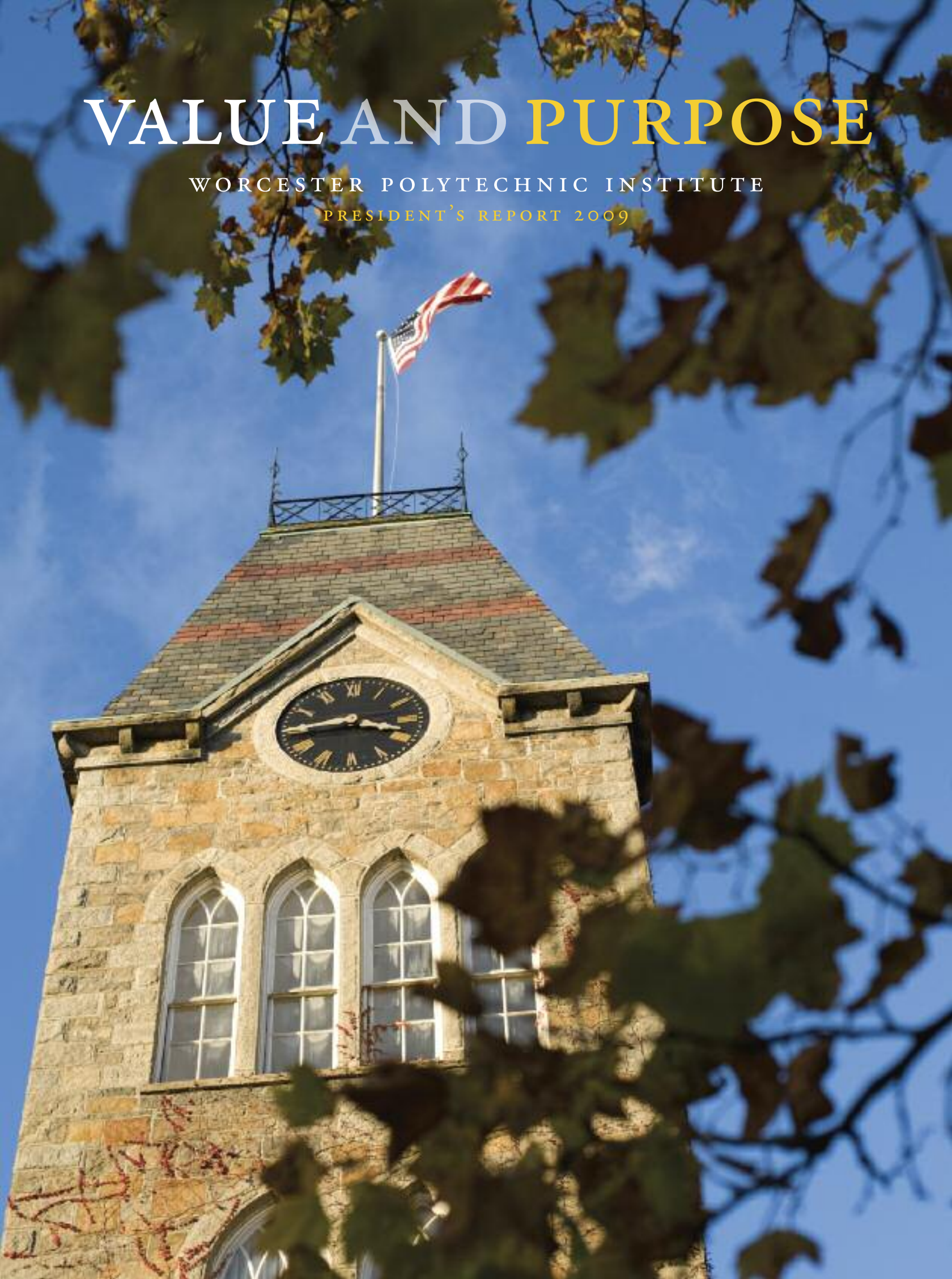


VALUE AND PURPOSE

WORCESTER POLYTECHNIC INSTITUTE

PRESIDENT'S REPORT 2009







VALUE AND PURPOSE



By any measure, 2009 was a trying year for higher education in the United States, no less than for the American and world economies. I am pleased to report that WPI is navigating this chaotic turbulence in a manner that demonstrates its enduring strengths, and positions it well for even greater achievement in the recovery to come, whatever its nature.

You will read in the report of the Executive Vice President how WPI responded to the economic challenge through smart financial management, prudent conservation of resources, and a disciplined adherence to our strategic plan and vision. Such measures enabled us to continue investing in new faculty and academic programs and facilities, thus sustaining our momentum. There was no serendipity in September's news that WPI had experienced a record operating surplus for fiscal 2009, welcomed a record-high number of outstanding new faculty members, and enrolled the largest entering class in its 144-year history.

I have chosen the title Value and Purpose for this year's report for two reasons. One is the way in which I believe these words characterize WPI's enduring qualities that have sustained it so well since its founding. Our formal motto, *Lehr und Kunst*, which we interpret as theory and practice, provides the rubrics, but the richness of the WPI experience has always lain in the purposeful nurturing of students by faculty well informed in the potential applications of the resulting knowledge, similarly fruitful interactions among students themselves, and faculty research focused on the important, not just the interesting. From Robert Goddard's introduction

of liquid-fueled rocketry, to Richard Whitcomb's designs for modern jet aircraft, to Dean Kamen's miraculous prosthetic devices, the overarching goal and achievement of the people of WPI have been the purposeful application of knowledge to create value across a wide spectrum of human need.

The other reason to reflect on value and purpose is a concern with the current ubiquitous claims to the promotion of innovation across much of higher education. There is no denying the importance of innovation in the development of the world's major economies and civilizations, and its importance to further development. But how best to teach and promote innovation, as if it were a trade skill or business strategy simply to be mastered, seems to me the wrong question. Far more important, I suggest, is an appreciation for the prerequisites of innovation and the habits of mind that foster it. For WPI this has always meant strong core knowledge in science and engineering together with an understanding of how to apply that knowledge to productive ends. Indeed, our founding benefactor, John Boynton, wished expressly to provide for "those branches of education . . . best adapted to train the young for practical life."

*About the cover: Dedicated in 1868 in honor of Worcester industrialist John Boynton, who gave his life's savings to found the university, Boynton Hall is one of the most recognizable buildings on campus. Its tower and that of nearby Washburn Shops have come to symbolize WPI's motto, *Lehr und Kunst* (theory and practice). Though Boynton Hall is no longer used for classroom learning, theory and practice remain an important and distinguishing aspect of the WPI curriculum.*



From Robert Goddard's introduction of liquid-fueled rocketry, to Richard Whitcomb's designs for modern jet aircraft, to Dean Kamen's miraculous prosthetic devices, the overarching goal and achievement of the people of WPI have been the purposeful application of knowledge to create value across a wide spectrum of human need.

This spirit of innovation, championed by WPI's founders, has sustained a quality characteristic of New Englanders, as observed by the *London Times* in 1855 at the dawn of the industrial age:

The New Englander invents normally; his brain has a bias that way. He mechanizes as an old Greek sculptured, as the Venetian painted, or the modern Italian sang.*

In the pages that follow you will see some of the most recent examples of this spirit of innovation that fuels the continuing work of our academic community, work that is inspired not by the trends of the day, but rather by the purpose of creating important value. I am pleased also to note several recent recognitions and awards reflective of these qualities.

WPI's part-time MBA program, offered by our Department of Management, was recently ranked #1, the absolute best in the nation, by *BusinessWeek*. This ranking is based entirely on student evaluations of programs. WPI's top placement

resulted from students' appreciation of their faculty members' interests in their personal achievement and the practical orientation of the program toward real-world business problems and their solutions. Our MBA program has also been highly ranked on a regular basis for its appeal to, and support of, women students and their career development.

Another impressive first, this one accompanied by a \$500,000 grand prize, was earned by a WPI robotics team led by senior robotics engineering major Paul Ventimiglia. Responding to NASA's challenge to design and build a robot capable of excavating lunar soil, the WPI team's robot, aptly named Moonraker II, bested 22 other robots built by professional engineers as well as college and high school teams from across the country. I was deeply impressed, in particular, by the WPI team's thorough anticipation of, and preparation for, all manner of possible obstacles to success in the competition, and by Paul's grace and eloquence in describing the team's work and ultimate success. Not surprisingly, Paul intends to

*From *Two Towers: The Story of Worcester Tech, 1865-1965*, by Mildred McClary Tymeson, Worcester Polytechnic Institute, 1965.



use his share of the prize money to repay his parents for his education and to launch a startup robotics company.

