also noted:

Military Textiles
Gene Wilusz '66, ed. *Woodhead Publishing in Textiles*

TI-Nspire for Dummies
by Steve Ouellette '88 *Wiley Publishing*

Analyzing and Interpreting Continuous Data Using JMP: A Step-by-Step Guide
by Brenda Ramirez '93 *SAS Press*

Achieving Interoperability in Critical IT and Communication Systems
by Bob Desourdis '77 ('79 MSEE), Peter J. Rosamilia, Christopher Jacobson, eds.

The Secret of Intentional Wealth
by Margaret Lynch '83 *NewEnglandSuccessCoaching.com*

Paul Angelico '78 is chief transformation officer at Quincy Medical Center, hired to implement cost savings and revenue-enhancing measures based on the management model that worked for him when he owned Twin River Technologies. He lives in Dover, Mass., with his wife and two sons.

John Moulton '78 has a new position as group VP and general manager, China, for Johnson Controls Inc. in Shanghai.

Shane Chalke '79 is president of Mortgage Harmony in Tysons Corner, Va.

Col. **Peter Kujawski '79** received the U.S. Department of Defense Legion of Merit Medal for exceptionally meritorious service during his 30-year Army career. Recently retired from the U.S. Army Reserve, he holds the post of vice president of international sales at SIG SAUER in Exeter, N.H.

Jim Miller '79, chair of ocean engineering at the University of Rhode Island, was elected to a three-year term on the Acoustical Society of America's executive council.

1980s

Ali Kabas '80 shows his paragliding videos from Istanbul at vimeo.com.

Scott Wade '80 was appointed business manager for the industrial segment of C&M Corp., based in Wauregan, Conn.

ALDEN
SOCIETY

Building a Legacy of Giving

Jennifer Wyse '94 is a woman on the go. Busy juggling the demands of family and career, Jennifer credits her success at GE (most recently in the aviation unit), to WPI's project-based curriculum, emphasis on working in teams, and the ability to be in leadership positions in extracurricular activities. A consistent volunteer and supporter of the Annual Fund, Jennifer—and her husband Donald '92—are in the process of drafting their estate plan. "Now that we have Aiden and Amelia we have to think ahead, and remembering WPI in our will just seemed like a natural thing to do," Jennifer says.

In these complex times, we understand that making the most of your philanthropy means thinking ahead. We know, too, that the best planned gifts are simple, straightforward, and designed to benefit WPI and you, our dedicated supporters.

Bequests:
Simple, meaningful, personal

Gift annuities:
A retirement resource

Beneficiary designations of IRAs and life insurance:
An easy, tax efficient, and often overlooked planning opportunity

Act today. We can help you make an important difference in 2010!

Simply contact us by phone or email.

For a confidential consultation, contact Audrey Klein-Leach, executive director of planned giving, at **508-831-5076** or **akleinleach@wpi.edu**.

Michael Gagnon '81 is technical architect for the Michigan Health Information Network.

SEE PAGE 31

Paul Guth '81 was appointed president and CEO at Artromick.

William Kiczuk '81 was appointed CTO and vice president in the Engineering, Technology and Mission Assurance organization at Raytheon.

Michael MacAllister was named a senior associate at Gannett Fleming, a construction management firm based in Pittsburgh.

Bill Waller '81 (MS PH) organized "Settling the Moon and Mars—Insights from Personal Experiences of Living in Antarctica," a panel discussion that brought together veterans of U.S. and Soviet missions in Antarctica to explore how the lessons learned in arctic climates would apply to long-term survival in space. A former professor at the University of Washington and Tufts University, he served as a scientist at NASA's Goddard Space Flight Center and helped established the Cape Ann Science Alliance, a co-sponsor of the event.

Robert Mitchell '82 is an actuary and vice president at Unum Provident Life Insurance. He lives in Scarborough, Maine.

Gordon Swanson '82 serves as general manager at Fenwal Controls in Ashland, Mass., and is a contributor to *Appliance Magazine*.

Ron Thompson '82 was appointed managing director, global head of ABS strategy for Knight Libertas UK, based in the company's London office.

Jay Cameron '83 is a senior consulting engineer at HSB Global Standards. He has been active on the school committee in Agawam, Mass., in support of better education in the STEM disciplines.

Don Montgomery '83 launched WinGreen Marketing Systems in Boston, providing clean tech companies with online marketing and lead-generation services.

Jennifer (Toomey) Reily '83 writes from Colorado, "Remarried last year, inheriting two teenagers in the process, and changed my name from Cavanaugh to Reily. Still got the luck of the Irish!"

Daniel Statile '83 was promoted to general manager of refining operations at NuStar's Paulsboro, Ga., refinery.

Jim Welch '83 joined Marathon Technologies in Littleton, Mass., as president and chief executive officer.

Gary Wong '83 is director of applications engineering at Wright Line in Worcester.

Joel Bernstein '84 brings joy to candy lovers all over the globe through CandyXpress.com, part of the Morristown, N.J., candy business that has been in the family for three generations. Read his blog at bwcliffordcandynews.com.

Michael Briere '84 holds the post of executive scientific consultant at ACOO Enterprises, under contract to International Rectifier Corp.

Jack Henderson '84 joined the Portland, Ore., office of Carollo Engineers as director of the firm's Northwest Water Practice.

CAREER CORNER

By Connie Horwitz, Associate Director, Career Development Center

When the Shoe Doesn't Fit: Ouch!

I received a call from an alumnus recently. He graduated WPI within the last 10 years. He said, "Connie, I hate what I am doing. I hate engineering. I am miserable. I want out." He was bored, burned out, down on himself, and gritting his teeth just making it through the day. The shoe no longer seemed to fit; it hurt badly. And he's not even 30.

He is probably not the only one among us who is coping with the unexpected discovery that what you thought you would love professionally is, in fact, the complete opposite. While this may end up being the best epiphany he has ever had, the question is, how long do you continue in a job, in a field, you no longer like? What are the consequences of wearing shoes that don't fit properly anymore? Where, indeed, will that realization take you?

If you are no longer satisfied with the work you do, looking critically at the impact it has on your life and those around you is an excellent health check. Have you ever witnessed the change in someone you know who has switched from something they hated to something they love doing? The rippling effect of being happy, motivated, and passionate can be enormous in the circle of their lives.

So, how can we make a change? It begins with the most fundamental health check: identifying what you are doing when you are truly happy. What situations draw out your greatest strengths? What are you doing when you know that you are in your element? What were those situations in the past?

When the alumnus called, we explored all aspects of what really led him to despise his current situation. A pivotal issue was whether or not it was this particular position or if it was the engineering field in general. And we explored what he loves to do. We usually don't resolve everything in just one talk, but by the end of our first discussion, he was clearly calmer, more positive, and more hopeful about making a healthy change in his career path—possibly within engineering!

We are always available at the CDC to help alumni make healthy career decisions. So, if the shoe no longer fits, please get in touch. For an in-person or phone appointment, call 508-831-5260.

Contact Connie at **cdcalumni@wpi.edu**

Dennis Leonard '84 was part of the WPI Venture Forum "Innovate to Survive and Thrive" panel in February. He is vice president of operations at IPG Photonics.

The WPI Alumni Association is pleased to announce the recipient of the first Alumni Association Distinguished Service Award

Bill Trask

will be recognized for his lifetime contributions to the WPI community at large, reflecting friendship, support, and overall responsiveness to the needs and interests of students, parents, alumni, faculty, and staff over the years.

A reception will be held at Homecoming on October 2 to honor Bill, who has been and continues to be a friend and mentor to the WPI family. A portion of the event admission fee will benefit the WPI Alumni Association scholarship fund for undergraduates.

Registration details and ways to become involved will be available in the coming months.

Please save the date!

Pete Manca '84 is a contributor to *Virtual Strategy Magazine*. He works for Egenera.

David Mongilio '84 was appointed technical manager of Cytec Industries' Wallingford, Conn., facility.

Jackson Nickerson '84 is Frahm Family Professor of Organization and Strategy at Washington University's Olin Business School in St. Louis. He was recently elected to CleanTech Inc.'s board of directors.

Richard DesJardins '85 was promoted to vice president at General Physics Corp. in Amherst, N.Y.

Dave Doherty '85 is vice president of semiconductor products at Digi-Key Corp. in Thief River Falls, Minn.

Jerry (Yue-Sheng) Lin '85 (MS; '88 PhD) is a chemical engineering professor and department chair at Arizona State University's Ira A. Fulton School of Engineering. He recently received the American Institute of Chemical Engineering Award for Excellence in Industrial Gas Technology.

