

VITAL STATISTICS

32

Number of top 15 graduate and professional programs *U.S. News & World Report, 2013-14*

14

Rank of undergraduate program *u.s. News & World Report*, 2013–14, National Universities Category

24

Nobel laureates associated with the university

3,847

Total faculty

\$548.7M

Research support 2013-14

14,403

Total employees

>150

Major buildings, all campuses Several Danforth Campus buildings in Collegiate Gothic-style architecture are on the National Register of Historic Places.

>2,300

Total acre

includes Danforth Campus, Medical Campus, West Campus, North Campus, South Campus, 560 Music Center, Lewis Center and Tyson Research Center

VITAL STATISTICS

14,163

Total enrollment, fall 2013 6,611 undergraduate; 5,981 graduate and professional; 1,571 part-time and other

1,608

Class of 2017 enrollment (freshmen entering fall 2013)

30,117

Class of 2017 applications (freshmen entering fall 2013)

>40%

Class of 2017 international and multiethnic students (freshmen entering fall 2013)

4,095

All degrees awarded 2013-14

127,209

Number of alumni addresses on record July 2013

\$6.7B

Total endowment as of June 30, 2014

\$2.5B

Total operating revenues as of June 30, 2014





Stephen Brauer concluded his term as chair of the Washington University Board of Trustees on June 30, 2014. He has greatly advanced the university and its strategic goals for the future. We are profoundly grateful for his wise leadership, tireless service and extraordinary generosity

Washington University is dedicated to preparing the leaders of tomorrow. advancing human health, inspiring innovation and entrepreneurship, and enhancing the quality of life for all. These four themes are the pillars of *Leading Together: The Campaign for Washington University.* The campaign already has surpassed the total of our last fundraising campaign, which concluded in June of 2004. That campaign brought \$1.551 billion to the university. As of June 30, 2014, we have realized \$1.58 billion, and we have four years to surpass our goal of \$2.2 billion. Our progress is driven by an unrelenting passion for excellence, and each milestone marks a contribution of lasting value to our community, our nation and our world.

With resources provided from the campaign effort, we are working to execute the plans made in all schools of the university. New facilities enable us to execute new programs, including significantly expanding graduate and professional education in the Olin Business School and undertaking education and research in the area of public health, including a Master of Public Health program in the Brown School. The campaign is about providing the resources to realize our aspirations to build the quality and impact of the university, with major emphasis on securing scholarship support. Our goal is to have every admitted student be able to matriculate, independent of his or her family circumstances. In this Annual Report you will see many examples of great accomplishments by our students and faculty.

Indeed, our students accomplish extraordinary things every day. Three seniors majoring in biomedical engineering created a robotic prosthetic arm for a 13-year-old girl using plastic and a 3-D printer, at a fraction of the cost of a conventional prosthetic. Our team of undergraduates finished in the top 10 in the nation at the 74th William Lowell Putnam Mathematics Competition. Ten Washington University alumni and student entrepreneurs were among the winners of the 2014 Arch Grants, with each team receiving \$50,000 to start their businesses. And several of our undergraduates and recent graduates were honored with prestigious national and international awards this year, including the Rhodes Scholarship.

Outstanding students are attracted to Washington University by the caliber of our distinguished academic and administrative leaders. Transitions in our leadership during 2013–14 included:

William F. Tate, PhD, the Edward Mallinckrodt Distinguished University Professor in Arts & Sciences and chair of the Department of Education, was named dean of the Graduate School of Arts & Sciences and vice provost for graduate education. He will guide the university's graduate programming and support the development of outstanding graduate students in a wide range of advanced degrees. Professor Tate succeeds Richard J. Smith, PhD, the Ralph E. Morrow Distinguished University Professor, who will continue to teach in the Department of Anthropology.

Nancy Staudt, JD, PhD, was named dean of the School of Law and the Howard and Caroline Cayne Professor of Law. The former vice dean for faculty and academic affairs at the University of Southern California Gould School of Law, Dean Staudt is a nationally recognized scholar in tax, tax policy and empirical legal studies. She succeeds Daniel L. Keating, JD, the Tyrrell Williams Professor of Law, who served as interim dean.

John M. Schael retired after 36 years as director of programs in the nation and leading the Bears to 19 national championships. Josh Whitman, former director of athletics at the University of Wisconsin-La Crosse, was named the John M. Schael Director of Athletics.

Among the many significant milestones achieved by our faculty in the past year, Marcus E. Raichle,

MD, the Allen A. and Edith L. Wolff Distinguished Professor of Medicine, was one of three scientists honored with the internationally renowned Kayli Prize in Neuroscience. Dr. Raichle is a professor of radiology, neurology and neurobiology in the School of Medicine; professor of psychology in Arts & Sciences; and professor of biomedical engineering in the School of Engineering & Applied Science. He was honored for his contributions to advancing the frontiers of cognitive neuroscience.

Joseph Jez, PhD, was one of 15 professors nationwide to receive a five-year, \$1 million grant from the Howard Hughes Medical Institute to support innovation in undergraduate science education. Professor Jez is co-director of the plant and microbial biosciences graduate program in Arts & Sciences. He will use the HHMI award to establish a Biotech Explorers Pathway to introduce entering students to the science and business of biotechnology.

In our community, researchers from the Brown School and the Institute for Public Health collaborated with community partners to produce "For the Sake of All," a multidisciplinary study of the impact of disparities in health care, education, economic opportunity, mental health, and chronic and infectious diseases in the St. Louis community. The landmark study proposes recommendations for addressing these challenges in collaboration with policy makers, individuals and community groups.

As a global institution of education and research, Washington University collaborates with 28 leading universities and institutions worldwide through the McDonnell International Scholars Academy. This year we held the annual meeting of our International Advisory Council for Asia (IACA) in Taipei in February. The IACA brings together distinguished alumni and friends to advance Washington University's international presence and strengthen our ties with educational, governmental and corporate institutions in Asia.

These and many other important milestones mark athletics, having built one of the best scholar-athlete our progress toward one fundamental goal: to make contributions of lasting benefit to our students and our society. We look forward to working with you as we continue to achieve our goals in the years ahead.

> Stephen F. Brauer Chair

Home Mark A. Wrighton Chancellor





A YEAR OF PROGRESS

As of June 30, 2014, Leading Together: The Campaign for Washington University had secured \$1.58 billion

in gifts and commitments toward our goal to raise a minimum of \$2.2 billion by June 30, 2018. In five years, we equaled — and surpassed — the total of \$1.55 billion raised in nine years during the entire previous campaign, which concluded in 2004.

The excellent progress has been made possible by the generosity of our alumni, parents, friends, faculty and staff. For the first time in the university's history, more than 60,000 donors made gifts and commitments in a single year. A total of 54,607 donors contributed \$25.3 million to the Annual Fund. *Leading Together* already is having an impact on scholarships for qualified students, providing support for life-changing research and world-class faculty, launching exciting new academic programs, and enriching the lives of people on our campus and throughout our community. The campaign has produced major changes on the physical campus as well, from the dedication of Knight Hall and Bauer Hall at Olin Business School to groundbreakings for the Brown School expansion and the Sumers Recreation Center.

Building a talented and diverse student body is one of the most significant goals of *Leading Together*. For many students and their families, the availability of financial aid is the key consideration in their choice of a university. To help make Washington University accessible and affordable for all qualified students, we raised the campaign goal for financial aid to \$400 million this year, and we finished the year with more than \$252 million in scholarship support.

Washington University has unparalleled potential to have a lasting impact on America and our global society. Together, we will continue to advance the goals of the campaign for the next four years.

Knight and Bauer Halls Dedicated

More than 1,500 people came together May 2 to celebrate the dedication of Knight Hall and Bauer Hall at the Olin Business School. The \$90 million, 177,000-square-foot facility features the Robert and Barbara Frick Forum (left) beneath a soaring glass atrium.

The expansion project was made possible by two lead gifts — \$15 million from Charles F. and Joanne Knight and \$10 million from George and Carol Bauer through the Bauer Foundation. More than 200 donors provided generous support.

This state-of-the-art facility ushers in a new era in business education on the Danforth Campus that will keep Olin Business School on the cutting edge of business practices.











