PURPOSE

Washington University in St. Louis
2017–18 Annual Report
$711.8M
Research support 2017–18

4,182
Total faculty

20
Number of top 15 graduate and professional programs
U.S. News & World Report, 2017–18

25
Nobel laureates associated with the university

15,396
Total enrollment, fall 2017
7,087 undergraduate; 6,962 graduate and professional; 1,347 part-time and other

30,463
Class of 2021 applications, first-year students entering fall 2017

1,778
Class of 2021 enrollment, first-year students entering fall 2017

BY THE NUMBERS
138,548
Number of alumni addresses on record July 2017

>$7.7B
Total endowment as of June 30, 2018

16,428
Total employees

>$3.5B
Total operating revenues as of June 30, 2018

>2,300
Total acres, including Danforth Campus, Medical Campus, West Campus, North Campus, South Campus, 560 Music Center, Lewis Center, and Tyson Research Center

22
Number of Danforth Campus buildings on the National Register of Historic Places

$248M
Amount university provided in undergraduate and graduate scholarship support in 2017-18

4,638
All degrees awarded 2017–18
The campaign has laid the foundation for a new era of academic achievement and service to society at Washington University. We look to the future with tremendous excitement for all this remarkable institution will do to create a better world in the years, decades, and centuries ahead.

On June 30, 2018, we marked the conclusion of *Leading Together: The Campaign for Washington University*, the most successful fundraising initiative in our history. Thank you to the nearly 160,000 donors who contributed a total of $3.378 billion to this pivotal effort — it is truly inspiring to see such extraordinary generosity. In the pages that follow, you will learn more about the results and impact of the campaign.

We offer special thanks to the campaign’s leadership. Over the past nine years, *Leading Together* has benefited enormously from the dedication of three campaign chairs: life trustees Andrew C. Taylor, John F. McDonnell, and Sam Fox. Each of our chairs worked tirelessly to ensure that the campaign surpassed its ambitious goals. We are grateful for all they have done to strengthen the university and the communities it serves.

To remain at the forefront of institutions of higher learning, Washington University must continue to be a community enriched by students’ unique perspectives and life experiences. For this reason, one of our priorities is to ensure that our student body reflects our commitment to diversity as well as academic excellence. For the fall 2017 semester, we received approximately 30,500 undergraduate applications. The approximately 1,780 students who enrolled came from 49 states and 22 nations. Approximately 13 percent are from high-need families, and 7 percent are first-generation college students. Eleven percent are African-American, 10 percent are Hispanic, and 7 percent are from outside the United States.

Scholarship support is crucial to ensuring that the very best students attend Washington University. The John B. Ervin Scholars Program is one of Washington University’s flagship scholarship initiatives. The program, which celebrated its 30th anniversary in fall 2017, provides merit scholarships to undergraduate students who exhibit academic excellence, leadership, and a passion for service.
Opportunities for our graduate students continue to progress as well. The School of Engineering & Applied Science began offering an interdisciplinary doctoral program in imaging sciences in fiscal year 2018; currently, this program is one of only two in the United States. The engineering school also launched a master’s degree in cybersecurity. The Brown School has expanded its Master of Social Policy dual-degree program, opening it to three new universities in China: Peking University, Nankai University, and East China University of Science and Technology. Further enhancing the scope and impact of the program, current Brown School students in the Master of Social Work and Master of Public Health programs are now also able to add the Master of Social Policy as a dual degree.

In Arts & Sciences, three biology faculty were among the 84 new members elected to the National Academy of Sciences in recognition of their distinguished and continuing achievements in original research. They are Sarah C.R. Elgin, the Viktor Hamburger Distinguished Professor of Arts & Sciences; Jonathan B. Losos, the William H. Danforth Distinguished University Professor; and Richard D. Vierstra, the George and Charmaine Mallinckrodt Professor. Their pathbreaking work is profoundly enhancing our understanding of the natural world around us. To be taught and mentored by such recognized leaders is a critical component of every student’s Washington University education.