Wayne Lipson '85, MD, joined the staff of St. Mary's Cardiovascular & Thoracic Surgeons in Huntington, W. Va.

Dennis Donovan '86 writes, "I've been officiating college football for 10 years at the Division II and III levels. I recently got promoted to officiate at the Division I-AA level in the Ivy League, the Patriot League, and the Colonial Athletic Association."

Brenda Hart-Flynn '86 earned LEED AP certification. She is an estimator for Delta Design & Construction in Medford, Mass.

Courtesy Worcester Business Journal

Gov. Deval Patrick (left) toured Lightlab Imaging Inc. with president and CEO **David Kolstad '86**. In a speech to employees, Patrick praised the company's role in rebuilding the economy through "innovation, good ideas, and the technology of tomorrow." Lightlab, based in Westford, Mass., received a $188,000 award from the Massachusetts Life Sciences Initiative to create new jobs in the state's life sciences sector.

Kathy Loftus '86 works for Whole Foods Market as global leader for sustainable engineering, maintenance, and energy management.

Craig Malone '86 (MS PH) is senior vice president, product development, for SkyBitz.

Kevin Collins '87 was elected to partnership at Covington & Burling LLP, where he practices intellectual property law in the firm's Washington, D.C., office.

James Madigan '87, treasurer and vice president of the F. W. Madigan Co. in Worcester, was elected chairman of the Better Business Bureau of Central New England. He joined the board in 2006, succeeding his father, **Francis "Bud" Madigan '53**.

Eric Pauer '88 works at ITT Corporation, Nashua, N.H., as a senior principal systems engineer. He is also a lieutenant colonel in the Massachusetts Air National Guard, serving as the director of logistics–air at its Joint Force Headquarters

Homecoming 2010

CONSTRUCTING OUR FUTURE

OCTOBER 1–2

Mark your calendars now! All alumni are welcome to attend Homecoming 2010.

Reunion activities are planned for these classes: 1985, 1990, 1995, 2000, 2005, and 2010

OCT 1–2

Friday, October 1

> Hall of Fame Inductions: Ernie Ansah '96, Dave Helming '64, William Komm '75, Russell Philpot '83, Jennifer Plante '96, Rachel Zimet Pytel '02

Saturday, October 2

> Alumni Association Awards Ceremony: Edward Cheung '85, Paul Chodak III '85, Leo Gestetner '95, Jiong Ma '90, Karen Tegan Padir '90

> Conversation with President Berkey

> Activities for all ages on the Quad

> Homecoming Parade of Floats

> WPI Football vs. Hobart College

CHECK YOUR MAIL SOON FOR COMPLETE HOMECOMING 2010 REGISTRATION INFORMATION.

Questions? Please call the WPI Alumni Relations Office at **508-831-5600** or log on to **alumni.wpi.edu/reunion**.

From the Alumni Association President...

I am excited to provide you with an update from the Office of Alumni Relations and the Alumni Association. We are launching many great initiatives, and I hope that you are taking advantage of these opportunities.

Connecting with Fellow Alumni via Events in Your Area

There are now more alumni events occurring across the globe aimed at providing you with opportunities to meet fellow alumni, as well as WPI students and faculty. We currently have 20 Regional Clubs, including three outside the United States. Regardless of whether you live close to WPI or far from Worcester, attending a Regional Club event is a great way to maintain your connections with WPI. If you are interested in getting involved, please contact the Office of Alumni Relations at alumni-office@wpi.edu.

STAR Mentoring

The Office of Alumni Relations and the Career Development Center are working together to provide students with the opportunity to have an Alumni Mentor. A number of alumni have already signed up. As a mentor, you have the opportunity to not only shape the career of a future alumnus/a, but also to strengthen your connection with WPI. You can participate regardless of your proximity to campus. Please reach out to Connie Horowitz, associate director of career development services, at chorwitz@wpi.edu to become a mentor.

Travel with Fellow Alumni and Visit WPI Project Centers

The Alumni Association has partnered with one of the world's largest travel companies, Collette Vacations, to offer several vacations to exciting locations where we have project centers. The first trip will be in November 2010 and will feature travel throughout Italy, where you will spend an afternoon visiting the students and faculty of WPI's Venice Project Center. By participating in this program, you will also support a major initiative of the Alumni Association—providing scholarships to students. Ten percent of every trip booked goes to the WPI Alumni Association scholarship fund for undergraduates. You can learn more about this exciting travel package and the innovative projects being completed by students and faculty around the world, at alumniconnect.wpi.edu.

Alumni Association Update

This year the Alumni Association Board of Directors embarked on three initiatives:

- Hosting impactful meetings with agenda items that involve and engage alumni
- Increasing alumni scholarship fundraising while recognizing individuals who have impacted the lives of many alumni
- Increasing alumni engagement

I am happy to report that we have made progress on each of these objectives. In terms of increasing scholarships, I hope that you will join us on October 2, 2010 for a reception honoring Bill Trask, the first recipient of the Alumni Association Distinguished Service Award (see opposite page). A portion of the event admission fee, as well as proceeds from a silent auction, will benefit the Alumni Association Scholarship Fund. Please look for updates on all of the Alumni Association initiatives in *The Bridge* and *Transformations*.

As I close, I would like to offer a special challenge to the graduates of the 1980s. I encourage you to get involved—whether you share your expertise with/provide guidance to current students as a STAR Mentor, or attend or even volunteer to lead a Regional Club event. Feel free to reach out to me at joyce.kline@alum.wpi.edu to discuss ways to become involved. Supporting WPI is a shared responsibility.

Regards,

Joyce S. Kline '87

in Milford, Mass. He and his wife, **Diane (Brissette) '88**, have two children, Ryan and Valerie.

Herman Purutyan '88 was named CEO of Jenike & Johanson, where he has worked for 18 years, previously as senior vice president. He is the author of more than 20 publications on bulk solids storage, handling, and processing, and a frequent lecturer for AIChE.

KUDOS: Zeta Psi International recognized three alumni for outstanding leadership and service: Evan Pressman '84, Silver Circle Award; William Shaw '01, Alumni Advisor of the Year; and Anthony Richardson '09, Phi Alpha Award (presented to graduating seniors.)

Todd Wyman '89 was appointed senior vice president of global operations and integrated supply chain at Ingersoll Rand.

1990

Jonathan Bird's *Blue World* received a 2010 New England Emmy Award for the segment *Aquarist for a Day*, filmed at the New England Aquarium. His underwater adventure series for children and families airs on more than 260 public television stations.

Jiong Ma (MS EE) was promoted to partner at Braemar Energy Ventures. She joined the company in 2007 and is based in the Boston office.

David Stern (MS BME) holds the post of senior vice president, scientific affairs, at CardioMEMS Inc.

Ken Wood oversees Paladin SmartGrid operations for EDSA as business executive for the San Diego-based software developer.

1991

Navy Cmdr. **Michael Savageaux** recently took official command of the USS *Pittsburgh*. A front-page story in the *Worcester Telegram & Gazette* chronicled his distinguished military career.

Toby Wyman left the Atlanta Braves organization to become president and COO of the WNBA's Atlanta Dream. His goal is to "build a first-class organization that wins championships on the court and positively impacts the community off the court," he said in a press statement, noting his commitment to a customer base that includes many young girls who aspire to become pro athletes. Wyman was previously assistant general manager of business operations for the Gwinnett Braves.

1992

Dave Andrade's Educational Technology Guy blog has been touted in *NEA Today* magazine as a great resource for teachers. He also blogs for *Tech & Learning* magazine. Dave, a physics teacher and educational technology specialist, lives in Stratford, Conn., with his wife, Cori.

Amy Brideau-Andersen directs the new Anti-Viral Research Group at Peregrine Pharmaceuticals.

Rich Corley (MS EE) was a speaker at the 5th International Cloud Expo in New York City. He is founder, CTO, and VP of engineering for Akorri.

Andrew Hoyen was one of *Rochester Business Journal*'s "Forty Under 40" for 2009. He is director, OEM business management, for Carestream Health Inc.

KUDOS: Three alumni were among *Consulting-Specifying Engineer*'s 40 Under 40: Mike Ferreira '91, senior FPE engineer, Hughes Associates; Craig Hofmeister '92, vice president, engineering technology, Rolf Jensen & Assoc.; Nate Wittasek '95, associate, FPE engineer, Arup.