Campaign Progress as of June 30, 2014:

\$1.58 billion in five years

Minimum goal: \$2.2 billion

- 80 professorships, including 25 established in 2013–14
- \$252.3 million for scholarships
- 36.5% of faculty and staff, or 4,531 individuals, have contributed \$31.67 million since the campaign began
- Previous campaign: \$1.55 billion in nine years

Campaign Kicks Off Nationwide

6 | WHERE KNOWLEDGE LEADS

Record numbers of alumni, parents and friends across the country have turned out to celebrate the launch of Leading Together in their regions. In the spring of 2013, kickoff events were held in Los Angeles, San Francisco, Chicago and New York, followed by events in five cities during 2013–14, including Washington, D.C., Dallas, Boston, Houston and Philadelphia. Each regional kickoff set an attendance record for a Washington University event in that city.

The success of regional campaign kickoff events is made possible by the tireless efforts of hundreds of volunteers nationwide working on behalf of Washington University and the *Leading Together* campaign. As many as 30 regional campaign kickoff celebrations are planned for the course of the campaign.

World-Class Facilities Benefit Our Community and Our Society

Brown School Expansion – An innovative new building will help the No. 1–ranked Brown School continue to be a catalyst for positive change in the 21st century. Together with renovations to Brown Hall and Goldfarb Hall, the 105,000-square-foot facility will ensure the Brown School's ongoing leadership role in education for the social work and public health professions. The new building will bring together faculty, staff and research centers in one location and provide new space for the university's Institute for Public Health on the Danforth Campus. Many alumni, faculty, students and friends have provided generous support for the expansion. The groundbreaking celebration was held on September 24, 2013.

Sumers Recreation Center – Festivities on April 11, 2014, honored university trustee Gary, AB '75, and Rachel Sumers for their leadership in promoting fitness, recreation and athletics at Washington University. The Sumers' \$12 million commitment will support construction of the new 66,500-squarefoot Sumers Recreation Center, featuring a three-court gymnasium with a suspended running track, multipurpose rooms for group exercise, a fitness studio, locker rooms, team meeting space and expanded sports medicine facilities. Renovation of the existing Athletic Complex will include the Gary and Rachel Sumers Fitness Center. Scheduled for completion in 2016, the \$54 million project will help build community, promote health and wellness, and strengthen student recruitment.

Left: Brown School Expansion (from left): Nikedra Doughty, MSW '14; Provost Holden Thorp, executive vice chancellor for academic affairs and the Rita Levi-Montalcini Distinguished University Professor; Chancellor Mark S. Wrighton; Harry J. Seigle, AB '68, university trustee and member of the Brown School National Council; Christine Homan BSBA '71, a member of the Brown School National Council; Scott Homan, BSME '66; Eugene Kahn, university trustee and chair of the Brown School National Council; Hank S. Webber,

director of the Center for Mental Health Services Research, the Shanti K. Khinduka Distinguished Professor and associate dean for faculty at the Brown School

executive vice chancellor for administration; Edward F. Lawlor, dean of the Brown School and the William E. Gordon Distinguished Professor of Social Work; Enola K. Proctor, PhD '78.

Campaign Progress

in 2013-14:

- \$232.4 million in gifts & commitments
- \$25.3 million Annual Fund
- 61,054 donors, an all-time record
- 29,481 alumni donors, up 4.4%
- Our Washington: Together, We Make a Difference, the faculty-staff component of the campaign, launched in March and will continue for the next four years.

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Top Left: San Francisco (from left): Walter Allen, AB '81: Michael Willis, BArch '73, MArch '76: and Harry Seigle, AB '68, trustee and national co-chair for regional campaigns Top Right: Andrew C. Taylor, trustee and campaign chair of Leading Together

Bottom: Washington, D.C. - Baltimore (from left): Ann Tisch, AB '76, trustee and national co-chair for regional campaigns; Diane Shaw; William Shaw, MBA '72; Right: At the Sumers Recreation Center groundbreaking (from left): Craig Schnuck, chair-elect of the Washington University Board of Trustees; Barbara Schaal, PhD, dean of the faculty of Arts & Sciences; and Andrea Grant, AB '71, JD '74, regional campaign co-chair John Schael, retiring director of athletics; Gary Sumers, AB '75, trustee; Rachel Sumers; Chancellor Mark S. Wrighton; and Matthew Re, AB '14

Scholarships & Professorships — Building a Great University

Washington University is committed to attracting qualified students from all walks of life and ensuring that they have the financial resources to fulfill their dream of a top-tier education. Generous donors established 57 new endowed scholarships in 2013–14, bringing the total number of endowed scholarships secured during the campaign to 277 as of June 30, 2014. Donors also created 99 new annual scholarships and continued 793, for a total of 892 annual scholarships this year.

Together, distinguished faculty and outstanding students define a great university. Endowed professorships attract and retain faculty who inspire generations of students and are leaders in their fields. Eighty endowed professorships have been established at Washington University since the start of the campaign, including 25 created in 2013–14.

Professorships Funded by Donors 2013-14

Alumni Endowed Professorship in Psychiatry Donor: School of Medicine Alumni Association

Anonymous Professorship Donor: Anonymous

Bernard Becker Professorship

Donor: The Bernard Becker Endowment Fund

Philip E. and Carolyn E. Cryer Professorship in Medicine Donor: The William and Elaine Wolff Family

Robert E. and Louise F. Dunn Distinguished Professorship in Medicine

Donor: The Estate of Robert E. Dunn

Richard and Judith Engelsmann Professorship Donor: Richard G. Engelsmann

Eugene S. and Constance Kahn Family Professorship in Public Health

Donors: Eugene S. and Constance Kahn

David M. and Paula L. Kipnis Professorship Donors: The Kipnis Family; friends and former colleagues; and

multiple departments and divisions in the School of Medicine
Bert A. and Jeanette L. Lynch Distinguished Professorship
Donors: Bert A. and Jeanette L. Lynch Trusts

George and Charmaine Mallinckrodt Professorship Donors: George and Charmaine Mallinckrodt

Neidorff Family and Robert C. Packman Professorship Donors: Michael and Noémi Neidorff

Douglass C. North Distinguished Professorship Donors: Bert A. and Jeanette L. Lynch Trusts

Tragos Distinguished Professorship in Classical Philosophy Donors: William G. and Lilli M. Tragos Murray L. Weidenbaum Distinguished Professorship Donors: Bert A. and Jeanette L. Lynch Trusts

David A. and Deborah F. Winston Professorship Donors: David A. and Deborah F. Winston

Alan A. and Edith L. Wolff Distinguished Professorship in Developmental Biology

Donors: The Trusts of Alan A. and Edith L. Wolff

Alan A. and Edith L. Wolff Distinguished Professorship in Medicine

Donors: The Trusts of Alan A. and Edith L. Wolff

Alan A. and Edith L. Wolff Distinguished Professorship in Ophthalmology and Visual Sciences Donors: The Trusts of Alan A. and Edith L. Wolff

Alan A. and Edith L. Wolff Distinguished Professorship in Urology

Donors: The Trusts of Alan A. and Edith L. Wolff

Alan A. and Edith L. Wolff Professorship in Endocrinology Donors: The Trusts of Alan A. and Edith L. Wolff

Alan A. and Edith L. Wolff Professorship in Geriatric Medicine Donors: The Trusts of Alan A. and Edith L. Wolff

Professorships Funded by Other Sources

David R. Francis Professorship

Edward S. and Tedi Macias Professorship

Visiting Professorships

Dennis R. Brophy Visiting Professorship Donor: Dennis R. Brophy

David Peter Kooy Visiting Professorship Donor: David Kooy





WHERE Knowledge Leads

As one of the world's great academic and research institutions, Washington University in St. Louis is a place founded upon the discovery and dissemination of knowledge. Yet we have always been more than just a community of great thinkers. We are a community of doers. Here, intellect inspires innovation, and ideas empower individuals to transform learning, research and collaboration into real-world solutions. This is a place that fosters the entrepreneurial spirit and, at its core, focuses on meaningful, measurable results to enhance our leadership today — all to benefit America and the world tomorrow. This is where knowledge *leads*.