In addition to preparing students for lives of distinction as part of its commitment to the greater good, Washington University encourages efforts to transform research into useful technologies and products. The Office of Technology Management reports that fiscal year 2018 saw more than 200 invention disclosures for the second consecutive year and more than 300 revenue-generating agreements based on intellectual property developed by our faculty. Through these disclosures and agreements, as well as patent filings and the creation of new companies, we seek to ensure that discoveries made in laboratories and technology facilities at the university will benefit society as a whole.

In the arena of advancing human health worldwide, the School of Medicine has gained significant ground in areas such as Alzheimer’s disease, cancer, and Zika virus, which you can read about in this publication. To improve quality of life and promote a safe environment locally, the Institute for Public Health launched the regional St. Louis Area Hospital-Based Violence Intervention Program, which provides support and resources to local initiatives that are uniting in their efforts to combat gun violence in the region.

The program — a collaboration between Washington University, Saint Louis University, Barnes-Jewish Hospital, SSM Health Saint Louis University Hospital, St. Louis Children’s Hospital, and SSM Health Cardinal Glennon Children’s Hospital — represents the only such partnership of hospitals and academic institutions in the nation.

The advancement of our institutional priorities relies on the vision and dedication of administrative leaders. It is our pleasure to note several significant additions to the administration and to acknowledge the exceptional service of leaders who are no longer with the university.

Benjamin Akande joins Washington University as senior adviser to the chancellor and director of the Africa initiative, which identifies ways to expand and enhance the university’s efforts in Africa.

II “Two” Luscri became managing director of the Skandalaris Center for Interdisciplinary Innovation and Entrepreneurship and assistant vice provost for innovation and entrepreneurship at Washington University. Luscri succeeds Emre Toker, who left the Skandalaris Center in 2017.

Pat Juckem joined Washington University as head coach of the men’s basketball team. Juckem is the 24th men’s basketball coach in the history of the program, and he succeeds Mark Edwards. Over the course of 37 seasons, Edwards built one of the very best intercollegiate basketball programs in the nation, and it is with tremendous appreciation that we reflect on his illustrious career and all he did for the university.

We end by once again thanking everyone who participated in Leading Together. By securing the resources necessary to advance the Plan for Excellence, the campaign has laid the foundation for a new era of academic achievement and service to society at Washington University. We look to the future with tremendous excitement for all this remarkable institution will do to create a better world in the years, decades, and centuries ahead.

Craig D. Schnuck
Chair, Board of Trustees

Mark S. Wrighton
Chancellor
Thank you to all who joined me in supporting this endeavor. Together, we have achieved more than ever imagined. Together, we are leading Washington University to a bright future of continued accomplishment with global significance.

When Chancellor Wrighton and I publicly announced *Leading Together: The Campaign for Washington University* in 2012, a number of donors had made significant commitments, totaling nearly half of the initial goal of $2.2 billion. Although the objective was ambitious, I was confident that the trustees, alumni, parents, friends, faculty, and staff could rise to the challenge. Now, at the close of the campaign six years later, we have made history, securing $3.378 billion in support, including $591 million for scholarships and fellowships. I am grateful for the generosity of our donors and the dedicated leadership of our campaign volunteers.

This past fiscal year brought *Leading Together* to an impressive finale. Gifts received in 2017–18 totaled $353.3 million from 65,588 donors. Individuals and organizations from across the nation and around the globe have invested in Washington University with the confidence that this St. Louis institution will return results with an extraordinary impact.

The historic success of *Leading Together* bears witness to Washington University’s truly exceptional community, which came together to ensure the university’s continued ascent as a world-class institution. It is an honor to have been a part of a historic effort to provide a strong foundation for the future.

Thank you to all who joined me in supporting this endeavor. Together, we have achieved more than ever imagined. Together, we are leading Washington University to a bright future of continued accomplishment with global significance.
Leading Together
Nearly 160,000 donors to Leading Together contributed $3.378 billion to advance Washington University’s service to society.