William Katzman and his wife, Anita, welcomed their son, Michael, into the world on April 13, 2009. Michael's early arrival allowed William to get a good start in his new job as program leader for LIGO Science Education Center, an NSF-funded project of Caltech and MIT.

Gregory Shapiro, a former systems administrator at WPI, is now vice president, engineering, and CTO at Sendmail. He blogs at sendmail.com.

1993

Dave Fall joined Clickable as senior vice president of product and operations.

Laurie McCabe works for ICP Solar Technologies as business development manager for monitoring and metering products. Her paper, "Jesus as Agent of Change: Transformational and Authentic Leadership in John 21," was published in the *Journal of Biblical Perspectives in Leadership*.

Kevin Strauss founded familyejournal.com to encourage family communication. By responding to daily questions in a private, password-secured environment, family members can share thoughts and re-establish connections. Kevin is president of Now or Never LCC.

Hermine Valizadeh is an attorney at Brinks Hofer Gilson & Lione, focusing on patent prosecution and litigation in computer, internet, and electrical technology.

1994

Leonard Belliveau and his wife, Stacy, welcomed their third daughter (and future WPI graduate), Brienne Zoe, on Feb. 19, 2009. Big sisters Maya, 10, and Alexandra, 2, could not wait to meet the new addition to their family. Leonard is a senior fire protection engineer and office manager of the Warwick, R.I., office of Hughes Associates, an FPE and code consulting company headquartered in Baltimore.

Cory Belden joined C. H. Fenstermaker & Assoc. as director of engineering operations in the company's Baton Rouge office.

1995

Scott Anderson ('98 MS FPE) was promoted to assistant vice president and manager, construction and natural hazards, for FM Global's engineering standards division.

Jeff Baron and his wife, Kim, are proud to announce the birth of their twins, Leah Eve and Elijah John, born Sept. 4, 2009. After a brief stay at the NICU, all are home and thriving. "Big sisters Sarah, 5, and Rachel, 3, are happy because now there's one for each of them," he writes.

Giovanni Capriglione is vice president of Pacesetter Capital Group in Richardson, Texas.

David Ricketts is assistant professor of electrical and computer engineering at Carnegie Mellon. He was recently selected to participate in the National Academy of Engineering's first Frontiers of Engineering Education Symposium.

Paul Seppanen is president of Broadwind Energy's Energy Maintenance Service, leading technical services and repair for wind energy customers across North America.

1997

Alan Belniak reports several career changes after his 10 years in the transportation field. Initially a software product manager at PTC in Needham, Mass., he's now the company's first-ever director of social media marketing. Alan married **Lee Blouin '96** in 2004. They have two daughters—Jillian, 2, and Jane, born in December 2009. Alan earned his MBA from Babson College in 2009, with a focus on technology management.

Patrick Blais married Cynthia Knipe on May 16, 2009. He is a project engineer with J. F. White Contracting in Westfield, Mass.

Neil O'Rourke married Lori Ann Lahue on Oct. 11, 2009. He works for Verivue Inc. and lives in Hudson, Mass.

1998

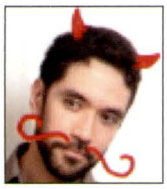
Wayne Bates (PhD) lives in Ashland, Mass., with his wife, Kathy, and three sons. He was inducted into the Ashland High School Hall of Fame for his work in combating pollution through wastewater engineering.

Lt. Cmdr. **Slade Brockett** recently completed a mobilization to Kuwait as assistant chief of operations for the Navy Expeditionary Logistics Support Group Forward. His duties included travel to Iraq and Bahrain. Now home, he has returned to his civilian employment at BP's Cherry Point Refinery in

In the Public Eye

Alan Pearlman '48, inventor of the ARP synthesizer and a pioneer in electronic music, was featured in **That's All Rite Mama**, a blog about custom records pressed by Rite Records ● **EDN** interviewed **Ken Wadland '72** on the development of OrCAD layout software ● **Dean Kamen '73** offered advice to inventors as a guest on NPR's **"Talk of The Nation"** and demonstrated his new prosthetic arm, code-named "Luke," on **The Colbert Report**. ● **Boston Magazine** listed **Alden Bianchi '74** as a 2009 Massachusetts Super Lawyer ● Lee Jeans president **Joe Dizialo '76** won **Oprah**'s approval on a show called "Oprah's Favorite New Jeans and the Best of the Rest" ● New Hampshire State Rep. **Daniel Itse '80** appeared on the **Glenn Beck** show to discuss HCR-6, a bill he filed for state sovereignty ● **Phil Guerin '82**, director of environmental systems with the Worcester DPW, was quoted in a **Worcester Magazine** cover story on reviving the Blackstone Canal ● Director of engineering **Pete Gosselin '85** explained the environmental advantages of Ben & Jerry's new hydrocarbon cooler technology in **USA Today** ● Wachusett Brewing Company founders **Ned LaFortune '90**, **Kevin Buckler '89**, and **Peter Quinn '89** celebrated their 15th anniversary in December with a benefit event that was covered by the **MetroWest Daily News** and other area and industry papers ● NBC's **Today Show** featured pianist **Sergio Salvatore '02** and vibraphonist Christos Rafalides playing the title cut from their new CD, "Dark Sand." The duo recently performed at Carnegie Hall and Boston's Steinert Hall and greeted WPI alumni at special receptions organized by Regional Chapters of the Alumni Association ● **John Baird '04** was part of a panel on Manga, Literacy, and Children at the **Otakon 2009** convention in Baltimore ● The work of **Matt Young '06** as lead engineer on Infoscitex's Green Energy Machine (GEM) waste-to-energy system was mentioned in a **Christian Science Monitor** story.

Blaine, Wash. He continues to serve as a reservist and has started a new assignment as the commanding officer of a submarine tender maintenance unit in Portland, Ore.



Ichiro Lambe, president of Dejobaan Games, returned to campus in October as part of the IMGD Speaker Series. A videocast of his presentation is posted in the 2009 archives at ***www.imgd.wpi.edu/speakers***. Dejobaan's recent game, "aaaaAAaaaAAAaaAAAAa-AAAAA!!!—A Reckless Disregard for Gravity," was a finalist for Excellence in Design at this year's Independent Games Festival in San Francisco.

John Markow, his wife, Aino, and son, Ronan, announce the birth of a new family member, Rebecca Audrey, on Feb. 3, 2010. They live in Finland, where John has been facilitating beta trials for Nokia since November 2009.

1999

Terry Desmarais joined AECOM as a project manager, focusing on wastewater engineering. He is completing his master's at WPI.

Mark Manasas (MS ME) was appointed manager of Cambridge Consultants' Surgical & Interventional Products Group.

Laura (Cooper) and **Mike Olivieri '98** announce the birth of their first child, Allison Eloise. They live in Washington, D.C.

2000

Jovanna Baptista is a biostatistical consultant in the Boston area.

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Stefano Ceriana, his wife, Jenene, and their older daughter, Sophie, are happy to announce a new addition to their family: Emily Grace, born Sept. 18, 2009.

Patrick Kaplo was one of 53 teachers honored nationally with the 2009 Milken Educator Award. Enrollment in his physics classes has almost quadrupled in the 10 years he's been teaching science at Campbell High School in Litchfield, N.H. The award includes a $25,000 prize and an expense-paid trip to Los Angeles to attend the Milken Educator forum.

Qui Luu is an applications engineer in the High Speed Converter Group of Analog Devices Inc.

2001

Matt Beaton was the first candidate to announce his run for the Republican nomination to the Massachusetts House of Representatives seat being vacated by Karyn Polito. A lifelong Shrewsbury resident, he is owner of Beaton Construction. His brother, **Brian '98**, and classmate **Jamie Contonio** are helping with the campaign.

Nick Nigro is a Solutions Fellow at the Pew Center on Global Climate Change, where he reports to the vice president for Innovative Solutions. He is responsible for research, analysis, and communication of transportation technology and policy solutions for reducing greenhouse gases.

Marie (Charpentier) and **George Oprica '00** are thrilled to announce the birth of their first child. Miles Stefan was born six weeks early, on Nov. 9, 2009. After a brief stay in the NICU he is home and depriving everyone of sleep!

Dagny Williams married Thomas Bronson on May 16, 2009. They live in Newington, Conn.

2002

David Jasinski is a Navy-certified diver for the Naval Undersea Warfare Center in Newport, R.I. He and his wife, Adeline, have two children—William, 2, and Harry, born in September 2009. They are planning a move when Dave begins his next assignment at the Washington Navy Yard.