We were also thrilled to learn that Aaron Champagne, a junior running back, had become the first WPI football player to be named an Academic All-American in ESPN's College Division, comprising Division II and III, NAIA, and junior college programs nationwide. Aaron is one of just eight of the 48 players so named to sport a perfect 4.0 grade point average. As with our outstanding performers in our music, theatre, and other co-curricular programs, our student athletes reflect the celebration of excellence in all that they undertake as part of the WPI community.

Whether in the classroom, the research laboratory, the international project centers, the playing fields, or the performance halls, the women and men of WPI carry on the mainstream of living tradition, inextricably bound in value and purpose, that motivated our founders, the crafters of the WPI Plan, and all those who have supported and invested in this institution

since its founding in 1865. Perhaps our late Senator Edward M. Kennedy said it best. Speaking in 2005 at my inauguration as the 15th president of WPI he said,

“The future is ours to build, and WPI is building it. You're looking beyond the narrow horizon of today to the needs of tomorrow. WPI is a modern university built on a New England tradition, and your graduates are helping all of us build a brighter future.”

I am proud to bring you this report, and to thank you for your continuing support of this important, purposeful institution.

Sincerely,

Dennis D. Berkey
President and CEO





ENTHUSIASTIC ENGAGEMENT

Kristin Boudreau

Visiting WPI for the first time last spring, Kris Boudreau was immediately drawn to the campus enthusiasm. She met with students who had recently returned from Morocco—still excited by their overseas project experience. She talked with faculty members about their important research and teaching. And, ultimately, she learned why she should come to WPI.

“It’s not just the intellectual climate here,” she says, “but the level of enthusiasm that appealed to me.”

As one with a penchant for adventure—several years ago she and her husband spent a summer biking across the country—Boudreau is now settling into her latest adventure: as head of WPI’s Humanities and Arts Department.

Boudreau came to WPI last summer from the University of Georgia, where she was an English professor. Her research has focused on culture’s influence on literature and literature’s influence on culture. In her book *The Spectacle of Death: Populist Literary Responses to American Capital Cases* (Prometheus, 2006), she investigated the complex relationships between books, the people who read them, and the institutions that give structure to human communities. Her third book, *Henry James’s Narrative Technique: Consciousness, Perception, and Cognition*, is forthcoming.

Originally from New York state, Boudreau is happy to be back in the Northeast and to have transitioned to the role of department

head. The change, she says, has redirected her energy from focusing solely on her work and research, to helping her Humanities and Arts colleagues with theirs. “WPI faculty are unbelievably talented,” she says. “It’s been a worthwhile career change to be involved in helping that talent.”

Most exciting, she says, is being part of a community that values the role of humanities and arts; truly, it’s a critical component of the WPI experience. “Disciplinary training isn’t the end of the road,” she says. “Students need to know how to enter the world and master its problems. There are messy, complex global problems that call for more than technical solutions.”

“It’s not just the intellectual climate here, but the level of enthusiasm that appealed to me.”

DRIVING VALUE

Curtis R. Carlson '67

As president and CEO of SRI International in the heart of Silicon Valley, Curt Carlson travels the world leading a team of 2,100 men and women working at the frontiers of innovation.

Founded in 1946 as the Stanford Research Institute, then spun out of the university in 1970 as an independent nonprofit research enterprise, SRI International is a global powerhouse of innovation. Its history of breakthrough technologies includes the computer mouse, medical ultrasound imaging, computer voice-recognition, and pioneering contributions to electronic communications. In 1969, SRI received the first message transmitted by the forerunner of the Internet. The .com and .gov designations in URLs came from SRI.

“It’s a privilege for me to lead an institution that sits at the epicenter of innovation in the world,” says Carlson, a native of Cranston, R.I., who studied physics at WPI and earned his doctorate in atmospheric sciences at Rutgers University.

An expert in electronic imagery who helped lead the team that won an Emmy for setting the high-definition television standard in the United States, Carlson has remained active in WPI affairs at many levels over the years. In 2002 he joined the Board of Trustees.

“What impresses me about WPI is that it’s not willing to rest on its laurels. It’s continuously working to improve,” he says. “The Great Problems Seminars for freshmen, for example, is a brilliant addition to the WPI Plan. It immediately gets students working in teams on a project with a global perspective. Those are critical lessons in our global economy.”

From developing more sustainable fuel supplies, to improving human health through life sciences, Carlson says he has never seen a better time for creating new innovations to improve society.

“I call it a world of abundance. But it is only a world of abundance if you have the right knowledge and skills,” he says. “Today, people need not only a first-class technical education, but also the ability to work effectively in teams, have a global perspective, and know how to innovate. WPI is the best program in the world at combining all those elements.”



“It’s a privilege for me to lead an institution that sits at the epicenter of innovation in the world.”



UNIVERSITY HIGHLIGHTS

JULY 2008



• WPI hosts the national Workshop on Precision Indoor Personnel Location and Tracking for Emergency Responders; WPI researchers

showcase and test the technology they developed

• Virginia Ward '08 receives a Fulbright Scholarship to teach English in Taiwan; she is the first WPI student to receive the prestigious scholarship

• WPI Board of Trustees Chairman Donald K. Peterson '71 and his wife, Maureen, establish the Peterson Family Professorship in the Life Sciences and Bioengineering

• Thomas B. Robertson, assistant professor in history, and Seth Tuler, research assistant professor in interdisciplinary and global studies, are named Fulbright Senior Scholars for 2008–09

AUGUST 2008



• East Hall, WPI's newest residence building, opens to students; later receives numerous awards for its many green features,

including a living green roof

• Seven tenure-track professors and 11 other educators join the WPI faculty

• Forbes.com ranks WPI 9th in the nation in its Top Colleges for Getting Rich survey

• A WPI research team finds a way to use the heat absorbed in asphalt as an alternative energy source

• David Ho, *Time* magazine's 1996 Man of the Year and AIDS researcher, speaks at WPI

• WPI's Venice Project Center, led by Fabio Carrera, celebrates its 20th anniversary

SEPTEMBER 2008



• Graduate student Jason Cox '05 receives a U.S. Navy and Marine Corps achievement medal for his IED detection technology

• WPI receives a \$900,000 National Institutes of Health Award for research that aims to transform adult skin cells into stem-like cells

• WPI President Dennis Berkey is chosen to serve on a newly formed, statewide coalition, Leaders for Education, to provide broad support for changes in public education

• Charles A. Gammal '08 is selected as the nation's top electrical-computer engineering student

• WPI receives \$1 million in federal and state grants for its Center for Neuroprosthetics; the two-year funding will allow researchers to improve next-generation artificial limbs