Where Knowledge Leads

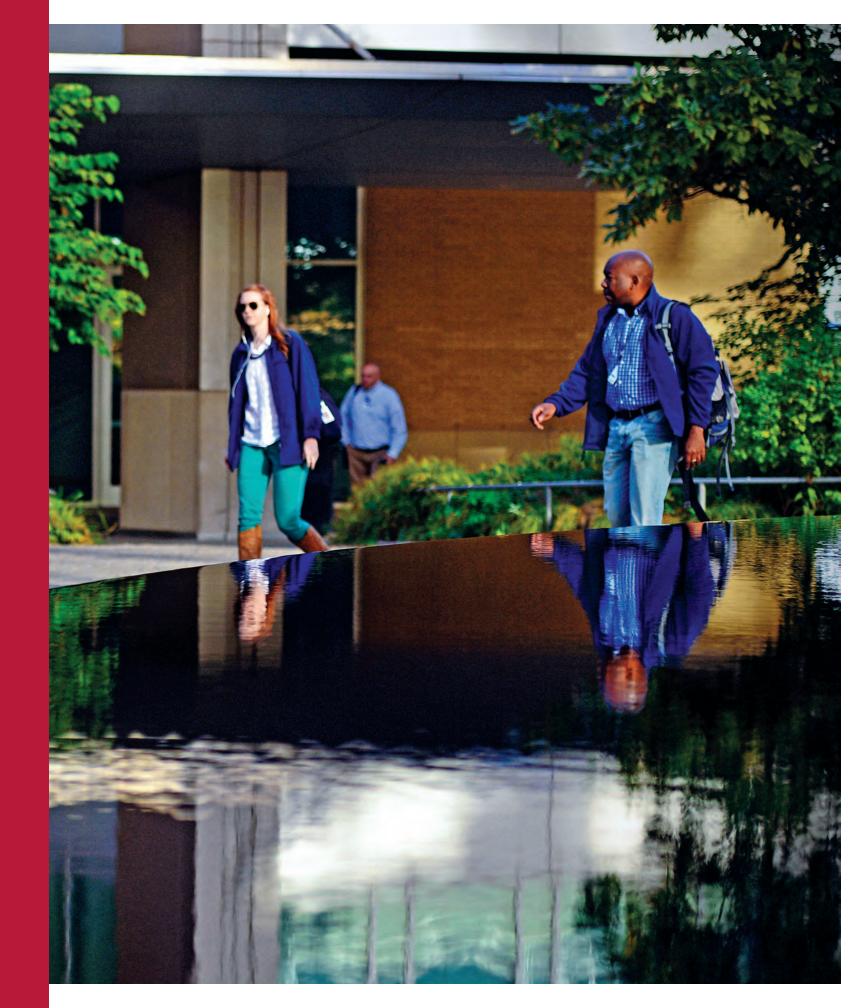
In the last year, Washington
University students, faculty and
alumni have applied their talents to
change the world for the better.
Their knowledge has led to...

Breakthroughs. Researchers are discovering new ways to treat illnesses, see the brain and understand photosynthesis.

Awards. Students and faculty across campus are earning top honors and accolades for their research, writing and other achievements.

Innovation. Professors are making an impact by creating more efficient plants or glasses that see cancer.

Collaboration. Students and faculty across disciplines are coming together to take on challenges in the region and the world.





Thanks to breakthroughs by Washington University School of Medicine researchers, the World Health Organization has established new guidelines for the treatment of severe acute malnutrition — suffered by an estimated 20 million children under age 5 worldwide.

"The new guidelines, if properly implemented, will reduce childhood deaths by about 175,000 annually," says Mark Manary, MD, the Helene B. Roberson Professor of Pediatrics. "These are relatively simple, inexpensive steps that will have a profound effect on many lives."

Manary and his team of researchers discovered that severely malnourished children are far more likely to survive when given antibiotics along with a therapeutic peanut-butter-based food. A study of 2,800 severely malnourished Malawi children found that the oral antibiotics cefdinir and amoxicillin cut mortality rates 44 percent and 36 percent, respectively.

"The findings are remarkable," says lead author Indi Trehan, MD, assistant professor of pediatrics.

Other studies conducted in Malawi and Bangladesh — led by Jeffrey Gordon, MD, the Dr. Robert J. Glaser Distinguished University Professor and director of the Center for Genome Sciences & Systems Biology, and reported in the journals *Science* and *Nature* — suggest that intestinal bacteria are an underlying cause of childhood malnutrition. The studies found that normal postnatal development of gut microbial communities is disrupted in undernourished children, and these communities are not repaired with just therapeutic food interventions.

The studies transplanted microbial communities from undernourished children to mice, who were fed the same diet as the human donors. The mice developed symptoms of malnutrition.

"Our results suggest we need to identify new nutritional interventions or administer collections of health-promoting gut microbes to repair abnormalities in gut microbial communities, so these children can develop normally," Gordon says.

Further, researchers at the Brown School have collaborated with and supplemented the work being done at the School of Medicine as they strive to identify early intervention strategies for young children before they become malnourished.

"Our group recently published findings from a trial in Haiti that showed a lipid-based nutrient supplement, Nutributter, introduced between 6 to 12 months of age, improved growth," says Lora Iannotti, PhD, assistant professor in the Brown School.

Iannotti has also recently co-authored published findings on nutritional disparities and undernutrition in Guatemala and Kenya.

Now, Manary and his team are conducting a study examining a nutrition supplement to treat moderate acute malnutrition in pregnant women.

"This is one of the first projects to be conducted examining an intervention for undernourished pregnant women," Manary says, "and it has the potential to improve fetal development, birth weight and height, and morbidity and mortality for both mother and child."

MAXIMIZING PHOTOSYNTHESIS

enhances our ability to feed the world

A breakthrough by university researchers in the study of photosynthesis — the conversion of sunlight to energy that powers the growth and movement of most plants, algae and cyanobacteria — could have profound effects on our future ability to feed the world, according to a recent article in *Science* authored by Robert Blankenship, PhD, the Lucille P. Markey Distinguished Professor and director of the Photosynthetic Antenna Research Center (PARC).

PARC scientists chemically linked proteins in a photosynthetic complex so that for the first time the complex could be isolated in its complete, fully functioning form and subjected to analysis by state-of-the-art instruments, such as tandem mass spectrometers and ultrafast lasers. This could help researchers maximize photosynthetic efficiency in living organisms and design hybrid or synthetic energy-producing devices.

In the long term, says Blankenship, this could lead to doubling or even tripling crop-plant efficiency. "We will need such a boost to feed the 9 or 10 billion people predicted to be alive by 2050." In June, the U.S. Department of Energy recognized the importance

of Blankenship's work by renewing PARC's funding, providing \$14.4 million over the next four years.

Until now, some scientists doubted that the three basic protein clumps of photosynthesis — the phycobilisome light-harvesting antenna and photosystems I and II — were a single megacomplex. However, using a cyanobacterium — a blue-green alga that has been around for billions of years — and a complicated data analysis routine, PARC scientists showed otherwise.

"PARC is one of the only places in the world that has available this sophisticated combination of experience and advanced techniques," Professor Robert Blankenship says, "and to solve this problem, we brought all of our expertise to bear."





STUDENTS ACROSS DISCIPLINES UNITE to solve real-world problems

In the newly inaugurated Interaction Design workshops at the Sam Fox School of Design & Visual Arts, students work across disciplines to find innovative ways to solve complex human problems. Together they are designing digital interfaces, products, built environments, systems, services and other tools.

The workshops — short-term, for-credit courses open to any university student — are part of the Interaction Design Initiative, headed by Heather Corcoran, the Jane Reuter Hitzeman and Herbert F. Hitzeman, Jr. Professor of Art and director of the College and Graduate School of Art.

"Interaction Design focuses on human behavior first, which leads to the design of a wide range of products and services," Corcoran says.

One recent workshop wrestled with a real-life problem at BJC HealthCare: reliable transportation for patients, often elderly or infirm, who sometimes miss scheduled treatments because public transport is inconvenient or impractical.

"Students from design, business, arts and sciences, engineering, social work and other disciplines sat down with patients to find out about their values, needs and support systems," Corcoran says, before putting their heads together to find a solution.

One team devised a program named Travel Pals — now being piloted by BJC — where social work students from Washington University and other local schools partner with patients to drive them to their appointments and address other needs. The team's work included developing a BJC Patient Experience Map, which helped clarify the need, and a Stakeholder Map to show how the new program would supplement the relationships of the parties involved.

The emerging field of interaction design takes human behavior as a starting point, says Corcoran, and relies on collaboration to solve problems.

"It all depends on the need," says Professor Heather Corcoran. "Interaction Design isn't about the product; it's about anticipating human behaviors."