Joseph Knuble was named lead designer for NASA's Soil Moisture Active Passive (SMAP) Mission RF Front End.

Nicholas Minka married Heather Shead on June 7, 2009. He is a software engineer at MRV Communications. They live in Worcester.

Jason Reposa's mybanktracker.com provides bank rates, reviews, and news to democratize banking.

Lauren Wojtkun '02 married Jeffrey Davis on Aug. 9, 2009. Celebrating with the couple were **Matt '01** and **Nikole (Howard) Lewis**, **Celine McGee**, **Rachel (Zimet)** and **Chad Pytel**, **Howie Rappaport**, **Sara Swiatlowski '03**, Dave Conforto, **Tara Peters**, and **Caitlin (Harvey) '03** and **Matt Borsini '01**. Lauren is the assistant director of Greek Life at MIT. They reside in Arlington with their cat, Foxxy.

2003

Michal Klos ('05 MS) spoke at WPI's User Experience Lecture Series in November 2009. He is founder and partner at 360ix Consulting Inc.

Reem Malik ('88 MS EE) is an applications engineer in Analog Devices' Integrated Amplifier Products Group in Wilmington, Mass.

Navy Lt. **Susan Mendenhall** joined fellow sailors of Patrol Squadron Ten (VP-10) "Red Lancers" on a six-month deployment to bases in Qatar, Djibouti, and Japan in support of Operation Iraqi Freedom and Enduring Freedom.

Jeffrey Paquette was promoted to Air Force captain. He serves as theatre communications plans and requirements chief with the Seventh Air Force, Osan Air Base, in South Korea.

2004

Todd DeSantis and **Lesley Anderson '06** were married Sept. 12, 2009. They live in Medford, Mass.

Air Force Capt. **Michael Iadarola** married Crissy Hermann on July 17, 2009. He serves as a space vehicle engineer at Vandenberg AFB in California.

Tighe & Bond promoted **Dave Prickett** (MS CEE) and **Matthew Romano** to associates.

Montira Satienpoch spent the 2009 field research season with the Haughton-Mars Project in the Canadian High Arctic, where the cold, dry desert environment is a lot like that on the Moon or Mars. Her team will be featured next year in the BBC's new "Frozen Planet" series.

Steven Trueman is pursuing a PhD in biochemistry at UMass Medical School. He married Jenna Boccanfuso on June 20, 2009.

2005

On Nov. 30, 2009, **Michael Carbonello** was sworn into the Massachusetts State Bar. He is already registered with the U.S. Patent and Trademark Office. (See wedding announcement under 2006.)

Joel Chery, a Merrill Lynch financial advisor, was one of *Worcester Business Journal*'s "40 Under Forty" for 2009.

Jessica Reidel married David Sarcione. The wedding party included his brothers **Mike '84** (MS EE) and **Joe '05**.

2006

Matt Harrison was promoted to CTO at Hall Web Services in Portland, Maine.

Andrew Law married Katie Wallace on June 24, 2009. He is a doctoral student in BME at the University of Rochester.

Caitlin Mc Koy and **Michael Carbonello '05** were married Sept. 12, 2009. They were joined by many alumni, including maid of honor **Kate Bernier**. The couple now resides in Somerville, Mass.

2007

Kerri Edlund married Lee Theriault on July 3, 2009.

Russell Yang Gao was profiled in *The Future Actuary*, a quarterly newsletter for actuarial candidates. He also contributed a "University Spotlight" feature highlighting the strengths of WPI's actuarial program. Russell is an actuarial associate at the Tillinghast Insurance Consulting Practice of Towers Perrin in Hartford, Conn.

Hans Erik Jensen and **Ploypan "Aom" Thongpradit '06** became engaged in July 2009.

1st Lt. **Christopher Warms** completed Air Force Pilot Training and earned his wings at Corpus Christi Naval Base on Aug. 28, 2009. He is currently stationed at Little Rock AFB, where he flies a C-130.

Amanda McCullough and **Andrew Bisol** posed on the steps of Alden Memorial after their Aug. 8, 2009, wedding. Andrew works for a structural engineering firm north of Philadelphia, and Amanda is a veterinary student at the University of Pennsylvania. They are happily living in Upper Darby, Pa.

2008

Brendan Devereaux and **Nathan Levesque** turned their internships with P. J. Keating into full-time employment. Brendan is now assistant site manager for Cranston, R.I., and Nathan is construction superintendent in the Acushnet branch.

Chuck Gammal received the Siebel Scholars Award, which recognizes outstanding graduate students with a $35,000 award. An MBA candidate and teaching assistant at MIT's Sloan School of Management, he also received the Graduate Student Council Teaching award.

Raffaele Potami (PhD) joined Cold Chain Technologies in Holliston, Mass., as a senior mechanical engineer. He was profiled in *Worcester Business Journal* recently.

Liz Stewart was accepted to attend the Lindau meeting of Nobel Laureates in Germany, with funding from the NIH. Her doctoral research at the University of Michigan focuses on the behavior of biofilms that cause infection.

Mary Kate Toomey bought a home in 2008 and now resides Worcester. She recently walked the full 26.2 miles in the Jimmy Fund Boston Marathon, raising nearly $1,000 for cancer research and treatment. She also took part in her mother's election campaign, helping Kate Toomey return to the Worcester City Council as the No. 2 vote getter (six candidates make the council). She and roommate **Liz Kinnal** serve as co-presidents of the Alpha Gamma Delta GBAC Junior Circle.

2009

Shelley Dougherty (PhD) and **Jennifer Ewalt** have joined ECI Biotech as senior scientists.

Tracy Golinveaux's feature "It's Not Easy Being Green," describing the difficulty of being both environmentally responsible and conscientious about firesafety, was published in the November/December 2009 issue of *NFPA Journal*. She is pursuing her master's in FPE at WPI.

Alex Schwartz and **Beth Beinke** released their game "Spring Fling" (springflinggame.com), available for iPhone and iPod Touch. Alex and **Yilmaz Kiymaz** gave an IMGD seminar on their 24-hour iPhone game "Ramelicious," which features ramen noodle packets as characters.

All That Jazz (History)

Bob Sinicrope '71, a mathematics major turned musician and educator, returned to campus to share his memories—and his music—with students in Professor Rich Falco's Jazz History Humanities Inquiry Seminar. The students have been interviewing prominent jazz musicians for the New England Jazz History Database (jazzhistorydatabase.com), an interactive multimedia digital archive dedicated to preserving historic recordings, original scores, audio interviews, photographs, and visual artwork by and of jazz musicians.

Sinicrope, a double bassist who has performed and offered clinics on six continents, financed his WPI education by playing with a traveling polka band. In 1974, starting with a single course and a handful of students, he launched the jazz program at Milton (Mass.) Academy, which now sends ensembles all over the world—from South Africa, to the Higashi School for autistic children in nearby Randolph, Mass., to the inauguration of Sinicrope's former student, Gov. Deval Patrick. In 2007 Bob became the first recipient of the John LaPorta Jazz Educator of the Year, and this spring received a Jazz Educator Achievement Award from *Downbeat* magazine.

△ OBITUARIES

Clayton E. Hunt Jr. '34 of Rochester, N.Y., died May 1, 2010. He was predeceased by his wife, Flora (Wheeler), in January 2010. Two daughters survive him. After a 33-year career with Eastman Kodak, Hunt retired as senior development supervising engineer with more than 20 patents.

Edward K. Gladding '36 (Sigma Phi Epsilon) of Wilmington, Del., died March 8, 2009. He was the retired head of the Research Division at DuPont, where he worked with his wife, Elinor (Hartnell), for many years. She died in 2006.

Lawrence K. Barber Sr. '37 (Theta Chi) of Waynesville, N.C., died Aug. 30, 2009. He was predeceased by his wife, Martha (Way). He is survived by a son. Barber retired as manufacturing director after 42 years with the A. C. Lawrence Leather Co.

Richard J. Lyman '37 (Lambda Chi Alpha) of Lenox, Mass., died Aug. 16, 2009. He was the retired vice president of personnel for New England Electric Systems, now National Grid. He leaves his wife, Elizabeth (Hentz), and two children.

George E. Hanff '38 (Lambda Chi Alpha) of Seattle, Wash., died Nov. 1, 2009. His wife Mildred (Stringer), died in 2008. Four children survive him. An aerospace scientist, he was retired from Boeing.

Robert W. O'Brien '38 (Sigma Alpha Epsilon) of Medford, N.J., died July 21, 2009. He leaves his wife, Gladys (Bewley), and his four children. He was predeceased by his first wife, Jule (Reidy), in 1980. O'Brien was retired from Kraft Foods as general manager, purchasing.