“Our great institution was built on traditions of community and leadership, and Leading Together: The Campaign for Washington University represents the power of such traditions,” said Chancellor Mark S. Wrighton. “This historic initiative was conceived and planned by dedicated leaders and volunteers and realized by generous donors who made gifts of all sizes to advance our work to improve lives through teaching, research, and service. I am profoundly grateful to all who participated in the campaign.”

Leading Together, Washington University’s largest-ever fundraising campaign, reached its successful conclusion on June 30, 2018, with gifts and commitments totaling $3.378 billion. Record giving by nearly 160,000 alumni, parents, friends, faculty, and staff propelled Leading Together past its initial goal of $2.2 billion, with final totals that include the following:

- $591 million for scholarships and fellowships
- 153 new endowed positions, including deanships, professorships, and directorships
- $1.502 billion for academic programs
- $311 million for facilities
- $297 million for the Annual Fund

Washington University launched the leadership phase of Leading Together in 2009 to help realize the Plan for Excellence. This comprehensive strategic plan was developed by academic and volunteer leaders and identified objectives that were estimated to require a minimum of $3.7 billion, an amount that was later increased. The Plan for Excellence called for resources and efforts to advance an overarching goal: to enhance the university’s leadership today to benefit America and the world tomorrow. Specific areas of focus for the plan included improving diversity and inclusion, continuing to strengthen the undergraduate program, developing international leadership in graduate and professional education and research, and increasing financial resources dedicated to scholarships and fellowships.

Leading Together launched publicly in 2012. Of particular importance to the campaign’s success were the many volunteers who worked to advance engagement and philanthropic contributions. Volunteer leaders ensured the success of efforts across schools and programs, as did a national network of 4,397 volunteers. The total contributed by individual U.S. donors outside St. Louis was more than double that achieved by the university’s previous campaign, which concluded in 2004.
“In the years since the campaign began, we have seen an extraordinary impact on campus and beyond,” said Life Trustee Andrew C. Taylor, executive chairman of Enterprise Holdings and chair of the public phase of Leading Together. “Not only are we defining and reaching new heights in research and scholarship, we also are preparing students from diverse backgrounds to be leaders with fulfilling lives and careers. The benefit to our region, our nation, and our world is exceptional. Leading Together will be remembered for generations as the catalyst for unprecedented progress at Washington University and in St. Louis. And it could not have happened without the generosity of and guidance from our university community.”

CAMPAIGN PRIORITIES
Scholarships and Fellowships
Campaign total: $591 million

Washington University develops students who possess the intellectual capacity and depth of character to build on their education to benefit society. Significant resources for scholarships are critical to attracting and ensuring the success of top students from a variety of backgrounds.

In 2009, the university launched Opening Doors to the Future: The Scholarship Initiative for Washington University, which would become the foundation for Leading Together’s scholarship fundraising efforts. During Leading Together, donors gave $591 million to support scholarships and fellowships at the university. This total includes both endowed support and immediate-use annual support. Six hundred ninety new endowed scholarships and fellowships were created during the campaign. The Plan for Excellence identified an institutional need of $1 billion in added scholarship and fellowships support; donors to Leading Together contributed funds to meet more than half of that need, which has only grown since the plan was completed. Donors responded strongly to giving challenges such as the McDonnell Scholarship Challenge and the Taylor Family Scholarship Challenge, both of which inspired many.
Endowed Positions
153 deanships, professorships, and directorships created during the campaign*

Outstanding faculty and accomplished leaders are the hallmarks of a great university. By far the most powerful tool for attracting and retaining such luminaries is an endowed position. Building on a tradition that began in 1856, Leading Together sought to significantly enhance faculty support through endowed professorships.