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OLIN BUSINESS SCHOOL'S EXECUTIVE MBA PROGRAM TURNS 30



Over the three decades since Olin Business School formed its first Executive MBA class

in 1983, its alumni have been using the tools they acquired to advance their careers to new levels, grow their organizations and make skillful decisions for their businesses and nonprofit corporations.

"Life changing" is how John Danahy, a member of Olin Business School's inaugural Executive MBA class in 1983, characterizes his experience. In the intervening years, Danahy, EMBA '85, rose from running IT development for May Department Stores Company to chairman and chief operating officer of May Merchandising Co. and May Department Stores International, before retiring in 2006. "The opportunity to learn from world-class professors and peers made a fundamental difference in my career," he says.

Danahy is joined by some 2,500 other alumni — managers from across a spectrum of industries and organizations around the world — who have benefited from Olin's renowned professors, leadership development, practical business tools and inclusion in an international executive network of high-achieving colleagues who have graduated from Olin's expanding EMBA program.

"The quality of Washington University's professional network is incredible," says Deborah Slagle, EMBA '13, vice president of North America

operations at Sigma-Aldrich Corp. "The program opened doors for me at my company and gave me a seat at the financial table. I have deeper knowledge, understanding and networks."

Over the last three decades, Olin's EMBA program also has forged both national and international partnerships. In 2002, Olin launched the Washington University–Fudan University Executive MBA program, which is ranked in the top 10 Global EMBA programs by the *Financial Times*.

Founded in 2010, Olin's EMBA–Kansas City program is celebrating its fifth anniversary, and the EMBA–Denver program welcomed its first class in September 2013.

Another first for the EMBA program is under way in Mumbai, where Olin is partnering with the Indian Institute of Technology-Bombay's Shailesh J. Mehta School of Management to offer a first-of-its-kind joint-degree Executive MBA program in India.

"This joint program with IIT Bombay strengthens our global alumni network and provides an opportunity for innovative executives to make a real difference in their organizations in a direct and observable way," says Mahendra R. Gupta, PhD, dean and the Geraldine J. and Robert L. Virgil Professor of Accounting and Management.

Designed for professionals with at least seven years work experience, the Olin Business School's Executive MBA teaches leadership and strategic management themes. Its teaching methodology encourages peer group learning through case discussions, group projects and other interactive techniques, in addition to classroom instruction, simulations and guest lectures.

"All of us who were part of the inaugural EMBA class felt a little special because we were there at the founding," says John Danahy, who is past president of the EMBA Alumni Association, a member of Olin's National Council, a member of the Alumni Association's Executive Committee and former chair of the EMBA Education Committee. "Our legacy is that we blazed the trail and retained a great sense of solidarity as a class. We like to say we're first class."

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IN BRIEF

MFA Graduate Wins Prestigious Poetry Awards

Phillip B. Williams (left), a 2014 MFA graduate in creative writing and former Chancellor's Graduate Fellow, was one of only five young poets nationwide to win a prestigious 2013 Ruth Lilly Fellowship from the Poetry Foundation and *Poetry* magazine. The \$15,000 award aims to encourage further poetry writing and study by U.S. poets between 21 and 31 years of age. In May 2014, Alice James Books announced that they had selected Williams' book, *Thief in the Interior*, for publication and awarded him \$1,000.

Chicago-born Williams is the poetry editor of the online journal *Vinyl Poetry* and author of the chapbooks *Bruised Gospels* (Arts in Bloom Inc., 2011) and *Burn* (YesYes Books, 2013). His poetry has appeared in *Blackbird*, *Callaloo*, *Kenyon Review Online*, *Painted Bride Quarterly*, *The Southern Review*, *West Branch* and other literary magazines. He is the second Chancellor's Graduate Fellow to win a Ruth Lilly Fellowship in the past two years.

"Writers oftentimes spend days, months and sometimes years wondering where the next paycheck is coming from, and that can negatively affect one's creative flow," Williams says. "I can now spend even more time doing what I love with flexibility."



Cancer-Imaging Professor Receives Transformative Research Award

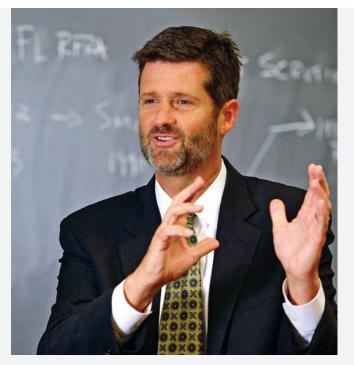
A biomedical engineer who may hold the key to unlocking the mystery of tumor structure, function and cell circulation received a \$3.5 million National Institutes of Health (NIH) Transformative Research Award in 2013.

A leading researcher on innovative cancer-imaging methods, Lihong Wang, PhD, (left) hopes to translate a new technology called single-cell label-free photoacoustic microscopy (PAM) into the clinic for cancer screening, detection, prognosis and monitoring. The technology could help detect metastases at an early stage, enable earlier therapeutic interventions and improve cancer patient survival rates.

The Gene K. Beare Distinguished Professor of Biomedical Engineering and a research member of the Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine, Wang was one of only 10 individuals in the country to receive the award, given to scientists proposing highly innovative approaches to major contemporary challenges in biomedical research.

Wang also was awarded an honorary doctorate from the Faculty of Engineering at Lund University in Sweden, in June 2014, for his work in photoacoustic imaging.

"His groundbreaking and internationally recognized research has played a major role for many of those in physics, medicine and engineering who work in this field," says Stefan Andersson-Engels, professor of atomic physics at Lund University.



The Law School Goes Digital

The School of Law's new online Master of Laws (LLM) in U.S. Law Program, called @WashULaw, is attracting attorneys from around the world and across legal disciplines. It features a cutting-edge web-based format that allows students to earn their LLM without relocating to the United States.

"We have been able to attract experienced lawyers at the top of their fields from around the world, lawyers who otherwise wouldn't be able to attend Washington University," says Michael H. Koby, JD, associate dean for International and Graduate Programs (pictured above).

Students in the program have included a member of India's Parliament, a barrister and solicitor of the Supreme Court of Nigeria, and a former legal adviser for the Colombian Ministry of Foreign Affairs.

"We've been able to create a rigorous online program that the university can be proud of," Koby says. "Students have been overwhelmingly positive about their experiences."



I-CARES Research Could Make Plants More Efficient

While modern, nitrogen-rich industrial fertilizers help feed a growing global population, they do so at great cost.

"The 100 million tons [of nitrogen-rich fertilizer] produced annually, which will grow 40 percent by 2030, take 5 percent of the world's energy to produce," says Himadri Pakrasi, PhD, the Myron and Sonya Glassberg/Albert and Blanche Greensfelder Distinguished University I-CARES Professor, the George William and Irene Koechig Freiberg Professor of Biology and director of the International Center for Advanced Renewable Energy and Sustainability (I-CARES). Further, the nutrient-rich agricultural runoff degrades rivers, lakes and seas, he says.

But all that could change if Pakrasi (pictured above) and fellow researchers succeed in their ambitious goal: to develop plants that make their own fertilizer.

"That would really revolutionize agriculture," Pakrasi says.

Although the air contains plenty of nitrogen, it's not in a form plants can access. Pakrasi's plan centers on engineering plants that can "fix" atmospheric nitrogen, converting it to compounds plants can use. His idea would put the apparatus for fixing nitrogen into cyanobacterial and plant cells, the same photosynthetic cells that capture energy from sunlight.

The National Science Foundation previously awarded Pakrasi and his team more than \$3.87 million to explore the idea further. The grant is being administered through I-CARES, a university-wide center that supports collaborative research regionally, nationally and internationally in the areas of energy, the environment and sustainability.



While Google Maps now digitally charts most any place on Earth, much of the human brain remains terra

incognita, says David C. Van Essen, PhD, the Alumni Endowed Professor of Anatomy and Neurobiology in the School of Medicine. "Brain cartography has been stuck in the equivalent of 17th- or 18th-century maps — moderately accurate for a few regions and egregiously incomplete and inaccurate for most of the cerebral cortex, which is the dominant component of the brain."

At least until now.

Thanks to the Human Connectome Project (HCP), a groundbreaking, five-year brain-mapping quest, hundreds of researchers around the world are already downloading and digging into newly released data — brain maps that eventually could lead us to new understanding of human behavior and breakthroughs in treating intractable mental disorders.

"Understanding the human brain is one of the grand challenges of the coming century and coming millennium," says Van Essen, co-leader of the HCP. "What makes us tick as individuals is intrinsically interesting. But the brain is also hugely important from a clinical perspective to better address the scourge of schizophrenia, autism, Alzheimer's disease and other devastating mental disorders."