Albert A. Nims '39 (Phi Sigma Kappa) of Baltimore, Md., died June 12, 2009. Predeceased by his wife, Betty, he leaves two daughters. He was the retired manager of airborne radar systems for Westinghouse Electric.

H. Roger Erickson '40 died peacefully Nov. 2, 2009, at his home in Holden, Mass. He leaves his wife of 60 years, Anna (Henrikson), and a son. He was predeceased a daughter. Erickson was personnel director for U.S. Envelope Co. and later the Worcester County Institution for Savings.

John H. Peters III '40 (Skull) of Rockville, Conn., died May 21, 2009, followed by his wife, Laurel, on May 31. They are survived by two children. Peters began his career at Pratt & Whitney on the Monday after graduation and retired in 1997 as general supervisor.

Walter J. Sydor '40 of Raritan, N.J., died April 30, 2009. Predeceased by his wife, Rowena, he leaves two sons. Sydor worked for American Cyanamid for 26 years, earning two patents. In retirement he opened BRS Tax Service.

Frederick R. Waterhouse '40 of Aiken, S.C., died Dec. 27, 2008. A retired supervisor at DuPont, he leaves his wife, Pauline, and two children.

Stephen Hopkins '41 (Phi Sigma Kappa) died April 9, 2009, in Holyoke, Mass. He leaves his wife, Virginia (Conklin), and three children. He was retired from Texaco's Beacon Research Laboratory as assistant manager.

Boyd R. Abbott '42 (Sigma Alpha Epsilon) of Mountville, Pa., died April 5, 2009. He worked for Armstrong World Industries for more than 30 years and retired as general manager of research, administration, and services. Survivors include his wife, Dorothy, two children and two stepchildren.

George F. Barber '42 (MSME '50) (Phi Sigma Kappa) of Burlington, Vt., died June 2, 2009. A former instructor in WPI's mechanical engineering department, he retired from IBM as a staff engineer. Predeceased by his wife, Joan (Colton), he leaves three children.

Burton P. Franklin '42 (Alpha Epsilon Pi) of Pueblo, Colo., died Feb. 17, 2009, leaving his wife, Beverly. He worked for General Electric Co. for many years before starting his own electronics products firm.

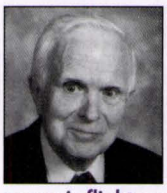
Ralph W. Piper '42 (Lambda Chi Alpha) of Sonoma, Calif., died June 3, 2008. He was predeceased by his wife, Rose-Marie. He was retired from a long career with Westinghouse Electric Corp.

John E. Rogerson '42 (MSCM '47) (Lambda Chi Alpha) of Mainville, Ohio, died May 26, 2009. He was retired from Procter & Gamble Co. as a safety engineer specialist. He leaves his wife, Catherine, and three children.

Donald E. Treadwell '42 of Shrewsbury, Mass., died Jan. 6, 2009. He leaves his wife, Marion (Peterson), and two children. He was retired from the former State Mutual Life Assurance Co.

Arthur D. Wilson '42 (Alpha Tau Omega) of Parish, N.Y., died March 24, 2009, leaving his wife, Madeline, and three children. He was retired from Motorola Inc.

Richard Whitcomb '43, Aviation Pioneer



WPI mourns the passing of Dick Whitcomb on Oct. 13, 2009. He is best known as the developer of the Area Rule, which made supersonic flight practical. His later innovations, which include the supercritical wing and winglets, have boosted speed and improved fuel efficiency of military and commercial planes, resulting in great cost savings. The wind-tunnel model Whitcomb used to develop the Area Rule is now in the Smithsonian National Air and Space Museum. • Shortly after graduating from WPI, Whitcomb took a job at Langley Research Center, run by the National Advisory Committee for Aeronautics, which became NASA in 1958, and spent his entire career there. He received numerous awards for his contributions to aviation design, including the National Medal of Science and induction in the Inventors Hall of Fame. WPI honored Whitcomb with its Presidential Medal and an honorary doctorate in engineering. A collection of his papers is housed in the Gordon Library Archives at WPI. • Read more at wpi.edu/news/perspectives/94168.htm.

George "Jerry" Cagen '43 of Boynton Beach, Fla., died Nov. 25, 2008. He leaves his wife, Elaine, and three children. His career included many patents for audio equipment used by Apollo mission astronauts, as well as the Tiny Tears and Chatty Cathy dolls made by the Ideal Toy Co.

Joseph M. Jolda '43, former dean of Worcester Junior College, died Feb. 19, 2009. He also taught at Quinsigamond Community College and Bartlett High School. Predeceased by his wife, Florence (Godzik), he leaves three sons.

Thomas A. Bombicino '44 (Sigma Alpha Epsilon) of Venice, Fla., died April 12, 2009. His wife of 62 years, Mildred, died in October. They are survived by two children. Bombicino was a chemical engineer and a specialist in the field of electrical insulation. He patented a process to fabricate mica sheets of uniform thickness using modified papermaking machinery. After 17 years with General Electric, he served as vice president of New England Mica and retired from United Technologies.

Leslie M. Davis '44 (Lambda Chi Alpha) of Tucson, Ariz., died March 2, 2009. He worked for American Cyanamid Co. in chemical sales. He is survived by his wife, Dona Leigh, and five children.

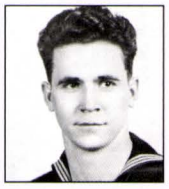
John R. Fleming '44 (Phi Kappa Theta) of Agawam, Mass., died Oct. 9, 2008. He retired from Rexnord as general foreman of production and, in retirement, made deliveries for Longmeadow Flowers. His wife, Marie Ann (Vilkas), died in 2000. Two sons and four daughters survive him.

Martin T. Pierson '44 of Newark, Del., died Feb. 23, 2009. Predeceased by his first wife, Geraldine, and a son, he leaves his wife, Joyce, and a son. A member of the WPI football team, Pierson went on to coach at the University of Delaware and Duke University. He later worked as industrial relations manager at Sperry Corp. for many years.

Stanley R. Cross '45 of Worcester died July 28, 2009. He leaves his wife, Eleanor (Steinhilber), and three daughters. He was predeceased by a son. After serving as president of the family castings business, S. Ralph Cross & Sons, he founded Mayfield Plastics with his brother Gordon.

George C. Pompeo '45 of North Grosvenordale, Conn., died May 18, 2008. He was retired as president of Hobbs Medical Inc. Survivors include his wife, Elizabeth (Hoenig), and four children. He was predeceased by a daughter.

Kenneth A. Lyons '46 (Sigma Phi Epsilon) of Randolph, Mass., died April 8, 2009, leaving his wife, Metta, and two daughters. He was retired from The Foxboro Company as a senior systems specialist. Although Lyons graduated from Northeastern University, he remained a dedicated WPI alumnus who served on his Class Board of Directors, contributed vintage photographs to the 50th Reunion Yearbook, and raised funds for a record-breaking Class Gift that made the Campus Center's Class of 1946 Lounge possible. A loyal member of Sig Ep, he worked to establish chapters at MIT and Boston University. His grandson, Tim Driscoll, is a member of the Class of 2011.



Floyd T. Miller '46 died April 30, 2009. His wife, Ora (Cote), died in 2000. Two children survive him. He retired in 1980 after a long career with GM.

Allan E. Raymond '46 (Phi Sigma Kappa) of Columbia, S.C., died July 4, 2009. A retired environmental engineer, he worked for the states of New York and South Carolina. Survivors include his wife, Priscilla, and five children.

Vincent A. Zike '47 (Sigma Alpha Epsilon) of West Hartford, Conn., died April 25, 2009. Predeceased by his wife, Elizabeth (Chaffee), he leaves three sons. He was retired from Stanley Works.

Richard A. Atwood '48 (Phi Gamma Delta) of Desert Hot Springs, Calif., died May 25, 2009. He is survived by his wife, Carol, three children, and three stepchildren. During his 30-year career with Boeing Aerospace, Atwood worked on electronics for numerous space missions.

G. Edward Desaulniers '48 (MSEE) (Phi Kappa Theta) of West Stockbridge, Mass., died May 1, 2009. He was retired from General Electric Co. as a senior reliability engineer. Predeceased by his wife, Muriel (Wells), he leaves nine children.

Wayne A. Shafer '48 of North Andover, Mass., died Oct. 18, 2008. Predeceased by his wife, Barbara (Hunt), he leaves two sons. He was retired from the Community College of Rhode Island.