Donors extended the scope of endowed positions at the university during the campaign, establishing the university’s first-ever named deanships. Professorships were created in every school, with deanships committed for the School of Medicine, the Brown School, the Sam Fox School of Design & Visual Arts, and University College in Arts & Sciences. Directorships were endowed in the Institute for Public Health, the Mildred Lane Kemper Art Museum, and the Gephardt Institute for Civic and Community Engagement, as was the head coaching position for the men’s soccer team.

Academic Programs
Campaign total: $1.502 billion

Washington University provides powerful opportunities for students and faculty to pursue research and scholarship that will create new knowledge and uncover solutions to humanity’s most complex challenges. Over the course of Leading Together, donors contributed funds to advance academic departments, initiatives in innovation and entrepreneurship, and research with the power to dramatically improve the quality of life in communities around the globe.

The School of Medicine’s personalized medicine initiative exemplifies the impact of philanthropy on academic programs and research to further the prevention and treatment of disease. The clinical and medical research centers and institutes created and enhanced during Leading Together, many of which support the personalized medicine initiative, harness the medical school’s unparalleled achievements and expertise in genomics, cancer, immunobiology, human biological immaturity, neuroscience, and microbes and antibiotic resistance. The initiative also benefits from robust collaborations with other schools across Washington University. Personalized medicine achievements realized at the university during the campaign include the development of custom melanoma vaccines and leukemia treatments.

Facilities
Campaign total: $311 million

An environment that nurtures community, collaborative learning, and pathbreaking research is central to Washington University’s mission. During Leading Together, the university expanded and strengthened its physical plant with new construction and renovations across the Danforth and Medical campuses. These state-of-the-art teaching, research, and living environments give students an educational experience of the highest quality and support some of the best research and scholarship in the world.

Among its many achievements, Leading Together launched the east end transformation project, an initiative to provide for Washington University’s new era of academic excellence. The project — most of which will be completed by 2019 — includes three new academic buildings, an expansion of the Mildred Lane Kemper Art Museum, two new multi-use facilities, an underground parking garage, and a lush new central green space.

Annual Fund
Campaign total: $297 million

Unrestricted annual support provides critical resources for the chancellor and deans, as well as the directors of centers and institutes. The Annual Fund can be used immediately and flexibly to respond to the most urgent needs of students, faculty, and programs.

Of the nearly 160,000 donors who contributed to Leading Together, more than 130,000 supported the Annual Fund. Leading Together saw the launch of the Washington University Loyalty Society to recognize Annual Fund donors who give consecutively from year to year. Membership in the William Greenleaf Eliot Society, for Annual Fund donors who contribute $1,000 or more annually, more than doubled during the campaign. Leading Together also saw the launch of the Chancellor’s Level of the Danforth Circle to recognize Annual Fund donors of $50,000 or more.

*Includes 136 funded by donors, 17 by other sources.
Nearly 160,000 dedicated Washington University alumni, parents, friends, faculty, and staff participated in Leading Together: The Campaign for Washington University, which reached its successful conclusion on June 30, 2018. Following are highlights of extraordinary gifts and commitments received over the past year.

TAYLORS COMMIT $20 MILLION FOR SCHOLARSHIPS AND PSYCHIATRIC RESEARCH

Two leadership commitments totaling $20 million from the Taylor family and its Crawford Taylor Foundation are providing scholarship support and resources for psychiatric research at Washington University.

A $10 million commitment from Life Trustee Andrew C. Taylor and his wife, Barbara, established the Taylor Family Scholarship Challenge, which matched new and increased gifts for undergraduate scholarships. With their gift, the Taylors helped Leading Together reach a new milestone: exceeding $500 million for scholarships and fellowships. The Taylor Challenge has expanded opportunities for undergraduate students to attend Washington University and use their education to benefit society. Including the gifts it matched, the completed Taylor Challenge provided a total of $20 million toward the university’s scholarship efforts. The challenge was met successfully in spring 2018.