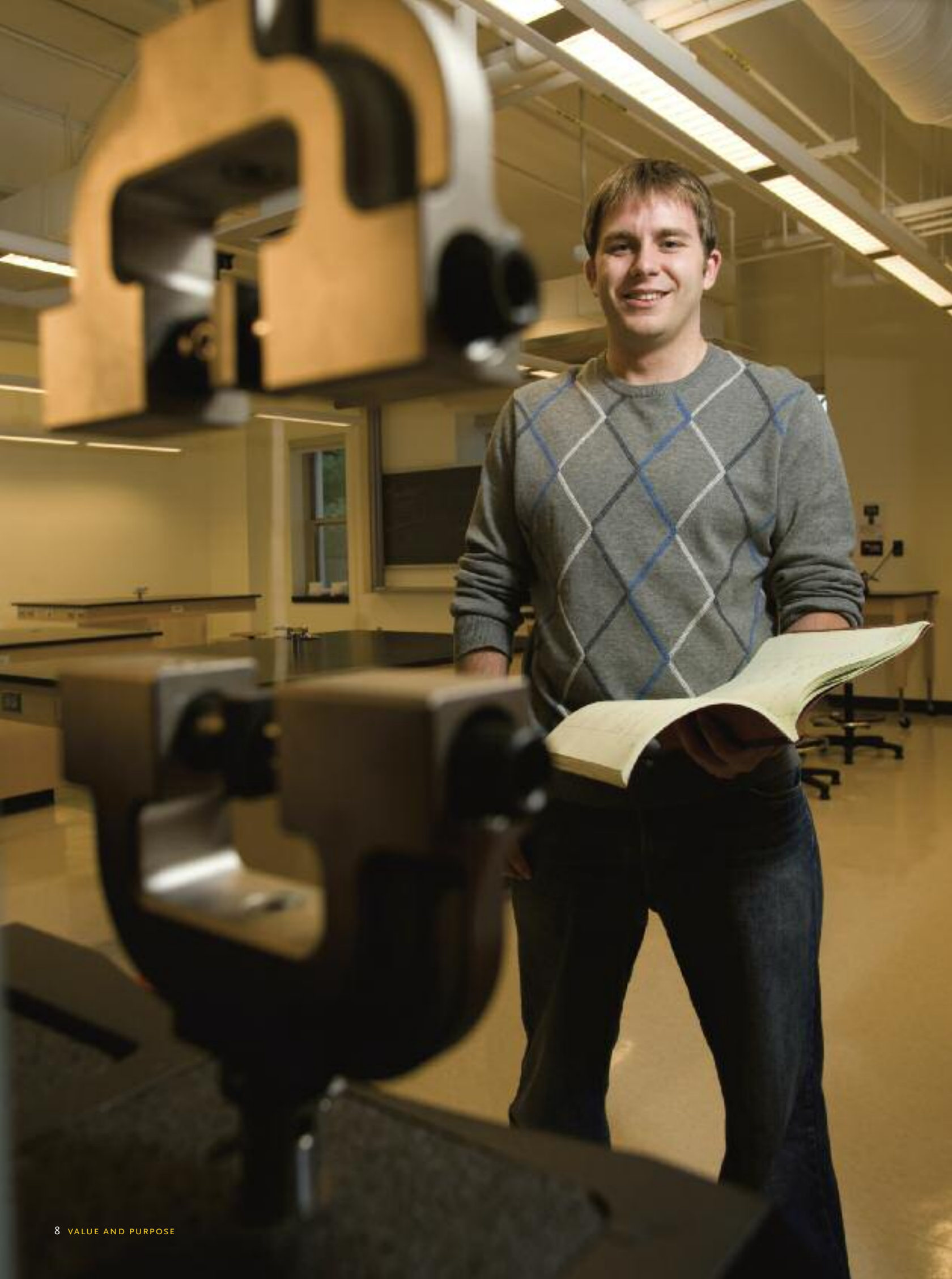
OCTOBER 2008



• Kristin Wobbe, head of the Department of Chemistry and Biochemistry, is installed as WPI's first Metzger Professor of Chemistry; the

endowed professorship was established in 2007 through a \$1.5 million gift from John C. Metzger Jr. '46, and his wife, Jean

• U.S. Department of Homeland Security awards WPI \$430,000 to advance the state of its first-responder location systems, life-saving technology that accurately tracks the location of first responders inside buildings





PASSION WITH PURPOSE

Nicholas Pelletier '09

Nick Pelletier was in high school when a news story about an artificial heart caught his eye and changed his life. “I like to work on things that I can see and touch. And that story showed me how the power of invention can literally change someone’s life,” says Pelletier, who grew up in Westminister, Mass. “I did some research and found out that it was biomedical engineers who did that kind of work. So that was it—I knew that’s what I wanted to do.”

Looking at colleges, Pelletier shied away from WPI at first because it was a little too close to home. His father, Lee, graduated from WPI in 1978, and Nick didn’t want to follow in his father’s footsteps simply for legacy’s sake. That all changed when Pelletier began visiting other schools. “Three things drew me to WPI: The projects system, the ability to study abroad, and the culture of this campus,” he says. “People here are so passionate about what they do. So as things fell into place, I couldn’t deny that WPI was definitely the school for me.”

Pelletier has never regretted that decision. He is now pursuing his master’s degree in biomedical engineering at WPI and is most interested in medical devices and prosthetics. For his MQP, Pelletier and his project team created a new surgical device to help treat dogs with dislocated hips; that project is now being turned into a commercial product by Fiskdale, Mass.-based SECUROS.

In the fall of 2007, Pelletier traveled to Cape Town, South Africa, as part of an IQP team working to improve regional bus service in preparation for the World Cup Tournament this year. Their work will also help give residents on the outskirts of Cape Town better access to jobs in the city.

Today, in addition to his graduate courses, Pelletier works a co-op job on a product design team at TDC Medical in nearby Marlborough. “The opportunities I’ve had at WPI,” he says, “I know I couldn’t have gotten at any other school.”

“People here are so passionate about what they do.”

THE VALUE OF PARTICIPATION OF ALL

Dana L. Harmon

Dana Harmon's proudest moments at WPI are often quiet ones. "I'll be standing on the sidelines at a game or championship, knowing that we haven't sacrificed academically to achieve success," says the director of Physical Education, Recreation, and Athletics. "Those moments are what it's all about."

Since 2002 WPI's athletics program has enjoyed a renaissance on campus: Winning percentages have increased by 20 percent—including numerous championships—while student-athlete GPAs keep pace with the general student body. (In fact, WPI student-athletes graduate at a higher rate.) "We are very fortunate to have an outstanding group of coaches who know how to attract the best students and athletes to succeed at WPI," Harmon says.

She and her staff focus on developing the whole student to understand what it means to be committed to excellence in all they do. "We work hard, we play hard, and we have a lot of fun doing it," she says. But this commitment and focus is not limited to student-athletes; it's part of the expanded physical education curriculum, which embraces a comprehensive approach, including dance, yoga, fitness, and strength training. "We want students to explore more and not just stick with the activities they're good at," Harmon says. "Being active helps all students learn important lessons about themselves, including teamwork, managing stress, and balancing their workload.

"Physical activity is an important part of the WPI experience," she continues. "Whether it's as a spectator, a varsity athlete, or a participant in the clubs, intramurals, or the wide range of activities offered, there is tremendous value in participating and achieving." Harmon speaks of the planned 140,000 square foot Sports and Recreation Center, which is expected to break ground this spring, as a strategic investment in the student body and for the university. She stresses the importance of having a gathering place to bring the community together in new ways. "Our goal is to strengthen those connections between students, staff, and faculty—to reach beyond school or work."





“We are very fortunate to have an outstanding group of coaches who know how to attract the best students and athletes to succeed at WPI.”

UNIVERSITY HIGHLIGHTS

NOVEMBER 2008



- WPI reinstates the Dean's List, following a 34-year absence; about 25 percent of undergraduates achieve the Dean's List criteria

- The National Professional Science Master's Association, headquartered at WPI, names its first board of advisors, including President Dennis Berkey

DECEMBER 2008



- Art Heinricher, a 16-year veteran faculty member and associate dean for the First Year Experience, is named Dean of Undergraduate Studies

- WPI scientists reveal that a novel bioreactor enhances Interleukin-12 production in genetically modified tobacco plants; the important study implies cost-effective methods of harnessing the protein for potential future therapies in some cancers and autoimmune disorders

- WPI's Gordon Library begins to digitize the original serial version of Charles Dickens's novels; the project, funded by a grant from the Massachusetts Board of Library Commissioners, is expected to be available online in 2010

DECEMBER 2008



- WPI receives a \$100,000 pledge from Chicago-based Rolf Jensen & Associates to fund a new fire sciences lab

- David Adams, biology and biotechnology professor, is named a fellow of the American Association for the Advancement of Science; he is honored for his replication of Alzheimer's disease in a mouse model

- Worcester Chamber of Commerce lauds WPI's green initiatives, spanning academic, philosophical, and capital investments

JANUARY 2009



- Diana Lados, assistant professor of mechanical engineering and director of the university's Integrative Materials Design Center, receives the prestigious Orr Early Career Award from the Materials Division of the American Society of Mechanical Engineers

- WPI's annual University Lecture Series features Stanford University professor Franklin M. Orr, who speaks on "Technology for a Greenhouse World"

- Students present their research to a panel of judges for the annual President's IQP Awards; a project that established a sustainable laundry facility in Cape Town, South Africa, wins first place

- WPI launches The Connected Lab in biology classes, improving student achievement and enhancing teaching; this technology is developed at WPI, with the help of a Davis Educational Foundation grant





IMPLEMENTING SUSTAINABLE SOLUTIONS

Student Project: Thailand

In the poorest and most inhabited region of Thailand, where soil depletion has taken a heavy toll on farmers, a WPI project team has laid the groundwork for change. Last year, seniors Aubrey Ortiz, Hilary Rotatori, Liz Schreiber, and George von Roth spent seven weeks working with Mahasarakham University to build a hydroponic greenhouse and advance an alternative approach to agriculture.

“The IQP is one of the major reasons I chose to attend WPI,” says Schreiber. “Applying our knowledge to problems outside the classroom while learning how to function in another culture—it’s an experience that’s unique to WPI.”