Norman E. Cotnoir '49 of North Kingston, R.I., died Sept. 3, 2009. He leaves his wife, Myrtle (Bigelow), and six children. A longtime electrical engineer, he retired from Brown & Sharp in 1983.

Edward A. Glanovsky '49 of Bristol, Conn., died Feb. 16, 2009. He was predeceased by his first wife, Shirley (Degnan), and his second wife, Janice (Furbish). Four children survive him. Glanovsky was retired from a 30-year career with Pratt & Whitney.

Eli Mitchell '49 of Rolling Hills, Calif., died Dec. 5, 2009, leaving his wife, Diana (Staker), and six children. He retired from the U.S. Air Force as a lieutenant colonel in 1975 and later started Mitronics, an IT consulting firm for small businesses.

William C. Reeves '49 (Sigma Alpha Epsilon) of Charleston, S.C., died Feb. 8, 2009. He leaves his wife, Helen, and four children. He was retired from G.E. Ordnance Systems.

Donald R. Sanders '49 (Theta Chi) of Westfield, Mass., died May 4, 2009. He was the husband of the late Dorothy (Webster) Sanders, and the father of three children, who survive him. Sanders was a retired electrical engineer who worked for several firms in the Westfield area.

James O. Wenning '49 of Madison Heights, Va., died Nov. 7, 2008. He was retired from the U.S. Air Force as a captain.

David W. Danielson '50 (Alpha Tao Omega) of Aptos, Calif., died Jan. 31, 2009, leaving his wife, Janke, and a stepdaughter. He was retired from General Electric Co.

Robert S. Longworth Sr. '50 of Portland, Conn., died Feb. 25, 2008. After many years with the former American Cyanamid Co., he retired from the Hardware Division of The Stanley Works. He leaves his wife, Joan (Robinson), and three daughters.

Robert W. Baldwin '51 (Sigma Phi Epsilon) of Richland, Wash., died March 24, 2009. He worked in the gas and oil industry in New York City for more than 40 years. Survivors include his wife, Catherine, and three children.

Halsey E. Griswold '51 (Sigma Alpha Epsilon) of Pawlet, Vt., died May 24, 2004. He leaves his wife, Nancy (Burrows), and five children. A son predeceased him. Griswold was retired from Texaco Oil as a chemical engineer.

Bernard P. Brennan '52 of Hartford, Conn., died Nov. 20, 2008. He was retired from Hamilton Standard (now Hamilton Sundstrand) as a sales representative.

Henry J. Hart '52 (Sigma Alpha Epsilon) of Hobe Sound, Fla., died May 28, 2009. A longtime engineer in the petroleum industry, he managed the construction of key offshore projects for Conoco Ltd. He leaves his wife, Pil Sun, and a daughter.

Walter H. Rothman '52 (Theta Chi) of St. Louis died Oct. 16, 2009. He leaves his wife, Mary (Fagan), three children, and three stepchildren. A former project engineer for the U.S. Army, he was later a self-employed consulting engineer.

Willard R. Ernst '53 (Sigma Phi Epsilon) of Windsor, Conn., died Nov. 21, 2009. He leaves his wife, Lorraine (MacIsaac), and three children. He was retired from a long career with Hamilton Sundstrand Corp.

Earl N. Sample '53 (Alpha Sigma Epsilon) died March 22, 2009. A lifelong resident of Barre, Mass., he held the posts of superintendent of public works and of the highway department, as well as serving on numerous boards and committees. He was also owner of Barre Engineering Co.

Stanley P. Negus '54 (Phi Sigma Kappa) died June 4, 2009, at his home in Marston Mills, Mass. He worked for Wyman-Gordon Co. for 38 years. Predeceased by his wife, Ruth (Hubbard), he leaves three children.

Otto A. Wahlrab '54 (Phi Gamma Delta) of Hilton Head, S.C., died July 7, 2009. He leaves his wife, Joyce, three daughters, and two stepsons. Wahlrab was the retired president and owner of John P. Slade Insurance Agency.

Joseph C. Berry '57 (SIM) of Bellingham, Wash., died Feb. 19, 2009. He owned and operated Hunter Berry Inc. and the Adco Group. He is survived by his wife, Dorothy, and three children.

Victor L. Moruzzi '57 of Wappingers Falls, N.Y., died Feb. 21, 2009. He leaves his wife, Joan (Paggi), and five daughters. As a member of the staff of the IBM Research Center, he published more than 100 papers and two books. After retiring he taught physics at Florida Atlantic University.

Trustees Remembrance

William E. Hanson '32, trustee emeritus, died Sept. 7, 2009. Hanson was elected to the board in 1960 and served as chair from 1968 to 1971, guiding the establishment of the WPI Plan. He received the 1972 Herbert F. Taylor Alumni Award for Distinguished Service. After earning his bachelor's and master's degrees in chemistry at WPI, he earned a PhD at New York University and became a fellow of the Mellon Institute of Industrial Research at the University. His research, sponsored by Gulf Oil Co., focused on the geochemistry of petroleum. He later moved to the Gulf Oil Research Laboratories in Harmarville, Pa., where he remained until 1971, retiring as senior scientist in the executive department. He leaves his wife, Lenore "Lee" Corey, whom he married in 1961 after years as a confirmed bachelor; he also leaves a brother.

Howard C. Warren '42, a private investor and former owner of The Riley Company, died Feb. 15, 2010. He served as trustee from 1971 to 1981, and was then elected trustee emeritus. He was honored with the Robert H. Goddard Alumni Award for Outstanding Professional Achievement in 1972 and received an honorary doctorate of engineering from WPI in 1982. Warren retired as chairman of the board of Riley Stoker Co. in 1981. He is survived by five children, 11 grandchildren, and six great-grandchildren.

Peter H. Horstmann '55, trustee emeritus, died Aug. 19, 2009. A former Alumni Association president, avid supporter of WPI athletics, and longtime chair of the Citations Committee, he brought recognition to others and was himself recognized with the Herbert F. Taylor Alumni Award for Distinguished Service and membership in the WPI Athletic Hall of Fame. Horstmann began his career in the aircraft industry and later joined Coppus Engineering, where he became vice president and part owner of the firm. After several other industrial positions, he was director of human resources for the *Worcester Telegram & Gazette*. He belonged to Sigma Phi Epsilon and Skull. Survivors include his wife, Barbara Van Loon Horstmann, three daughters, and six grandchildren.

Peter H. Levine, MD, a dedicated supporter of the Institute and personal mentor to many at WPI and in the Worcester community, died Dec. 15, 2009, at age 71. A physician, teacher, and research hematologist, he played a key role in the formation of UMass Memorial Healthcare and served as the organization's first CEO. On his retirement as CEO in 2002, the Peter H. Levine Cancer Center was named in honor of his service and contributions. Levine served as a WPI trustee for almost two decades, starting in 1990, and served on six committees. He was also a member of the President's Circle and the Presidential Advisory Council. He leaves his wife, Catherine, and three sons.

Full obituaries may be read at **wpi.edu/News/Memoriam**.

Photo by Dan Vaillancourt; used with permission of the Greater Worcester Community Foundation.

in memoriam

David N. Olson '57 (Phi Sigma Kappa) of Incline Village, Nev., died Feb. 3, 2009. He was the founder and president of D & D Mobile Homes. Survivors include his wife, Carol, and three children.

William R. McLeod Jr. '58 (Theta Chi) of Warwick, R.I., died July 27, 2009, leaving his wife, Nancy (Wainwright), and three children. He worked for Ciba-Geigy and Borden & Remington Corp.

James H. "Skip" Porter '58 (Sigma Phi Epsilon) of Pennington, N.J., died Oct. 15, 2009. Survivors include his wife, Janet, and two children. He was retired from New Jersey Bell (now Verizon). A member of the undefeated 1954 football team, he enjoyed coaching youth sports in his local community.

Kenneth B. Halvorsen '60 (Sigma Phi Epsilon) of Santa Paula, Calif., died Dec. 1, 2008. Predeceased by his wife, Maureen, he leaves five children. He retired as an electrical engineer for Port Hueneme Naval Base after a 30-year career in civil service.

Robert J. McElroy '60 of Providence, R.I., died July 14, 2008. He earned a master's degree in educational math from the University of Rhode Island and taught in the Cranston and Warwick school systems.

Paul J. McCarthy '61 of Auburn, Mass., died March 5, 2009. He was retired from New England Telephone Co. as a district manager in the engineering department. Two children survive him.