Using several complementary MRI approaches, the HCP is mapping the connectivity, circuitry and structure of the brains of 1,200 healthy adults, enabling the global scientific community to explore relationships between brain circuits and individual behavior. Each subject is also scanned while

performing certain tasks, providing extensive new information on brain function.

In addition to collecting vast amounts of data via brain imaging, the HCP consortium — which includes more than 100 investigators and technical staff at 11 institutions in the United States and Europe — is also making that data freely available so scientists worldwide can make further discoveries about brain circuitry.

"The HCP will have a major impact on our understanding of the human brain, and it will set the stage for future projects that examine changes in brain circuits underlying the wide variety of brain disorders afflicting humankind," Van Essen says.

Subjects include siblings, many of whom are twins, which has led to an important finding, according to Van Essen.

"We have affirmed that identical twins do not have identical brains, but instead have strikingly different folds, circuitry and connectivity. That's a fair indication that brain development is shaped by environmental influences and experiences. The initial genetic instruction kit is very important as well. What makes each of us a unique individual is a powerful combination of nature and nurture."

HCP is funded by the National Institutes of Health via the Blueprint for Neuroscience Research.

"Much of the action in neuroscience is going on at Washington University," Van Essen says.

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SEEKING BETTER OUTCOMES FOR LEUKEMIA PATIENTS

Two major five-year grants from the National Institutes of Health's National Cancer Institute have helped establish Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine as a premier national leukemia research institution.

A prestigious \$11.3 million Specialized Program of Research Excellence (SPORE) grant supports several new clinical and translational projects aimed at improving outcomes in patients with leukemia. This includes two clinical trials that test novel immunotherapies in acute myeloid leukemia (AML) patients who could not be treated successfully using standard methods.

"Immunotherapy represents an exciting new type of treatment that harnesses the body's own immune system to kill cancer cells," says Daniel Link, MD, the Alan A. and Edith L. Wolff Professor of Medicine and principal investigator of the SPORE grant. "These particular immunotherapies were developed by Washington University scientists and are being evaluated in patients for the first time."

The second grant, a \$14.3 million Program Project Grant (PPG), aims at investigating the genetic roots of AML. "We have already analyzed 200 patients with the typical 'out of the blue' presentation of AML, a body of work that has allowed us to understand most of the genetic rules that govern the disease," says Timothy Ley, MD, the Lewis T. and Rosalind B. Apple Professor of Oncology and principal investigator of the PPG.

"Now, we're studying AML patients who have a family history of AML, patients who develop AML after getting chemotherapy for another cancer, and patients with refractory or relapsed AML. By understanding the mutations in these patients, we hope to gain new insights that may be helpful, since the prognosis for many of these patients is so very poor. New approaches for their treatment are desperately needed."

In fiscal year 2013, Washington University received more than 800 NIH grants totaling more than \$320 million in funding.





IDEA LABS GIVE STUDENTS HANDS-ON EXPERIENCE

Electrical engineering undergraduate Sophie Jacobson's IDEA Labs project turned out to be a win-win situation — for both the 45-year-old paralyzed stroke victim whose communication speed Jacobson's team increased fivefold and Jacobson herself.

"I learned so much from this challenging journey, from working with a team of talented engineers to developing a prototype," says Jacobson, BSEE '14. "Seeing firsthand that applying the problem-solving skills learned in class could actually improve a life was amazing."

IDEA (Innovation, Design and Engineering in Action) Labs — a shared venture of the School of Medicine, the School of Engineering & Applied Science and the Division of Biology and Biomedical Sciences in Arts & Sciences — is a bioengineering design incubator founded in spring 2013 through the inspiration of MD/PhD candidate Avik Som (pictured above).

"Our goal was to take physicians who know the problems and students and faculty on both campuses who have the skills to solve them, and put them together," says Som, whose doctoral training is in biomedical engineering.

Jacobson's team of graduate and undergraduate students met with the stroke victim, who was completely paralyzed except for limited movement in two fingers. He was frustrated with the time it took him to manipulate a clicker to communicate. Using a microcontroller and two motion-sensing accelerometers, they designed KinoCOM, an inexpensive but effective device that greatly increased his speed while typing. The design won a \$1,000 equipment grant from the National microMedic Contest.

Since then, Jacobson has landed a job with the global medical technology company Stryker, in San Jose, California.

"In the interview they were so impressed with my IDEA Labs project experience," Jacobson says. "I could talk about it for hours."

Avik Som invented IDEA Labs so students could get hands-on learning experience engineering devices in response to real-life medical or health-care delivery problems, posed by physicians.

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STUDENTS MAKE AN IMPACT

As soon as they arrive on campus, Washington University's students are driven to take on new challenges. They conduct independent research, volunteer, study abroad and get engaged on campus and in the community. By the time they leave, students are

empowered to become leaders, scholars, entrepreneurs and much more.



Nikedra Doughty, MSW '14, understands the importance of a top-notch education and supportive mentoring for developing tomorrow's leaders. She got just that as a social work student at the Brown School. "Thanks to incredible educators, my Washington University experience has forever changed and enhanced my career," she says. Now, using those skills, she's helping other young women move into leadership roles via the new Hawthorn Leadership School for Girls — the first single-sex STEM (science, technology, engineering and math) charter school in St. Louis, slated to open in August 2015.

Doughty serves on Hawthorn's board of trustees, helping guide the school's staff search process, programming development, parent engagement processes, organizational structure and culture. She says the school will benefit from the considerable academic resources of its institutional sponsor, Washington University.

"Local jobs and the economy have shifted toward STEM fields," says Doughty, who also works at City Academy, a north St. Louis independent private

school. "It's important to give young women in St. Louis access to strong academics in these emerging market areas. The single-sex school will provide them with a safe and nurturing environment where they can take academic risks."

The school, whose location has yet to be determined, will feature open enrollment and free tuition. It's affiliated with the Young Women's Leadership Network, which was founded by alumna Ann Rubenstein Tisch, AB '76. The network already supports five high-performing all-girls public schools in New York City and nine others across the country. Hawthorn's founder and president of the board, Mary Danforth Stillman, is the niece of Washington University Chancellor Emeritus William H. Danforth and a former assistant dean at the university.

"The single-sex option is out there for people who are able to pay, and now we are saying, 'Let's provide that option to students with limited financial resources,' Stillman says.

Joshua Aiken, AB '14, has a passion for international human rights and domestic civil liberties. Now that he has been named a Rhodes Scholar, he is pursuing that passion at the University of Oxford in England over the next two years, studying the experience of refugees and asylum seekers.

"I have had the experience of being able to live openly and freely and to be who I am. Knowing that so many people can't do that motivates me," Aiken says.

Aiken, who hopes to complete two one-year master's degree programs in history and forced migration studies at Oxford, majored in American culture studies and political science at Washington University. He served as a Humanity in Action American Fellow (2013), a U.S.–U.K. Fulbright Commission Summer Institute participant (2012) and a U.S. House of Representatives legislative intern (2012).

Jolijt Tamanaha, AB '15, parlayed her interests in local food and for-profit companies that solve social issues into a thriving startup, Farmplicity, whose goal was to bring farm-fresh foods to St. Louis–area restaurants.

Seeing that local farmers struggled to compete with big agribusiness, she reasoned that since "the Internet brings everyone to one place, it had the potential to do that for local farmers."

In the Hatchery, the university's capstone entrepreneurship course in the Olin Business School, she met Farmplicity co-founders and business majors Drew Koch, BSBA '13; Andrew Lin, BSBA '13; and Lauren Ortwein, BSBA '13. With help from mentors in the business school, they launched their company. Just one year later, Tamanaha sold the business to Sunfarm, a St. Louis—based produce and specialty products distributer.

"Farmplicity has the potential to modernize local food distribution so that small farmers can successfully compete with larger growers," Tamanaha says. "And Sunfarm is the perfect company to turn that potential into results."

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IN BRIEF

Goggles Help Doctors 'See' Cancer

A new technology that makes notoriously hard-to-see cancer cells glow blue when viewed through special "fluorescence goggles" is already helping surgeons from the Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine spot and remove cancerous cells.