In June 2018, Andrew and Barbara Taylor, along with the family’s Crawford Taylor Foundation, made a $10 million commitment to support critical research at the School of Medicine’s Taylor Family Institute for Innovative Psychiatric Research, which was established by a gift from the couple in 2012. The Taylor Family Institute has made remarkable progress in advancing scientific understanding of, and potential treatments for, conditions such as postpartum depression, major depression, and Alzheimer’s disease. The new commitment will enable the institute’s leadership and researchers to reach new heights in developing treatments for mental illness.
KUEHNER COMMITS $15 MILLION FOR PERSONALIZED CARDIOVASCULAR RESEARCH

To strengthen Washington University’s ability to make groundbreaking discoveries that transform heart disorders into manageable conditions, alumnus Kim Kuehner, MBA ’77, has committed $15 million. His outright and planned gifts establish and endow the Kim D. Kuehner Program for Personalized Cardiovascular Medicine in the School of Medicine. The program will provide a permanent source of funding for innovative research aimed at improving the prevention, diagnosis, and treatment of heart disease. The Kuehner Program will fund competitive research grants within the School of Medicine. Emphasis will be placed on early-stage research that, if successful, has the potential to attract additional funding from government agencies, foundations, and corporations.

NEEDLEMANS ADVANCING PERSONALIZED MEDICINE

Trustee Emeritus Philip Needleman, a former faculty member at the School of Medicine, and his wife, Sima, MSW ’74, committed a total of $15 million to establish two new medical centers at the School of Medicine. The Sima and Philip Needleman Center for Neurometabolism and Axonal Therapeutics will facilitate investigations to understand disease processes related to neurometabolism and inflammation in order to identify targets suitable for the development of therapeutic agents, and to pursue identification and characterization of novel treatments. The Sima and Philip Needleman Center for Autophagy Therapeutics and Research will bring together a multidisciplinary team of scientists to target the autophagy pathway for new drugs that can be deployed in clinical trials for age-dependent degenerative diseases within the next five to seven years.
CAMPAIGN

JOANNE KNIGHT ENHANCES LEGACY OF ALZHEIMER’S DISEASE RESEARCH SUPPORT

Joanne Knight recently committed more than $14 million to the School of Medicine for Alzheimer’s disease research. A gift of $11.5 million will support a primary prevention trial under the umbrella of the Knight Family Dominantly Inherited Alzheimer Network Trials Unit (Knight Family DIAN-TU). If successful, the findings from the trial could help inform preventive measures both for those suffering from a rare form of the disease called dominantly inherited Alzheimer’s disease and for the general population at risk of Alzheimer’s disease. A gift of $2.6 million from Mrs. Knight will support the Charles F. and Joanne Knight Alzheimer’s Disease Research Center, which in 2010 was named for Mrs. Knight and her late husband, former trustee Charles F. Knight, in recognition of their generosity and leadership.

KOCH FAMILY ENDOWS FAMILY BUSINESS CENTER AND ESTABLISHES DISTINGUISHED PROFESSORSHIPS

The St. Louis-based Koch family has made a $12 million commitment to establish the Koch Center for Family Business at the Olin Business School and to endow two distinguished professorships: one affiliated with the center at Olin, the other at the School of Law. The family — Paul A. Koch, BSBA ’61, JD ’64, MBA ’68, and his wife, Elke; Roger L. Koch, BSBA ’64, MBA ’66, and his wife, Fran — are providing the gift to raise awareness about the complexities of family businesses and to engage students in understanding the career opportunities available in such enterprises, and to attract and retain top faculty for the business school and the law school.
BAUERS ESTABLISH AND ENDOW DEANSHIP IN SCHOOL OF MEDICINE

Trustee Emeritus George Bauer, BS ’53, MS ’59, and his wife, Carol, made a $5 million commitment to Washington University that expands their already considerable philanthropic impact. The gift establishes and endows the George and Carol Bauer Deanship in the School of Medicine. Income from the endowment will enable the current dean and his successors to invest in the medical school’s highest priorities and advance a bold vision for biomedical research. David H. Perlmutter, MD, executive vice chancellor for medical affairs and dean of the School of Medicine since 2015, will be installed as the inaugural George and Carol Bauer Dean.