Walter E. Pillartz '61 (Phi Kappa Theta) of Guilford, Conn., died April 5, 2009. He leaves his wife, Mary Ann (Bradsnyder), and two children. After 35 years with Southern New England Telephone Co. Pillartz retired as a division manager and opened Details, a fine home accessories store.

Robert E. Seamon '61 of Albuquerque, N.M., died Dec. 25, 2009, from injuries sustained in an automobile accident the previous day. He was retired from Los Alamos National Laboratory, where his work on nuclear weapons was recognized with several awards from the Department of Defense. Seamon endowed the Burton and Mildred Seamon Memorial Scholarship Fund in honor of his parents.

William A. Brutsch '62 (MSM '81) (Theta Chi) of Milford, Mass., died June 15, 2009. He leaves his wife, Carol (Carlberg), and two children. He retired as deputy chief operating officer of the MWRA in 2002, after a 30-year career in which he led important improvements to the state's water supply.

Harold E. Johnson '62 (SIM) of North Conway, N.H., died Sept. 26, 2009. He was a retired plant supervisor for Norton Co. Predeceased by his wife, Ruth (Lidell), he is survived by a daughter.

Alan S. Elias '63, of Winter Garden, Fla., died May 22, 2009. Predeceased by his wife, Helen, in 2003, he leaves two children. He was a systems analyst for Sikorsky Aircraft for 30 years.

David A. Kilikewich '63 (Tau Kappa Epsilon) of Kaneohe, Hawaii, died Aug. 24, 2009. He retired from the Pearl Harbor Shipyard as a test engineer in 2002. Survivors include his wife, Arleen, and three children.

Henry P. Torcellini '63 (Lambda Chi Alpha) of Eastford, Conn., died June 24, 2009. He worked for Gardner & Peterson as a civil engineer for more than 30 years. He leaves his wife, Dottie (Buell), and two sons.

Gerald D. Waxman '63 (Alpha Epsilon Pi), a longtime professor of astronomy at Santa Rosa Junior College, died Oct. 13, 2009. He was instrumental in founding the school's Institute for Environmental Education. He leaves his wife, Pam Zimmerman, and two children.

Faculty Remembrance

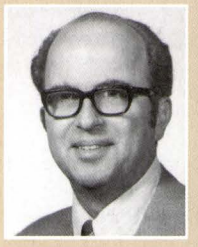
John van Alstyne, dean emeritus of academic advising, died April 16, 2010, in Asheville, N.C. He came to WPI in 1961 as a professor of mathematics, intending to stay just one year. He retired 28 years later, "having spent more than a decade and a half making a profound difference in the lives of hundreds of WPI students," the *WPI Journal* noted. Known simply as "van A," he served on the Faculty Planning Committee for the WPI Plan and was appointed dean of academic advising in 1970. He won the Trustees Award for Outstanding Teaching in 1970 and received the William R. Grogan Award for Support of the Mission of WPI in 1993. He leaves three daughters and a grandson.

E. Russell Johnston Jr. died Jan. 24, 2010. He taught civil engineering at WPI from 1957 to 1963 and later retired as professor emeritus from the University of Connecticut. He was the author of three textbooks and numerous journal articles. He leaves his wife, Ruth, two sons, and three grandchildren.

Norman Sondak, a pioneer in information systems and computer science, and the first person to teach computer science at WPI, died in San Diego, Calif., on Nov. 5, 2009, at the age of 78. Sondak joined WPI in 1968 and taught until 1978. He later retired from San Diego State University as chairman of the Information Systems Department. He is survived by his wife, Eileen, two sons, a daughter, and four grandchildren.

Professor **Archie K. McCurdy '59** (MSEE) of Franklin Township, N.J., died Aug. 13, 2009. He taught electrical engineering at WPI for 40 years and retired as professor emeritus in 1995. His research on acoustic wave properties and thermal conductivity is still widely read and highly regarded. He leaves his wife, Carmella, two daughters, and a son.

Full obituaries may be read at **wpi.edu/News/Memoriam**.



in memoriam

Robert J. Geiger '64 (Sigma Phi Epsilon) of Goshen, Conn., died April 7, 2009. He leaves his wife, Lucinda, and three children. He was a plant manager at The Torrington Company and later at Owens-Illinois before retiring in 1996.

Albert J. Metrik '64 (Phi Kappa Theta) of Erie, Pa., died March 17, 2009. He leaves his wife, Rose, and two children. A longtime electrical engineer for General Electric Co., he previously worked on the Apollo space program.

Frank E. Stone '64 (Phi Kappa Theta) of Farmington Hills, Mich., died March 17, 2008. He worked for several chemical companies and retired from MacDermid Chemical Co. as plant general manager. He leaves his wife of 13 years, Eunju, a daughter, and two stepchildren.

William W. Guidi '65 (Phi Sigma Kappa) of Worthington, Mass., died Nov. 26, 2008. He was a longtime electrical engineer for General Electric Co. His two sons survive him.

Charles F. Merry '65 (SIM) of Topeka, Kan., died Feb. 27, 2009, at age 88. A longtime employee of American Optical Co., he later retired as vice president Duffens Optical. He was predeceased by his wife, Jeanne (Ketchum), and a daughter. He is survived by a daughter.

Ronald J. Rustigian '65 (Sigma Phi Kappa) of Portsmouth, N.H., died Sept. 18, 2009. A former mechanical engineer for the Portsmouth Naval Shipyard, he was retired from the Department of the Navy. He is survived by a daughter.

Peter G. Stebbins '66 of Hollis, N.H., died June 14, 2009. He spent more than two decades with Sanders Associates/ Lockheed Sanders and later worked for Signatron and Siemens Medical Systems. He was predeceased by his first wife, Joyce (Ericson) in 1988. He leaves his wife, Ellen (Walker), and a daughter.

William E. Sullivan Jr. '66 (Sigma Phi Epsilon) of North Reading, Mass., died Feb. 28, 2009. He was a member of the technical staff of Computer Sciences Corp.

James L. Viele '67 (Theta Chi) of Vail, Colo., died Aug. 9, 2009. Predeceased by his wife, Kathleen, he leaves three children and his close friend Vickie Leigh. Viele worked for International Paper Co. before moving to Colorado and starting a construction business.

Edward H. Borgeson '68 (Phi Sigma Kappa) died Sept. 9, 2009, at his home in Wayland, Mass. He leaves his wife, Trudy (Hood). The father of Ross Borgeson '99, he also leaves two other sons. He was a senior development engineer for Raytheon Integrated Defense Systems.

William J. McCarthy '68 (Sigma Pi) of Austin, Texas, died April 6, 2009. An enrolled actuary, he had served as an actuarial consultant for Allen Bailey and Associates, after 30 years in the life insurance industry. Survivors include his wife, Nancy, and three children.

Walter Sackmann '68 (Tau Kappa Epsilon) of Granby, Conn., died Oc. 22, 2009. He leaves two children and their mother, Kendra (McNamara) Ketchin. He was a fluid power specialist offering technical and sales support for several industrial distributors.

George J. Sonntag '68 (SIM) of Boylston, Mass., died May 13, 2009. He was predeceased by his wife, Pauline, and a son. He leaves four children. Sonntag worked for Heald Machine Co., and later its parent company, Cincinnati-Millacron.

Daniel P. Lorusso '69 of Pittsfield, Mass., died May 7, 2009, after a battle with cancer. A longtime electrical design engineer, he most recently worked on medical equipment projects. He is survived by a son.

Hans van den Biggelaar '70 (PhD), former professor and head of the electrical engineering department at UMass Dartmouth, died April 29, 2008. He was 81. He previously taught at St. Anselm College, Skidmore College, and RPI.

Robert C. Vickery '70 (SIM), 82, a retired production manager for Wyman-Gordon Co., died Jan. 24, 2009, at his home in West Boylston, Mass. His wife, Virginia (Lynch), died in 1998. Three children survive him.

Staff Remembrance

Roy Seaberg '56, former director of admissions at WPI and executive secretary to the faculty committee that created the WPI Plan, passed away in Delray Beach, Fla., on Oct. 1, 2009, at the age of 75. Seaberg joined WPI in 1962 as assistant secretary of the WPI Alumni Association. In 1969 he moved to the Admissions Office, where he rose to director in 1980. Four years later he was given the opportunity to help expand WPI's student recruitment efforts more globally as director of special admissions. He retired in 1996, after 34 years in the WPI administration. A member and former advisor for Phi Gamma Delta fraternity, he was also active in Skull. He coached the WPI golf team to two undefeated seasons between 1963 and 1970 and was a leader in Alumni Association regional programs for Worcester County.