A team led by Samuel Achilefu, PhD, professor of radiology and of biomedical engineering, developed the cancer-spying technology. It employs a head-mounted display, video technology and a targeted molecular agent that attaches to cancer cells, making them glow when viewed through the glasses. Stray tumor cells — difficult to recognize even under high-powered magnification — can now be distinguished from healthy cells and removed. "Our goal is to make sure no cancer is left behind," Achilefu says.

As many as one in four breast cancer patients who have lumps removed need a second surgery because previous technology inadequately showed the extent of the disease. "Imagine what it would mean," says Julie Margenthaler, MD, (left) associate professor of surgery, who was the first to use the goggles in the operating room, "if these glasses eliminated the need for follow-up surgery and the associated pain, inconvenience and anxiety."



In Chasing the American Dream: Understanding What Shapes Our Fortunes (Oxford University Press, 2014), Mark R. Rank, PhD, (left) the Herbert S. Hadley Professor of Social Welfare at the Brown School, and co-authors Thomas A. Hirschl, PhD, of Cornell University, and Kirk A. Foster, PhD, of the University of South Carolina, strive to bring the American dream to life. To do so, the book draws on extensive personal interviews and the "Panel Study of Income Dynamics," the world's longest-running longitudinal household survey, initiated in 1968.

'What the book does is combine the statistics with the stories of people's lives," Rank says. "We did 75 interviews with people from all walks of life, from someone who is homeless to someone who manages a billion dollars' worth of assets."

He says one of the book's key conclusions is that "Americans still feel that the American dream is a really important idea. To lose that is to lose the heart and soul of the country."

Yet his research shows that the American dream is "not really open to everyone even though people believe that it is. What I would like to see happen is that these things align better together, so that when we say, 'liberty and justice for all,' we really mean all and not just for some," Rank says.



Illuminating Illustrations

An important archive of late 19th- and early 20thcentury graphic art from the iconic New York gallery Illustration House has been acquired by Washington University Libraries for the Modern Graphic History Library (MGHL). The collection, founded by noted collector Walt Reed, includes some 8.000 periodicals; 250,000 magazine tear sheets; and 140 pieces of original art — drawings, production art and finished canvases.

"No one else championed the whole field the way Walt did." says Jeff Pike, an illustrator and professor of communication design in the Sam Fox School of Design & Visual Arts. "Walt knew many of the illustrators he worked with and brought a level of knowledge and sophistication that was unmatched."

For decades, Illustration House was the nation's premier advocate for illustration art and pioneered a thriving market for original works. MGHL is now housing, digitizing and building curricula around the collection.

"Illustration remains a poorly theorized field," says D.B. Dowd, professor of communication design in the Sam Fox School and of American culture studies in Arts & Sciences, as well as MGHL faculty director. "It has been characterized by enthusiasts and fans more than by serious scholarship. We intend to build programming and curricula around these resources, for humanists as well as practitioners. They capture then-contemporary social relations, gender roles, racial tropes and the emergence of consumer culture. It's a tremendous academic opportunity."



Law School Expands Professional Practice Opportunities

Washington University School of Law's recently launched national Semester-in-Practice Externship joins 17 other clinical programs to expand student opportunities for handson legal and professional skills training.

The Semester-in-Practice program, inaugurated in fall 2013, allows students to spend a semester working full time for a nonprofit, government or in-house corporate law office, interacting directly with a practicing attorney with oversight from a faculty supervisor.

"The Semester-in-Practice Externship is opening up new opportunities and helping address growing student interest in semester-long experiential learning both in and outside the St. Louis area," says Robert Kuehn, associate dean for clinical programs. "Students are able to literally design their own professional practice experience."

An IRS grant is helping fund a new Low Income Tax Clinic where law students work with clinic faculty and staff on tax-related issues for low-income clients. Further, a gift from alumna Alicia McDonnell, JD '95, has established a Prosecution Law Clinic in partnership with the City of St. Louis Circuit Attorney's Office.

"Prosecutors are a different breed," McDonnell says. "They don't do their work for the title, salary or prestige. They believe in public service and are passionate about seeking justice."

"Students and prospective employers are increasingly seeing the value of hands-on legal training while in law school," Kuehn says. "And the law school — ranked among the very best in the country for clinical training — has been, and will continue to be, in the forefront of providing those experiences."



2013



July

Debra Haire-Joshu, PhD, an internationally renowned researcher in obesity and diabetes prevention, is installed as the Joyce Wood Professor, the university's first endowed professorship in public health.

Olin Business School and Lee Kong Chian School of Business at Singapore Management University launch the new Global Master of Finance Dual Degree program.

Ronald M. Levin, JD, the William R. Orthwein Distinguished Professor of Law, testifies before Congress about the proposed Regulatory Accountability Act, which would change rulemaking for Federal Agencies.

In the 2013 *Financial Times* ranking, Olin ties with Brandeis University for the best Master of Science in Finance program in the U.S. that doesn't require work experience.



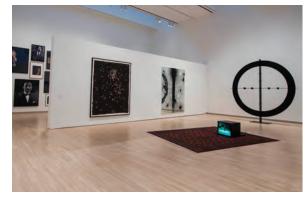
August

The university announces that it will be the anchor tenant in a \$73 million laboratory and research facility in the CORTEX bioscience district.

Washington University Orthopedics opens a walk-in clinic aimed at school athletes, weekend warriors and regular exercisers who might sustain an orthopedic injury outside of traditional business hours.

The Brown School is a founding member of the Association of Schools and Programs of Public Health, and Dean Edward F. Lawlor, PhD, the William E. Gordon Distinguished Professor of Social Work, takes a leadership role in the organization.

Kevin Hays, a sophomore in Arts & Sciences, breaks the world record he previously held when he solves a 6x6 Rubik's Cube in 1 minute and 40 seconds.



September

The Kemper Art Museum hosts *Rashid Johnson: Message to Our Folks*, the first major solo museum exhibition to survey the career of the influential African-American artist.

A testing kit that estimates the risk of breast cancer returning after anti-hormone treatment receives approval from the U.S. Food and Drug Administration. Researchers at Washington University designed the kit, along with collaborators at the University of North Carolina, the University of Utah and the BC Cancer Agency in Canada.

Rebecca Gernes, a dual degree candidate in social work and public health at the Brown School, is the only student selected by the U.S. Environmental Protection Agency for the Toxic Release Inventories Challenge for the 2013–14 school year.

Philip Bayly, PhD, the Lilyan and E.
Lisle Hughes Professor and chair of the
Department of Mechanical Engineering and
Materials Science, receives a three-year grant
from the National Science Foundation to
study what happens to the brain during a
traumatic brain injury.



October

Washington University's women's soccer team is ranked No. 1 in the National Soccer Coaches Association Top-25 poll.

The University of Missouri–St. Louis and Washington University mark the Joint Undergraduate Engineering Program's 20-year anniversary. Nearly 650 students have graduated from the program.

The Master of Landscape Architecture program in the Sam Fox School of Design & Visual Arts receives accreditation from the Landscape Architectural Accreditation Board.

Scientists at the Charles F. and Joanne Knight Alzheimer's Disease Research Center at Washington University School of Medicine publish a report in *The Lancet Neurology* proposing a new system for identifying and classifying individuals with preclinical Alzheimer's disease.

Women's golfer Connie Zhou, a sophomore in the Olin Business School, is featured in the October 28th issue of *Sports Illustrated* as part of the "Faces in the Crowd" section.



November

President Barack Obama appoints Gerald Early, PhD, the Merle Kling Professor of Modern Letters, to the National Council on the Humanities.

In an article in *Nature Geoscience*, Doug Wiens, PhD, a professor in earth and planetary sciences in Arts & Sciences, and his team reveal that they've discovered a volcano beneath the ice in Antarctica.

The university completes a 9,000-squarefoot addition to McMillan Hall for the Department of Anthropology. It includes an environmentally friendly green roof, a 174seat pooled Arts & Sciences classroom and three new anthropology teaching labs.

A team of Olin Business School graduate students wins first place in the prestigious International Case Competition.

The School of Law's trial competition team places first at the National Institute of Trial Advocacy 2013 Tournament of Champions, held in Birmingham, Alabama.

The School of Law celebrates the 40th anniversary of its clinical education program with a colloquium on access to equal justice.



December

Defensive lineman Nelson Nwumeh, a senior in Arts & Sciences, earns University Athletic Association (UAA) Defensive Player of the Year honors and is selected to participate in the National Bowl Game in Miami.