FARRELLS GIVE TO FURTHER ALZHEIMER’S DISEASE RESEARCH AND PREVENTION

Trustee Emeritus David C. Farrell and his wife, Betty, have committed a total of $10 million to create and enhance the Farrell Family Alzheimer's Disease Research Fund in the School of Medicine. For more than 40 years, Washington University scientists and clinicians have led the way in determining how Alzheimer’s disease advances, improving detection and diagnosis, and working to develop treatments to prevent or halt the disease. The Farrells’ support helps Washington University remain on the cutting edge of discovery in the fight against Alzheimer’s disease by enhancing efforts to understand how the brain protein tau contributes to this devastating disease.
EDDY ESTATE GIFT BENEFITS DEPARTMENT OF HISTORY

The late Samuel Eddy, AB ’50, MA ’51, made a significant gift through his estate to benefit Arts & Sciences. The funds will be used to support professorships and teaching or research in history. “This is an enormous gift for our department and our students,” said Peter Kastor, chair of the Department of History. “Endowed professorships enable the university to recruit exceptional faculty members who in turn attract great students to our campus. Additional funding for graduate education will enable us to help our students in wonderful new ways.” A professor of classical history, Eddy retired from the faculty of Syracuse University in 2013.

CAMPAIGN

CORDELLS ESTABLISH CENTER FOR MEDICINE AND POLICY

Alumni Joseph, LLM ’08, and Yvonne, JD ’88, Cordell committed $5 million to Washington University to establish a new interdisciplinary institute to solve emerging legal and ethical issues and overcome the challenges of effectively managing the use of complex medical information. Housed in the School of Law, with strong collaboration with the Alvin J. Siteman Cancer Center and the School of Medicine, the Joseph and Yvonne Cordell Institute for Policy in Medicine & Law is designed to shape policy that protects the privacy of individuals, families, and communities — and empowers them to use their genetic information for their own benefit.
SAWYER LEAVES LEGACY OF FACULTY SUPPORT IN STATISTICS

An estate gift from the late Professor Stanley Sawyer is establishing professorships in statistics in the Department of Mathematics in Arts & Sciences, where he was a faculty member from 1984 until his retirement in 2013. “This gift will help us recruit and retain outstanding faculty members and strengthen our statistics group,” said John McCarthy, chair of the mathematics department and the Spencer T. Olin Professor of Mathematics. “That will have a big impact on our ability to meet the increased demand for training students in the field.” Sawyer is remembered as a devoted mentor and an innovative scientist who created a widely used computer program to analyze DNA and identify gene conversions.

PSYCHOLOGY BUILDING NAMED FOR SOMERS FAMILY

Trustee Nick Somers and his wife, Barrie, both AB ’84, made a significant commitment to the university for long-range capital needs. In recognition, the Psychology Building — which houses the Department of Psychological & Brain Sciences — will be named Somers Family Hall. A dedication ceremony will be held May 3, 2019. The couple’s dedication to Washington University includes steadfast volunteer leadership as well as critical financial support provided over three decades. The Somers Family Economics Suite in Seigle Hall was named in 2013 in recognition of the couple’s previous gift for facilities in Arts & Sciences. Three generations of the family have been involved with the university, including Barrie Somers’ parents Trustee Emeritus B.A. “Dolph” Bridgewater Jr. and Barbara Bridgewater, as well as Payton, AB ’13, and Caroline “Kiki,” AB ’16 — daughters of Nick and Barrie Somers.

Final Campaign Totals as of June 30, 2018

• $3.378 billion raised
• 153 deanships, professorships, and directorships, including 25 established in 2017–18
• $591 million for scholarships and fellowships
• Nearly 160,000 campaign donors

Alumni, Parents, and Friends Support in 2017–18

• $353.3 million in gifts
• $31.8 million for the Annual Fund
• 65,588 donors
• 33,268 alumni donors
Professorships & Other Endowed Positions
Washington University is dedicated to creating and sharing new knowledge and to preparing and inspiring students for leadership in their chosen professions and in their communities. Retaining distinguished faculty and leaders — and recruiting the next generation — is essential to our continued growth and benefit to society.