Hydroponic farming—growing food in a mineral-rich nutrient solution, rather than soil—is an ancient technology dating back to the hanging gardens of Babylon and the floating gardens of the Aztecs. In northeast Thailand, where the highly saline soil has been stripped of nutrients by unsustainable farming practices and eroded through deforestation, hydroponics would offer these underdeveloped communities an efficient way to produce high-quality, high-value crops.

The WPI project team researched and designed a simplified system constructed of moderately priced, locally available materials that would be feasible for farmers to start up and maintain. They also wrote a manual (which will be translated into Thai) to help teachers integrate the model system into the university’s agricultural curriculum. To further engage the Thai students, they outlined business learning activities, such as a hydroponics vegetable fair, stock market simulations, and vendor-owner role-playing scenarios.

“The project helped me understand that a problem isn’t just an engineering problem,” Ortiz says. “There are greater societal factors and implications that should be considered.”

“Overall, the project was one of the best experiences of my life,” concludes Rotatori, who is grateful that WPI gave her the opportunity to travel to a part of the world she may never have otherwise encountered. “Our project has the potential to spark the interest of the younger generation of Thai people and introduce them to farming methods that could move them toward economic self-sufficiency.”

“A problem isn’t just an engineering problem. There are greater societal factors and implications.”

INSPIRED BY STUDENTS

John McNeill

In 15 years as a faculty member in the Electrical and Computer Engineering Department, John McNeill has won several of WPI's top faculty awards, including the Chairman's Exemplary Faculty Prize, which recognizes excellence in teaching, research, and service.

"I never tried to win any of those awards," McNeill says. "I just like what I do."

What he especially likes is teaching. He discovered the rewards of working with students by tutoring other undergraduates at Dartmouth. After nearly a decade in industry, he decided to seek a career in education. He earned a PhD at Boston University and soon after joined WPI.

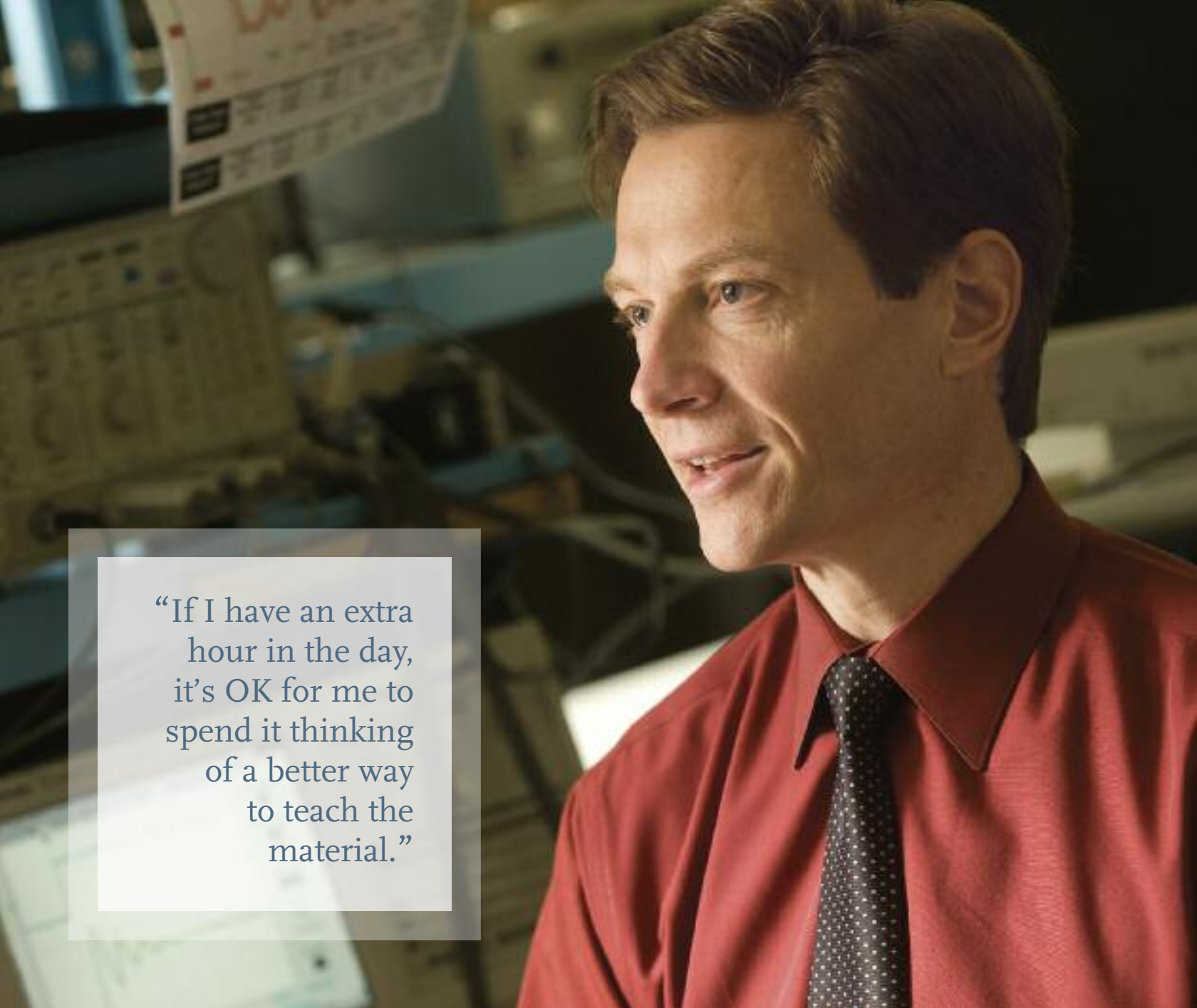
Happily, he found a university where professors are able to balance teaching and research. "The nice thing about WPI is if I have an extra hour in the day, it's OK for me to spend it thinking of a better way to teach the material."

McNeill traces his approach to education to his own experience as an undergraduate. "I struggled a bit with my first electronics course," he says, "So I identify with students who struggle but are still willing to work. They need the right framework to help them make sense of the discipline. Thinking about how to communicate the material clearly—that's my philosophy of teaching."

Even in his research on analog and mixed-signal microelectronics, McNeill has found a way to put the needs of students first. His work often involves solving problems for industrial sponsors, work that provides projects for graduate and undergraduate students. "I serve as the 'nodal point' between the companies and the students," he says, "and make sure each gets what's best for them. What I like is that it works for the students and helps them meet their goals."

As for his own bottom-line goal as a faculty member, McNeill says it is, quite simply, to help students learn. "And not just about engineering," he says, "but about how to be a good citizen and a better human being, how to grow, how to discover who they really are, and how they can contribute to society."





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UNIVERSITY HIGHLIGHTS

FEBRUARY 2009



• Massachusetts Association of School Committees honors the intelligent tutoring system developed by WPI researchers; WPI professors Neil Heffernan and Cristina Lindquist Heffernan receive the MASC Community Leader Award

• Diran Apelian, director of WPI’s Metal Processing Institute, is elected to the National Academy of Engineering and also to the Armenian Academy of Sciences

• President Dennis Berkey and his wife, Catherine, make a \$100,000 charitable gift to WPI, establishing a discretionary fund to support future presidents of the university

• David Willens '09 wins ASME’s Student Manufacturing Design Award for his project that pushes the limits of forced thru-feed rolling

MARCH 2009



• Women’s basketball team wins ECAC Division III New England Championship, the second tournament championship in three years; the men’s basketball team advances to the second round of the NAAs, but falls to UMass Dartmouth

• WPI researchers launch an international study on electronic medical records and health care IT systems; study is led by Isa Bar-On, mechanical engineering professor, Sharon Johnson, associate professor of industrial engineering, and Diane Strong, management professor

• WPI/Mass Academy team wins FIRST (For Inspiration and Recognition of Science and Technology) regional robotics competition

MARCH 2009



• WPI expands its robotics engineering program to offer a master’s degree, becoming the only university to offer both undergraduate and graduate degrees in the burgeoning field; the university also announces a new PhD program in biochemistry

• CellThera, a biotechnology company that is part of WPI’s Bioengineering Institute, receives a contract from the U.S. Defense Advanced Research Projects Agency (DARPA) to continue its important work on tissue regeneration

• A Princeton Review student survey rates WPI’s MBA program among the top 15 nationwide in the finance category (rankings reported in *Entrepreneur*)