Washington University installs one of only three secondary ion mass spectrometers (SIMS) in the world in the Grossman Family SIMS Laboratory. The \$3 million instrument was funded by a grant from the National Science Foundation Major Research Instrumentation program.

A 60-acre (25-hectare) plot in Washington University's Tyson Research Center is named a Forest Global Earth Observatory or ForestGEO. It joins a network of 51 long-term forest study sites in 23 countries.

Washington University and Yonsei University in Seoul, South Korea, launch a Global Master of Finance Dual Degree program.

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2014



January

Michael Sherraden, PhD, the George Warren Brown Distinguished University Professor and director of the Brown School's Center for Social Development, joins the executive committee of the American Academy of Social Work & Social Welfare's Grand Challenges in Social Work initiative. The initiative is working to chart future goals for research and application in social work.

Sam Fox School of Design & Visual Arts is a founding member of the Alliance for the Arts in Research Universities. The alliance's mission is to "generate knowledge, advocacy and resources that enable universities to integrate arts and design practices."

A team of juniors in Arts & Sciences wins the Gold Medal in the international University Physics Competition.



February

Bruce Lindsey, dean of architecture and the
E. Desmond Lee Professor for Community
Collaboration, wins the Distinguished
Professor Award from the Architectural
Education Awards. The organization also
awards Associate Professor Peter MacKeith a
Creative Achievement Award.

Gary Patti, PhD, assistant professor in the departments of chemistry, genetics and medicine, wins a 2014 Sloan Research Fellowship, which is awarded to early career scientists and scholars who already exhibit great potential.

Annika Rodriguez Scholar Daniel Giuffra, a freshman in Arts & Sciences, helps the FDA roll out its first-ever youth tobacco prevention campaign at the National Press Club in Washington, D.C.



March

Nancy Staudt, JD, PhD, former vice dean for faculty and academic affairs at the University of Southern California Gould School of Law, is named dean of the School of Law at Washington University and the Howard and Caroline Cayne Professor of Law.

Olin Business School, in partnership with IBM, launches the Master of Science in Customer Analytics program to train students to analyze big data.

Twenty-nine Washington University students are invited to present their "commitment to action" ideas at the 7th annual Clinton Global Initiative University at Arizona State University in Tempe, Arizona.



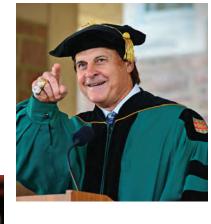
April

William F. Tate, the Edward Mallinckrodt
Distinguished University Professor in Arts
& Sciences, is named dean of the Graduate
School of Arts & Sciences and vice provost for
graduate education.

Children's Discovery Institute awards researchers at Washington University School of Medicine and St. Louis Children's Hospital \$3.1 million in new grants.

The university breaks ground for the Gary and Rachel Sumers Recreation Center, which will add more than 60,000 square feet to the Athletic Complex.

Scholars from around the world collaborate on global aging studies under the aegis of the Global Aging Initiative newly launched by the Institute for Public Health's Harvey A. Friedman Center for Aging at Washington University. The center awarded seed funding for 10 studies that paired university professors with international investigators.



May

Tony LaRussa addresses the class of 2014 at Washington University's 153rd commencement ceremony.

The Institute for Public Health hosts a community conference at the Missouri History Museum to discuss "For the Sake of All," a report on the health and well-being of African Americans in St. Louis.

Three Washington University seniors use a 3-D printer to create a pink robotic prosthetic arm for 13-year-old Sydney Kendall.

The National Institutes of Health award a \$32 million grant to Washington University and three other institutions to study cellular defenses against infection.

Lucy Cheadle, a junior in engineering, wins the national title in the women's 3,000 steeplechase at the NCAA Division III
Outdoor Track & Field Championships. Anna Etherington, a senior in engineering, wins the national title for the women's pole vault at the same meet.

The 2014 Arch Grant recipients are announced, and eight of the winning teams have ties to the university either as current students, alumni or postdoctoral scholars.

The Brookings Institution and Washington University announce a new fellowship program aimed at boosting senior-level government employee success.



June

Josh Whitman, former athletics director for the University of Wisconsin-La Crosse and former NFL player, is named the John M. Schael Director of Athletics.

Dedric Carter, PhD, becomes associate provost and associate vice chancellor for innovation and entrepreneurship, a newly created position that will promote more cross-university collaboration.

Robert Pollak, PhD, the Heinreich
Distinguished Professor of Economics, attends
a meeting at the White House to discuss how
the United States can best meet the needs of
families and employers in the 21st century.

Barry Siegel, MD, a professor of radiology in the School of Medicine and director of the Division of Nuclear Medicine at the Mallinckrodt Institute of Radiology, is awarded the Benedict Cassen Prize for Research in Nuclear Medicine.

Washington University finishes fifth out of more than 300 universities in the Learfield Sports Directors' Cup. The cup honors institutions for achieving success in both men's and women's sports.

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Fiscal Year 2014 Financial Highlights

Net operating results were \$90 million in 2014 down from \$105 million in 2013.

Operating revenue increased by \$79 million, or 3 percent, largely due to growth in patient care and tuition. Operating expenses rose 4 percent resulting primarily from instruction that includes patient care. Led by robust endowment investment performance and endowed gifts, nonoperating activities reported results of \$828 million.

Growth in undergraduate enrollment, as well as a modest increase in tuition rates, produced a 5 percent rise in gross tuition and fees revenue. The university's continued commitment to meeting financial needs led to providing \$190 million in scholarships, a 7 percent increase over 2013. Financial aid awards represented 36 percent of gross tuition income.

Financial Summary

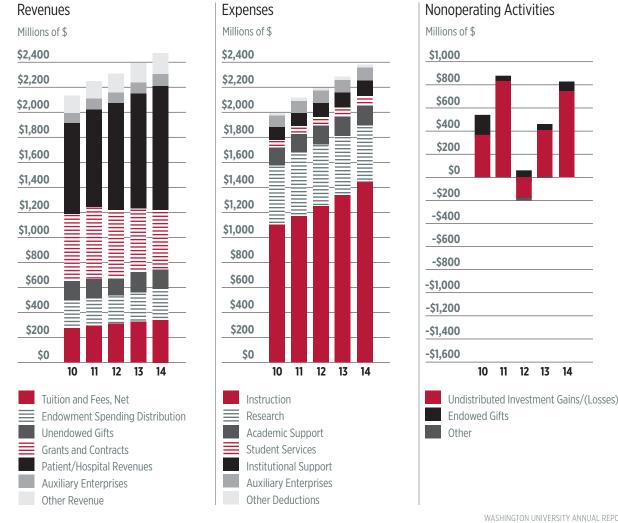
Thousands of \$

Revenues	2010	2011	2012	2013	2014
Tuition and Fees. Net	272,055	294,014	308,398	324,899	339,760
Endowment Spending Distribution		294,014	227,249	235,697	247,509
Unendowed Gifts	152,533	152,147	,	162,719	155,560
Grants and Contracts	•	*	134,471	,	*
Patient/Hospital Revenues	539,760	576,677	548,669	507,340	474,614
' '	724,022	778,286	851,286	915,336	992,705
Auxiliary Enterprises Other Revenue	77,781	85,247	85,539	88,719	92,755
	138,734	138,249	152,295	158,422	169,185
Total Revenues	2,129,951	2,245,611	2,307,907	2,393,132	2,472,088
Expenses	2010	2011	2012	2013	2014
Instruction	1,089,879	1,174,205	1,254,087	1,342,767	1,446,087
Research	472,493	508,124	494,741	471,609	447,065
Academic Support	142,317	145,286	148,736	155,425	161,284
Student Services	64,731	66,397	68,660	73,140	76,077
Institutional Support	100,753	107,851	115,825	120,018	122,968
Auxiliary Enterprises	91,487	96,790	97,375	100,413	101,880
Other Deductions	19,741	24,242	23,211	24,438	27,073
Total Expenses	1,981,401	2,122,895	2,202,635	2,287,810	2,382,434
Net Operating Results	148,550	122,716	105,272	105,322	89,654
Nonoperating Activities	2010	2011	2012	2013	2014
Undistributed Investment Gains/(Losses)*	366,190	820,793	(185,853)	403,841	746,148
Endowed Gifts	168,216	51,012	57,821	56,366	83,696
Other Nonoperating	(429)	(4,658)	(26,502)	(7,916)	(1,586)
Total Nonoperating Activities	533,977	867,147	(154,534)	452,291	828,258
Total Results	682,527	989,863	(49,262)	557,613	917,912
		<u></u>		<u></u>	

^{*} Net gains or losses on investments, excluding amounts used for endowment spending distribution

The university received \$232 million in gifts of cash, securities and gifts-in-kind during the year. In the financial statements, unendowed gifts, reported as operating revenue, and endowed gifts, reported as nonoperating activity, totaled \$239 million, as in accordance with accounting rules, these amounts reflect the adjustment for the year-to-year change in pledged gifts to be received in future years. Of this amount, \$84 million were gifts to the endowment for investment and future support. The remaining gifts were available for operations.