David E. Lloyd, a former vice president of business affairs and treasurer of WPI, died April 8, 2010. Lloyd joined the administration in 1954 as business manager, and retired in 1986. He oversaw an era of great expansion in WPI's student enrollment, operating budget, and endowment, as well as the completion of major building projects and the establishment of the Alden Research Laboratory in Holden. Survivors include his wife, Elsie (Sivell), a daughter, and two grandchildren. He was predeceased by a son in 2007.

Full obituaries may be read at **wpi.edu/News/Memoriam**.

In memoriam

Robert W. Ewing '71 (SIM) of Falmouth, Maine, died Oct. 27, 2009. He was 89. Predeceased by his wife, Dorothy (Marble), he leaves two children. He was retired from New England Electrical System as district superintendent for the North Central District.

Richard E. Fleming '71 (SIM) of Grafton, Mass., died Feb. 20, 2009. He was 77. A retired superintendent and manager for Commonwealth Gas Co., he leaves his wife, Laura (Bolofka), a daughter, and two stepchildren.

Former wrestling team captain and assistant coach **Raymond F. Cherenzia '73** (Phi Gamma Delta, Skull) lost his battle with brain cancer on Jan. 9, 2009. He was the founder of Cherenzia Associates Ltd. and also operated Cherenzia Excavation with his brother, Salvatore. While doing graduate work at WPI he served as assistant wrestling coach from 1974 to 1976 and continued to referee for high school and college matches. Survivors include his son Sergio Cherenzia '04 and two other children, his former wife, Rhonda (Zanella) Cherenzia, and his fiancée, Jill Kass.

John E. Dunn '73 (SIM) of Boylston, Mass., died July 14, 2009, at the age of 86. Predeceased by his wife, Corinne (Saulnier), he is survived by two children. He worked for Meyers Manufacturing for 30 years.

Samuel E. Schumacher '73 (SIM) of East Woodstock, Conn., died May 30, 2009. He worked for Dexter Russell Co. for more than 30 years. Survivors include his wife, Judith (Dowling), and two children.

Walter G. Spreadbury '74 (SIM) of Worcester died Feb. 21, 2009, at age 84. He leaves his wife, Isabel, and two children. He was retired from Norton Co. as manager of international engineering projects and domestic affairs.

John D. Keefe '75 (SIM) of Bayonet Point, Fla., died April 9, 2009, at the age of 83. He leaves his wife, Shirley, and a daughter. He was predeceased by a daughter. Keefe was retired from Bay State Abrasives as general foreman.

Robert S. DeMarco '79 (Sigma Alpha Epsilon) of Boylston, Mass., died Feb. 13, 2009. He leaves his wife, Leslie (Harris), and three sons. He was a technical recruiter for KForce.

William A. Woishnis '80 (Lambda Chi Alpha) died Aug. 2, 2009. A pioneer in the electronic information field, he and his wife founded William Andrew Publishing, based in Norwich, N.Y., in 1990. His innovations included the Plastics Design Library and Knovel, a data-driven science and engineering database. He is survived by his wife, Jeri Wachter, and a son.

Ronald I. Borjeson Jr. '81 (SIM) of West Boylston, Mass., died Aug. 31, 2009, at age 81. He leaves his wife, Anna (Decker), and four children. He retired from Norton Co. as a foreman with 36 years of service.

David B. Ward '82 (MSCS), 74, of Scottsdale, Ariz., died Jan. 24, 2009, leaving his wife, Gail, and three sons. He worked for Honeywell International as a software engineer for 40 years.

Richard J. Wurm '82 (Lambda Chi, Skull) of Sudbury, Mass., died May 15, 2010, after a six-year battle with brain cancer. He leaves his wife, Katherine (Coghlan) '81, and four sons. He began his career at New England Telephone, worked for several communications and data protection companies, and was most recently director of program management for Verdasys.

Gilbert F. Cahill '85 (SIM), of Wilmington, Mass., died May 7, 2009. He was 73. He leaves his wife, Joan "Joy" (Revane), and a son. He was a retired manager for Massachusetts Electric Systems.

Keith W. LeDuc '85 of South Dartmouth, Mass., died Sept. 17, 2007, after a long battle with ALS. He leaves his wife, Elizabeth (Roy). He worked for Metcalf & Eddy as a water treatment engineer.

Ronald A. Renaud '87 of Thompson, Conn., died April 9, 2009. He was retired from Hyde Manufacturing Co. as a cost estimator. He leaves his wife, Jeanne (Lefebvre), and a daughter.

Darius Dilmaghani '91 died Aug. 12, 2009, at his parents' home in Chestnut Hill, Mass., after a lengthy battle with liver cancer. He was the brother of **Alex Dilmaghani '91**. He also leaves his father and stepmother, and another brother. He was a senior mechanical engineer at Keurig Inc.

Michael C. Naum '91 of Woodstock, Conn., died June 26, 2009, after a long battle with cancer. Survivors include his wife, Genevive (Kwok), and two children. He received a master's degree in Strategic Intelligence from the American Military University and earned several patents while working at Sun Microsystems. He founded Silicon Dimensions in 2002 and joined Advanced Micro Devices in 2006.

Nathan J. Gronda '99 of Shrewsbury, Mass., died Jan. 4, 2010. He was a project engineer for Metso Automation USA Inc. He is survived by his mother and stepfather.

William A. "Andy" Pfeil '07 of Andover, Mass., died Nov. 9, 2009, of injuries sustained in a car accident. A double major in computer science and electrical and computer engineering, he was the recipient of a Tau Beta Pi Scholarship.

WPI has also received notice of the following deaths: **William S. Koschny '44** in 2006; **Marvin B. Cramer '62** in 2006; and **Michael B. DeRose '74** in 2005.

Alumni Association Mourns Former Presidents

Donald G. Craig '57 (Sigma Phi Epsilon) died Jan. 1, 2010. A former military and civilian pilot, Don retired from American Airlines in 1995. He presided over the Alumni Association from 1993 to 1995, a vital phase that conducted a comprehensive survey of alumni needs, enacted a master plan, and laid the groundwork for WPI's first online alumni network. In 1997 he received the Herbert F. Taylor Alumni Award for Distinguished Service. He established the Matthew Andrews Craig Scholarship in memory of his youngest son, who died in a boating accident at age 24. He is survived by his wife, Nancy Andrews Craig, of Savannah, Ga., and two sons.

Robert E. Maynard Jr. '63 (Phi Kappa Theta), died Dec. 18, 2009. Bob was retired from a 35-year career with R. H. White Construction Co., where he served as executive vice president. A 2003 Taylor Award recipient, he served as association president from 1997 to 1999 and was instrumental in restructuring the organization. As chair of the Alumni Funds Board, he oversaw the master plan that paved the way for WPI's $150 million capital campaign that concluded in 2004. He leaves his wife, Judith A. Praskiewicz Maynard, and two children.

postscript

WPI Inventor Becomes Legend

Elwood Haynes may have graduated more than a century ago, but this year he joined the first class of inductees in the Howard County Hall of Legends in Kokomo, Ind. His classmates include legends from the world of art, business, and journalism, some of whom are Pulitzer-, Peabody- and Emmy award winners.

Haynes, a member of WPI's Class of 1881, is best known for inventing America's first mechanically successful gasoline-powered automobile in 1894, which is a part of the "America on the Move" exhibit at the Smithsonian Institution in Washington, D.C. His research on metal alloys—which dates back to his senior thesis, "The Effect of Tungsten on Iron and Steel,"—has improved everything from razor blades to spacecraft.

Let Washburn Ring

The Washburn Bell now rests safely on a specially built cradle in the lobby of the Washburn Shops, where it can be enjoyed by the WPI community. Cast in 1926 with a senior class gift of $160, the 250-pound bronze bell was silenced once when Washburn's tower collapsed during a 1938 hurricane. It fell a second time in 2005; this time the cupola was deemed structurally unsound to bear its weight, and the bell was not returned to the tower.

The Classes of 2008 and 2009 took on the project of restoring the bell for display and mounting a plaque documenting its history. The Alumni Association helped fund the makeover, which included sandblasting to remove stains and corrosion, and a lacquer coating to preserve its luster. A full account of the restoration, with expense records, drawings, and research, will remain in the Gordon Library Archives.

The bell still tolls—but only for those who shake the clapper.

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