APRIL 2009



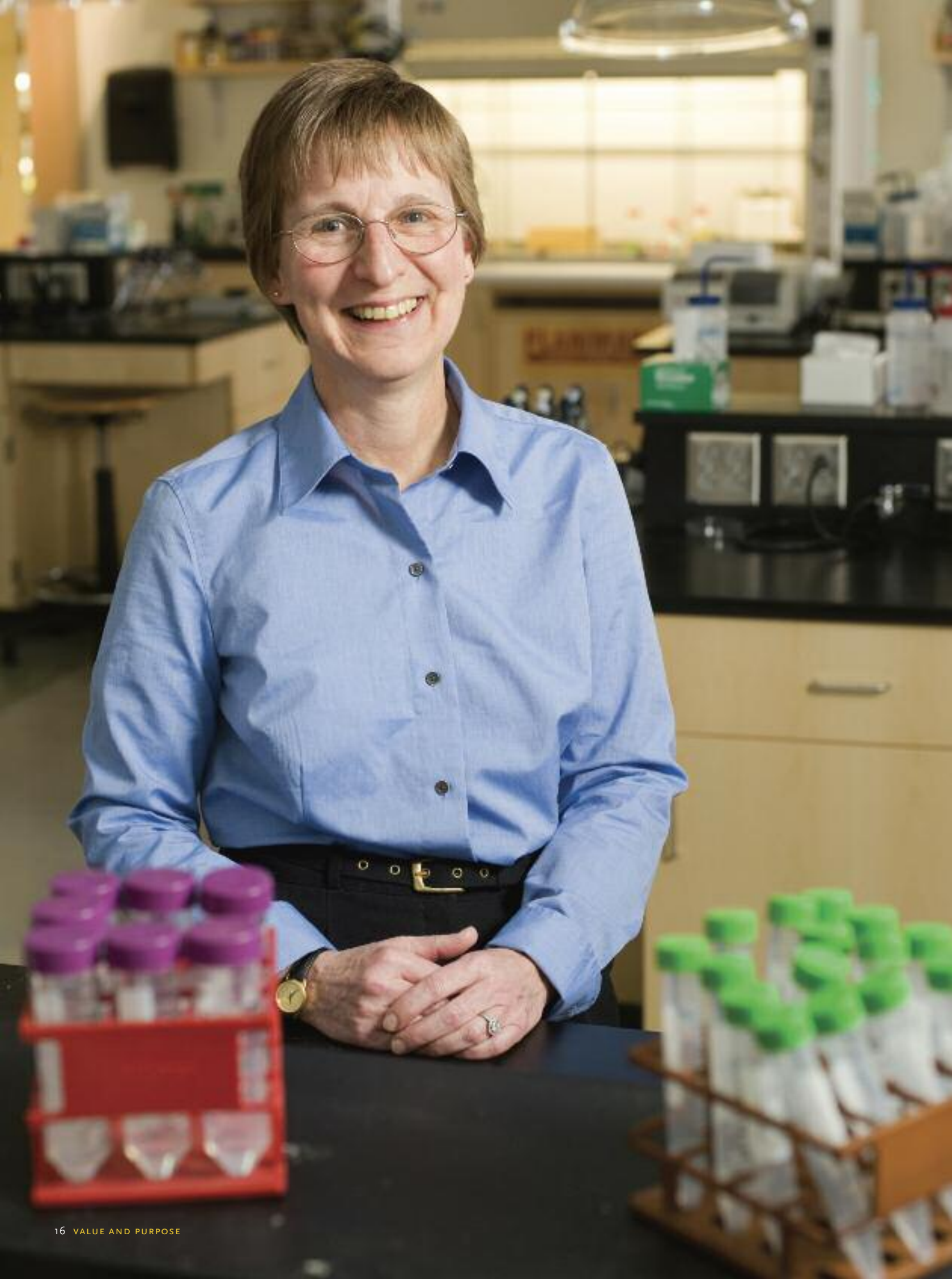
• Men’s crew wins the Class of 2003 Cup for the first time since becoming a varsity sport in 1999

• WPI celebrates 27 years of New Voices, the nation’s longest-running collegiate “new and original” play festival

• Annual showcase of graduate research at WPI includes a broad array of important work, including optimization of a robot actuator and controller design for neurosurgery intervention, remote storage and its security in cloud computing, and delivery of stem cells to the heart

• President Dennis Berkey receives key to the city of Worcester

• WPI partners with life sciences companies and the Commonwealth of Massachusetts to train displaced workers for new jobs in biomanufacturing





COLLABORATIVE IN NATURE

Jill Rulfs

Whether it's studying insulin signaling, researching cell growth, or devising better ways to teach biology to young minds, Jill Rulfs has blended her passions for life sciences research and education over the past 20 years at WPI.

Now, as associate head of WPI's Department of Biology and Biotechnology, Rulfs spends much of her day making sure undergraduates are prepared for the opportunities that exist in the emerging life sciences economy. "We've gleaned so much knowledge from basic biological studies over the last few decades that biology is now becoming an applied science," Rulfs says. "It's about applying what we know about biological systems to engineer better medical devices or better pharmaceuticals. Or how we apply biology to solve the environmental problems we face. So I see it as a natural evolution for WPI to be a leader in this area."

A stunning example of WPI's commitment to the life sciences can be seen at the recently opened George I. Alden Life Sciences and Bioengineering Educational Center, an \$11.5 million project that created state-of-the-art undergraduate laboratory and support spaces in Goddard Hall. "We can do amazing things in this building," says Rulfs, who led the project team that oversaw the center's design and construction.

Rulfs's team also developed The Connected Lab, technology that integrates on-demand video tutorials, real-time data sharing, and

remote access to section-wide data sets after the lab. Using that data allows for more in-depth analysis, and it can help students complete their lab reports even if they do not get valid data of their own because of an experimental error.

"The technology allows our lab instructors to spend much less time remediating and much more time engaging students in critical thinking and applying concepts to the work they are doing," Rulfs says. "We have driven our undergraduate program to be laboratory-intensive, and that's different from many other schools. When any one of our students leaves here, they are well-prepared, not only as a pair of skilled hands, but as a thinking scientist."

"When any one of our students leaves here, they are well-prepared, not only as a pair of skilled hands, but as a thinking scientist."

ACHIEVEMENT THAT MATTERS

Roseann Gammal '10

When Roseann Gammal was in high school, she toured many college campuses. “WPI was the only one that felt like home,” she says.

That could be because she is third generation in a WPI lineage that dates back to the Class of 1920, of which her grandfather, Charles A. Gammal, was a member. She grew up on family stories about WPI and visited during Homecoming. Her strong aptitude for science and mathematics was nurtured in WPI’s summer programs for girls, later earning her a spot in the highly selective National Science Foundation Research Experience for Undergraduates.

Achievement runs high in the Gammal family, and Roseann, a chemistry and biochemistry double major with a minor in writing and rhetoric, rose to the challenge, winning the Outstanding First Year Student Award and the junior year Two Towers Prize—WPI’s most prestigious undergraduate award—and numerous additional honors from departments, professional societies, and the Office of Women’s Programs.

A great believer in giving back, she got involved with the Student Government Association, served as acting president last year, and is now vice president. She is a writing tutor and a member of the Student Support Network; she also served as a community advisor last year. As a student assistant in the Office of the First Year Experience, she identified the need for a Great Problems Seminar focused on environmental issues and devoted her IQP research to laying the foundation for one. She served as a student representative on the faculty Committee on Academic Policy and helped establish WPI’s Dean’s List in 2008 to recognize exceptional academic work. Gammal also helped start departmental advisory boards to improve student-faculty communication. “She has served on more faculty committees than most tenured faculty,” wrote Dean of Undergraduate Studies Art Heinricher on the citation of her Two Towers Prize.

This leadership did not come easy at first for Gammal. Once shy, WPI’s Ballroom Dance Team—an activity she initially dismissed—helped her build confidence. She even helped start an Employee Wellness class and taught salsa and swing moves to faculty and staff.

“WPI has provided me with the knowledge to succeed, the confidence to lead, and the courage to make a difference,” Gammal says. “For that, I am truly grateful.”