Flat or declining budgets in governmental agencies such as the National Institutes of Health and the National Science Foundation impacted the university unfavorably. Major research grants came to an end and stimulus funding expired leading to a 7 percent decline in research revenues. Despite these negative pressures, the university remains a strong research institution with \$475 million in revenue. New faculty in a number of departments and expanded services at the new Siteman Cancer Center in South County strengthened patient care revenues. These increases and added practices under the WU Clinical Associates group led to a 9 percent growth rate during 2014. Revenues from affiliated hospitals for providing medical education, direction, training and resources for research rose by 6 percent.



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Fiscal Year 2014 Financial Highlights

Expenditures for instruction and research continued to represent almost 80 percent of all university costs. These expenses reflect the university's continuing commitment to world-class education, research and patient care. Instruction expenses, including patient care, grew 8 percent in 2014. The decline in research costs was expected and in line with the decrease in research funding. Academic support and other administrative costs in support of the primary missions were carefully monitored, increasing a modest 3 percent, and remained constant as a percentage of total costs.

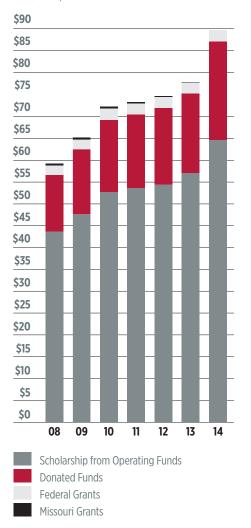
Operating revenue from auxiliary enterprises rose 5 percent. Slightly higher room-and-board rates and increased off-campus occupancy contributed to the increase. The growth in auxiliary operating revenues outpaced the nominal 1 percent rise in auxiliary operating costs. Higher dining service costs were in line with the larger undergraduate student body. Slightly higher non-capital, facility-related expenses were incurred for student housing and dining. The investment in providing students with exceptional living and dining options led to the university's student housing being ranked No. 1 in the most recent *Princeton Review*.

To maintain the university's standard of excellence as a world-class institution, significant capital projects and renovations were completed and new projects begun. The Lofts of Washington University, a retail and student-apartment complex located in the Delmar Loop neighborhood of St. Louis, houses 22,000 square feet of retail space and residential units for approximately 400 undergraduate students. Phase 1 of The Lofts opened for the fall 2014 semester. The Olin Business School continued its major expansion with the dedication of two state-of-the-art facilities, Knight Hall and Bauer Hall, in May 2014. The \$90 million, 175,000-squarefoot expansion project more than doubled the school's footprint. Renovations also began on Olin's Simon Hall, which now houses the business school's undergraduate programs as well as classrooms serving all undergraduates. Construction on an innovative new 105,000-squarefoot facility that will provide additional classrooms and research space for the Brown School's social work and public health programs is scheduled for completion in June 2015. The building design emphasizes health and wellness, inclusiveness, energy efficiency and environmental sustainability. It is crafted to achieve LEED Gold certification and will meet several objectives of the Living Building Challenge. In April, the university broke ground for the Gary and Rachel Sumers Recreation Center, a 66,500-square-foot recreational facility that will be located south of the existing Francis Gymnasium. The center is scheduled to open in fall 2016. The major off-campus apartment renovation program continues to be well received by the students.

Total Undergraduate Grants and Scholarships

Fiscal Years 2008–2014

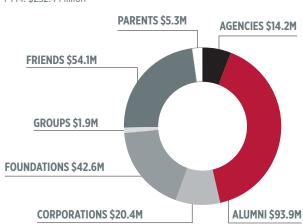
Millions of \$



On the Medical Campus, a number of construction projects are continuing. In June of 2013, the university began construction of a six-story building that will house 138,000 square feet of cuttingedge laboratory space. The Scott McKinley Research Building will accommodate a number of departmental labs, along with conference rooms, support areas and offices. Scheduled for completion in summer 2015, the project will contribute to the university's sustainability efforts by achieving LEED Silver certification for energy efficiency. An underground tunnel will connect the Scott McKinley Research Building to the new Environmental Health & Safety Processing Facility, to be completed in spring 2015. The department of radiology installed a new cyclotron into its recently completed vault in the East Building.

Private Gifts by Source

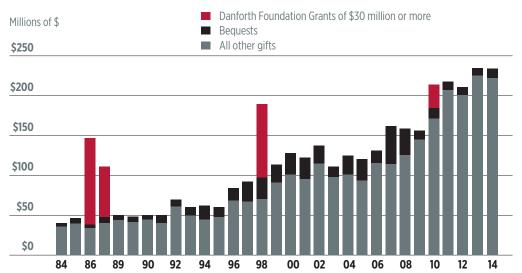
FY14: \$232.4 Million



Total Giving to Washington University:

Historical Results

Fiscal Years 1984-2014

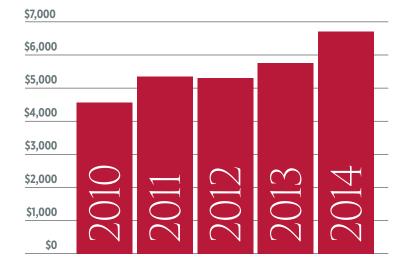


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Fiscal Year 2014 Endowment

Endowment

Millions of \$



Washington University's endowment supports the core university missions of teaching, research and patient care.

Generous supporters have contributed endowments for student scholarships, professorships, research, libraries, academic centers and capital projects. In addition, unrestricted endowments provide income to supplement tuition, grants, patient revenue and gifts in the general operating budget.

Washington University's Board of Trustees has delegated oversight for endowment investment policy to the Washington University Investment Management Company (WUIMC) Board of Directors.

Operating as a division within the legal framework of the university, WUIMC is led by the chief investment officer, who is assisted by a professional staff and is responsible for the implementation of investment strategy, selection and termination of investment managers, and all other day-to-day investment responsibilities. The WUIMC Board also is responsible for the endowment spending policy and the establishment of the annual spending rate.

For the fiscal year ending June 30, 2014, the return of the total endowment was 15.8 percent.

Performance reflected continued strength in equity markets globally — led by the U.S. and Europe — with a developed market index return of 24 percent over the 12-month period. On the other end of the return spectrum, fixed income markets lagged, with the broad U.S. bond market posting a return of 4.4 percent for the year. In terms of relative performance, the endowment exceeded the policy benchmark return by 64 b.p. This excess performance was due to both portfolio positioning — being overweight developed market equities and underweight fixed income — and performance within individual asset classes relative to their respective benchmarks.

Expressed in dollars, growth in the endowment resulted from total investment gains of \$876 million, endowment gifts of \$84 million and net transfers and adjustments of \$258 million. These were offset by approximately \$248 million in spending. As a result, the market value of the endowment increased by \$970 million to \$6.7 billion at June 30, 2014.

Asset Class Allocation

ALLOCATION ASSET CLASS

31.6% DEVELOPED MARKET EQUITY

8.8% EMERGING MARKET EQUITY

3.0% REAL ASSETS (PUBLIC)

14.7% PRIVATE EQUITY

8.2% REAL ASSETS (PRIVATE)

24.8% HEDGED STRATEGIES

7.4% FIXED INCOME

1.3% OPPORTUNISTIC

0.2% CASH

100.0% TOTAL

As shown in this table, the endowment is diversified among seven broad asset classes, an opportunistic allocation and residual cash. The endowment continued to have significant exposure to equities and other equity-like assets at year-end, consistent with its long-term nature.

The table to the right shows the endowment's longer term performance as well as the return for the most recent fiscal year. Over the three years ending June 30, 2014, the endowment earned an annualized return of 9.1 percent, while performance over the trailing five-year period — which reflects the post-crisis recovery — was an annualized 12.4 percent.

Annualized Endowment Returns

for periods ending June 30, 2014





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