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UNIVERSITY HIGHLIGHTS

APRIL 2009



- *USA Today* names Indraneel Sircar '09 to its 'All-USA College Academic Team'
- WPI's Pi Zeta chapter of the Lambda Chi Alpha wins a

Community Engagement Award from the Worcester Consortium of Colleges

- The university hosts a national neuro-prosthetics conference, bringing together national leaders in the field to advance future collaborations
- New Java™ Technology for FIRST Robotics, developed by WPI students and Sun Microsystems researchers, is unveiled at the 2009 FIRST Championship; the technology later wins an award from Java
- Jeanine Plummer, WPI's environmental engineering program director, is installed as the first Alena and David M. Schwaber '65 Professor of Environmental Engineering

MAY 2009



- WPI awards 955 degrees at its 141st Commencement; keynote speaker Ursula Burns, now CEO of Xerox, encourages graduates to embrace the world's challenges

• WPI and the city of Worcester announce a new Payment in Lieu of Taxes (PILOT) agreement, in which the university will give more than \$9 million to the city over 25 years

• Kristen Billiar, assistant professor in biomedical engineering, receives a Fulbright Scholarship to conduct research on tissue engineering in Ireland; Billiar becomes the 14th member of the current WPI faculty to become a Fulbright Scholar

MAY 2009

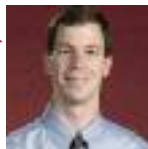


- WPI baseball team plays in the first NCAA Championship in its history, advances to semifinal

• The university receives \$621,000 in research awards from the National Institutes of Health; U.S. Congressman Jim McGovern announces grants to fund research on regenerating cardiac tissue and preventing urinary tract infections

• WPI hosts robotics researchers on campus for the annual New England Manipulation Symposium

JUNE 2009



- James Van de Ven, assistant professor in mechanical engineering, and Allan Katz '07, '09 (MS), win WPI's 2009 Kalenian Award

for their invention, a high-speed hydraulic valve for use in switch-mode control in hydraulic hybrid vehicles

• Jose Argüello, professor of chemistry and biochemistry, is named program director at the National Science Foundation, to serve a one-year appointment in the NSF's Division of Molecular and Cellular Biosciences

• WPI Provost John Orr and David DiBisio, head of the Chemical Engineering Department, are elected fellows of the American Society for Engineering Education

FISCAL YEAR 2009

Report of the Executive Vice President and Chief Financial Officer

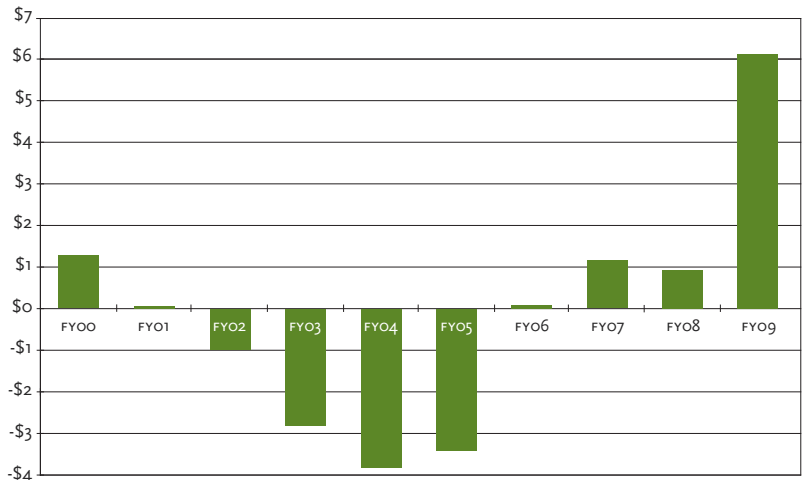


Jeffrey Solomon

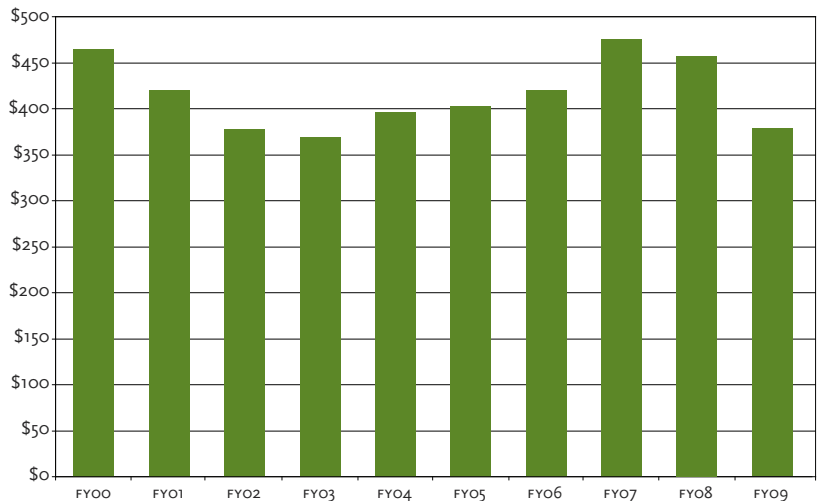
I am pleased to report that WPI ended its June 30, 2009, fiscal year in sound financial position, despite the challenging global economic environment. From an operating perspective, the university achieved a record increase

in net assets from operating activities of approximately \$6.1 million. This increase was a result of continued strong demand for a WPI education, driven by a then record fall 2008 entering freshman class, prudent management of the tuition discount rate, credit-hour growth in graduate education—including Corporate and Professional Education—disciplined expense management, and conservative budgeting practices. The decline in global financial markets caused net assets from non-operating activities to decrease by approximately \$98.2 million for fiscal year 2009. The largest component of this decline related to a negative 20.5 percent total return on the university's endowment and similar funds. While disappointing on an absolute basis, relatively speaking, this performance was near the median of returns of a broad universe of endowments and foundations. The pace of fundraising growth slowed a bit as a result of the economy but WPI continued to make significant progress in its development goals, recording net contributions of approximately \$14.6 million for the year ended June 30, 2009. Finally, despite the impact of the decline in net assets from non-operating activities, at June 30, 2009, total net assets stood at approximately \$368.5 million while bonds and notes payable totaled \$141.8 million.

Change in Net Assets from Operating Activities (*in millions*)



Total Net Assets (*in millions*)

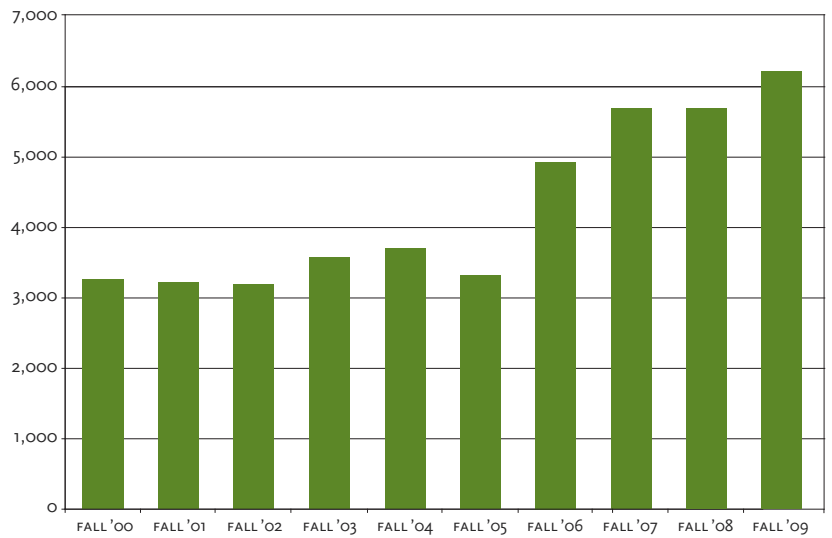


“WPI ended its fiscal year in sound financial position, despite the challenging global economic environment.”

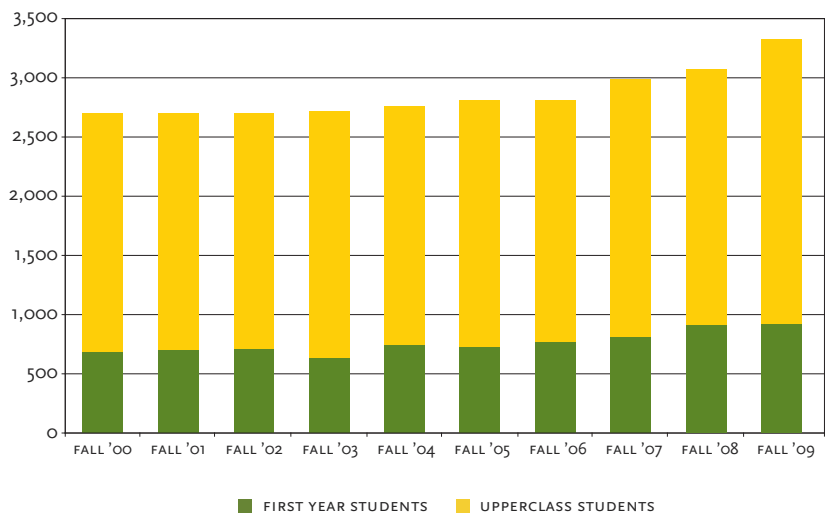
As I noted in last year's report, there were many challenges that impacted U.S. higher education institutions during fiscal year 2009, and those remain today. WPI continues to navigate these challenges effectively. With respect to reliance on the endowment to support operations, WPI is significantly more dependent on its tuition than the endowment; only about 14 percent of fiscal year 2009 operating revenues came from the endowment and similar funds. WPI has conservatively used variable rate debt with floating- to fixed-rate interest swaps as part of its debt structure; only about 39 percent of the university's debt is in such instruments. WPI's endowment portfolio has approximately an 8 percent allocation to private equity commitments, with limited new commitments made over the past several years; as such, the university does not face significant future capital calls that cannot be funded out of available liquidity.

WPI is now approximately six months into fiscal year 2010. Concerned about the possible impact of the recession on its operations, we developed conservative operating and capital budgets for this fiscal year. However, our commitment to a strong faculty did not waiver and 21 tenured/tenure-track faculty were hired for this fiscal year. Operating projections through the first six months of the fiscal year are encouraging. Student demand remains strong, as illustrated by the new record of undergraduate applications received for this year's entering freshman class. The university enrolled 925 freshmen this fall, another record-setting class size, and also achieved a 95 percent freshman-to-sophomore retention rate, showing the high degree of satisfaction with the quality of our programs. While the economy has caused the freshman tuition discount rate to increase for the fall 2009 entering class, total net undergraduate tuition revenue is projected to be significantly ahead of budget. Graduate credit hours, particularly relating to distance learning, are also tracking significantly above budget, given recent commitments to graduate admissions and programming. We continue to be disciplined in managing expenses and we are maintaining a significant operating contingency. For the next fiscal year, the administration has authorized 16 new searches for faculty positions—those searches are now in process.

Undergraduate Applications

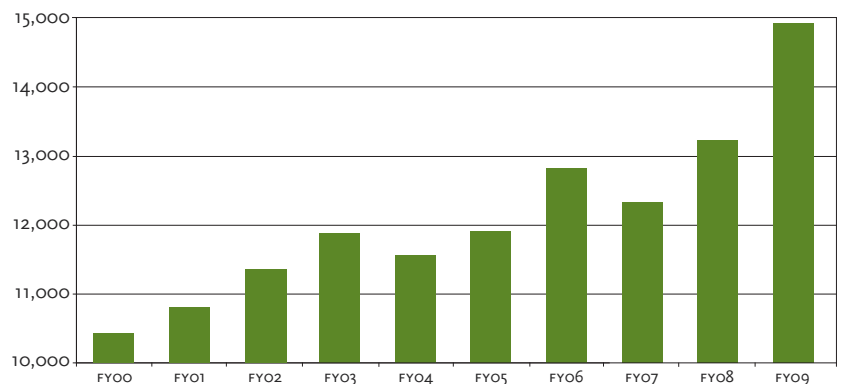


Full-time Undergraduate Enrollment



Graduate Credit Hours

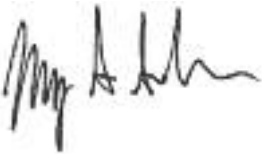
(Includes Corporate & Professional Education)



Over the past year, the university made significant investments in its physical infrastructure to support its enrollment growth strategy, to enhance teaching and learning, and to improve the quality of campus life, all in accordance with its seven-year major capital plan. Several classrooms and computer labs were added; Goddard Hall, an older wet-lab building, was renovated into a state-of-the-art undergraduate life sciences teaching facility; and Morgan Hall was upgraded to accommodate new triple rooms and a fitness facility. Gordon Library is being renovated to include an information commons and café. The new sports and recreation center, currently scheduled to begin construction immediately after spring Commencement, will significantly transform the fitness and community spaces on the campus and secure the university's competitive position in the marketplace.

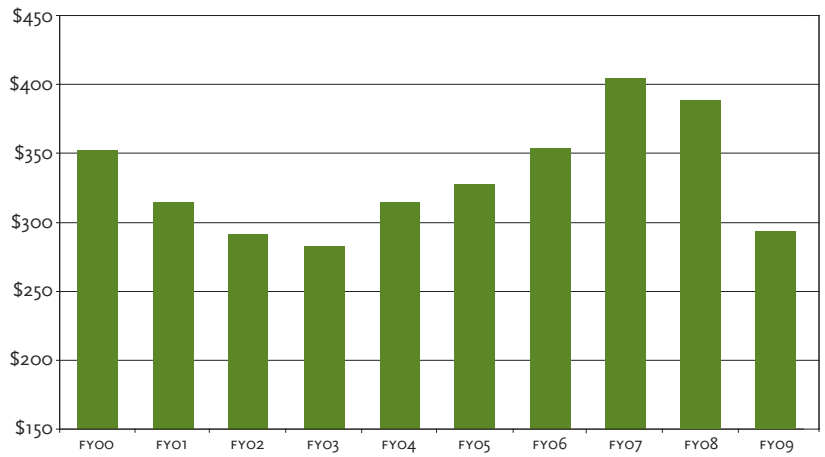
There remain many challenges ahead for U.S. higher education, but the university is well positioned to address them. WPI is committed to continue to strengthen its faculty and to enhance its campus so as to compete at the highest levels of academia. The support and active participation of WPI alumni are an integral part of this process and are necessary for our success.

Jeffrey Solomon

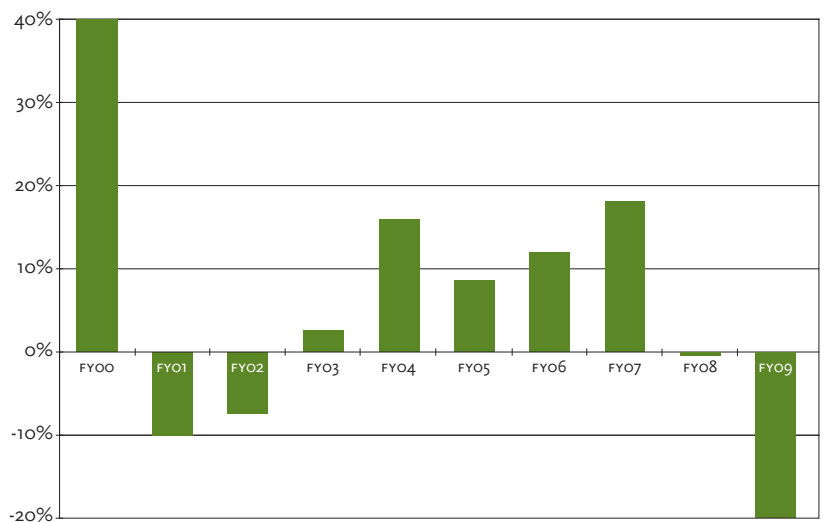


*Executive Vice President and
Chief Financial Officer*

Endowment: Market Value History (*in millions*)

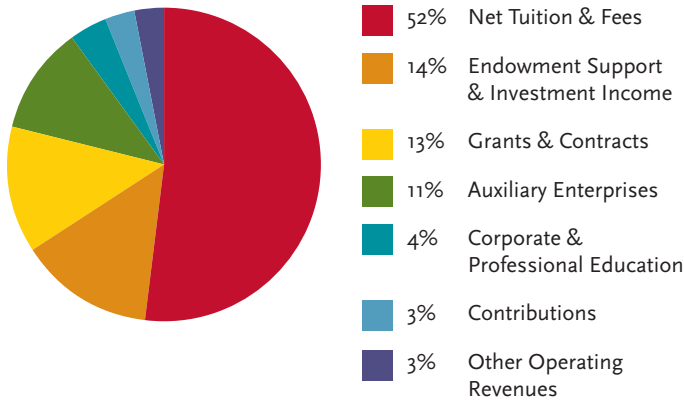


Endowment: Performance History

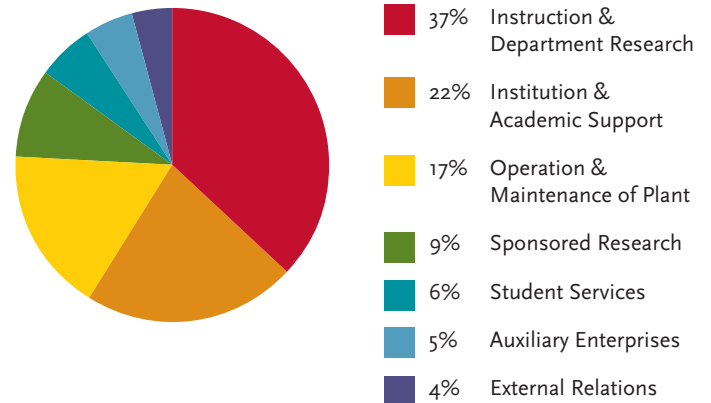


“WPI is committed to continue to strengthen its faculty and to enhance its campus so as to compete at the highest levels of academia.”

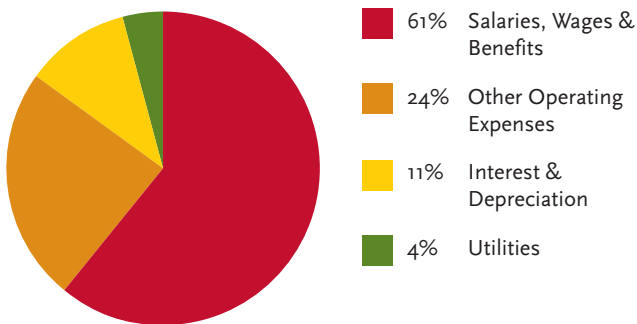
FY2009 Sources of Operating Revenues



FY2009 Operating Expenses by Function



FY2009 Operating Expenses by Type



Consolidated Statements of Activities

Years Ended June 30, 2009, and June 30, 2008 (in thousands)

	2009	2008
Operating revenues		
Tuition and fees	\$ 126,530	\$ 114,576
Less: Unrestricted student aid	35,961	32,739
Endowed scholarships	5,162	5,005
Externally funded student aid	4,137	4,098
Total student aid	<u>45,260</u>	<u>41,842</u>
Net tuition and fees	81,270	72,734
Other educational activities	8,887	7,926
Contributions	5,114	4,229
Contract and exchange transactions	19,455	20,324
Investment income on endowment	3,227	4,830
Net realized gains on endowment used for operations	15,151	11,494
Other investment income	3,622	3,976
Sales and services of auxiliary enterprises	16,364	14,113
Other	2,304	1,006
Total revenues and other support	<u>155,394</u>	<u>140,632</u>
Operating expenses		
Instruction and department research	54,399	49,668
Sponsored research and other sponsored programs	12,958	12,634
External relations	6,415	6,314
Institution and academic support	32,837	30,424
Student services	9,083	8,236
Operation and maintenance of plant	25,516	23,451
Auxiliary enterprises	8,044	7,549
Increase in asset retirement cost	-	1,433
Total operating expenses	<u>149,252</u>	<u>139,709</u>
Change in net assets from operating activities	<u>6,142</u>	<u>923</u>
Nonoperating		
Net realized and unrealized gains (losses) on investments	(89,266)	(13,805)
Net realized gains on endowment used for operations	(15,151)	(11,494)
Change in value of split interest agreements	259	(183)
Contributions	9,532	14,529
Net realized and unrealized losses on interest rate agreements	(3,648)	(4,180)
Loss on extinguishment of debt	-	(1,209)
Change in net assets from nonoperating activities	<u>(98,274)</u>	<u>(16,342)</u>
Total change in net assets	<u>(92,132)</u>	<u>(15,419)</u>
Net assets, beginning of year	460,582	476,001
Net assets, end of year	<u>\$ 368,450</u>	<u>\$ 460,582</u>

Consolidated Statements of Financial Position

June 30, 2009, and 2008 (in thousands)

	2009	2008
Assets		
Cash and cash equivalents	\$ 11,141	\$ 11,065
Accounts receivable, net	3,985	6,297
Contributions receivable, net	15,381	11,315
Funds held under bond agreements	454	8,668
Prepaid expenses and other assets	4,607	4,551
Student loans receivable, net	21,702	21,168
Beneficial interest in trusts	13,379	17,154
Investments	307,219	404,387
Land, buildings, and equipment, net	185,817	176,797
Total assets	<u>\$ 563,685</u>	<u>\$ 661,402</u>
Liabilities		
Accounts payable and accrued liabilities	\$ 14,673	\$ 18,808
Deposits and deferred revenue	7,323	7,318
Split interest agreements	10,045	11,193
Funds held for others	2,855	4,040
Asset retirement obligations	5,037	4,661
Refundable government loan funds	6,792	6,792
Bonds and notes payable	141,789	143,987
Interest rate agreements	6,721	4,021
Total liabilities	<u>195,235</u>	<u>200,820</u>
Net assets		
Unrestricted	175,802	234,037
Temporarily restricted	79,313	117,869
Permanently restricted	113,335	108,676
Total net assets	<u>368,450</u>	<u>460,582</u>
Total liabilities and net assets	<u>\$ 563,685</u>	<u>\$ 661,402</u>

A Message from Higgins House



Dexter Bailey

During the past year, we have had many reasons to celebrate WPI. From the opening of the new George I. Alden Life Sciences and Bioengineering Educational Center, to the installation of new endowed professors, to the successful launch of fundraising efforts for the new sports and recreation center, our alumni and friends are advancing this fine institution through their remarkable generosity and dedication to WPI's noble mission. In fiscal year 2009, though we all faced unprecedented economic challenges, alumni and friends invested more than \$17.5 million in the people and programs that make WPI a leader and innovator in higher education.

With your help, we are creating more opportunities for our students to discover, achieve, and lead; we are further advancing excellence in faculty research and teaching; and we are continuing to help solve the great problems of our time. Indeed, your contributions help sustain the value of a WPI education.

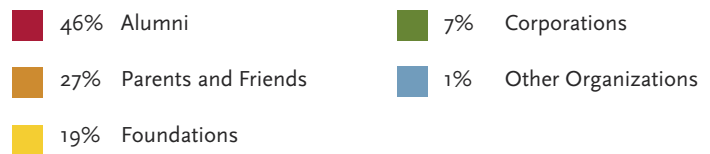
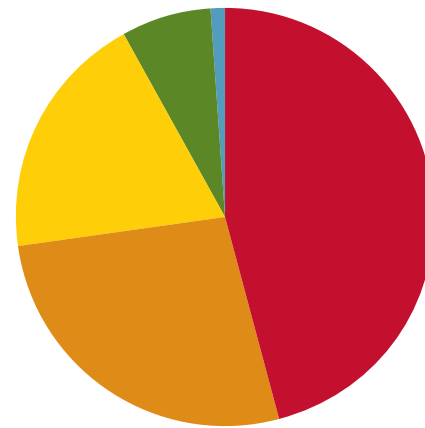
WPI is a beacon of hope, an incubator and launching pad for innovations that help create positive change in the world. Gifts from our alumni and friends enable our faculty and students to continue to take the intellectual risks that lead to new discoveries and important solutions.

We deeply appreciate your commitment to WPI, and we remain equally committed to you. I hope you continue to take advantage of the opportunities to engage in the life of WPI—from attending WPI events around the country and the world, mentoring students, and networking and engaging with your fellow alumni at career development events and on AlumniConnect (alumniconnect.wpi.edu). For all you do on behalf of WPI, you have our gratitude.

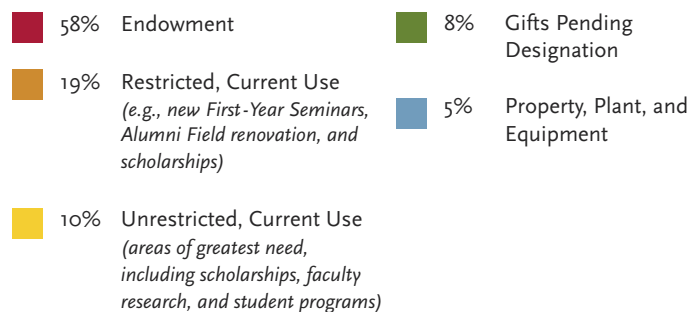
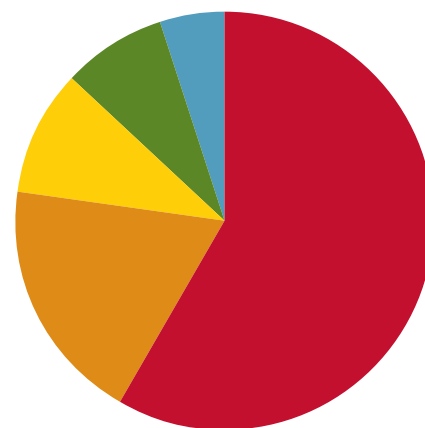
Dexter A. Bailey Jr.

Vice President for Development and Alumni Relations

Who Gives to WPI?



Where Do Your WPI Dollars Go?



Charts are current as of June 2009.



The President's Report is produced by the Marketing and Communications Division for the Office of the President.

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