Endowed positions recognize outstanding educators, researchers, and leaders and provide increased support for their work. They ensure that these luminaries and their successors will continue to further Washington University’s mission for as long as the institution endures.

During Leading Together, 153 such positions were established — deanships, professorships, directorships, and one coaching position. This number includes 25 positions created during 2017–18, which are listed on this page.

The generous donors who establish such positions enable the university’s advancement as a world-class institution in service to humankind.

Deanship:
George and Carol Bauer Deanship of the School of Medicine
Donors: George and Carol Bauer

Directorship:
John M. Schael Directorship of Athletics
Donors: Washington University, with additional contributions from donors

Professorships:
Robert C. Adler and Alexis Deutsch-Adler Professorship
Donors: Dr. Robert C. Adler and Alexis Deutsch-Adler

Alumni Endowed Professorship
Donor: Washington University Medical Center Alumni Association

Ralph G. Dacey, MD, Distinguished Professorship in Neurological Surgery
Donors: Friends and colleagues of Ralph G. Dacey, MD

William H. Danforth Distinguished University Professorship
Donor: Washington University

Samuel K. Eddy Professorship
Donor: The Estate of Dr. Samuel K. Eddy

Sam and Marilyn Fox Professorship
Donors: Sam and Marilyn Fox

Derek Hirst Professorship
Donors: Anonymous

Koch Distinguished Professorship in Family Business
Donors: Fran and Roger Koch Charitable Foundation

Koch Distinguished Professorship in Law
Donors: Paul and Elke Koch

Koch Distinguished Professorship in Medicine
Donors: Fran and Roger Koch Charitable Foundation

Deborah Beckmann Kotzubei and Jacob Kotzubei Distinguished Professorship
Donors: Deborah Beckmann Kotzubei and Jacob Kotzubei

James Langenfeld Professorship in Industrial Organization
Donor: Dr. James Langenfeld

Steven H. and Susan U. Lipstein Distinguished Professorship in Public Health
Donor: BJC HealthCare

Carol B. and Jerome T. Loeb Professorship in Medical Education
Donor: Carol B. Loeb

Guy and Ella Mae Magness Professorship in Medicine
Donor: Ella Mae Magness Trust

Susan B. McCollum Professorship
Donor: Susan B. McCollum

Laurence H. Meyer Professorship
Donors: Laurence H. Meyer and Florence K. Meyer

Stanley A. Sawyer Professorship
Donor: Stanley A. Sawyer*

Alvin J. Sitemap Distinguished Professorship in Medicine
Donor: Alvin J. Sitemap

Andrew C. and Barbara B. Taylor Distinguished Professorship in Psychiatry
Donors: Andrew C. and Barbara B. Taylor

Barbara Schaps Thomas and David M. Thomas Professorship in History
Donors: Barbara Schaps Thomas and David M. Thomas

George C. Thomas III Professorship*
Donors: George C. Thomas III and Gretchen Foss Thomas

Mark Steinberg Weil Professorship in Art History and Archaeology
Donor: Professor Mark S. Weil

James and Juanita Wittmer Professorship
Donors: James F. and Juanita L. Wittmer

James and Juanita Wittmer Professorship
Donors: James F. and Juanita L. Wittmer

Alvin J. Sitemap Distinguished Professorship in Law
Donors: Caroline and Howard Cayne

Howard and Caroline Cayne Distinguished Professorship in Medicine
Donors: Caroline and Howard Cayne

David English Smith Distinguished Professorship in Medicine
Donor: Miss Mary Ann Smith*

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

*Deceased
* Enhanced from a visiting professorship to a professorship in FY18
PurPose
At Washington University in St. Louis, we are driven by an unwavering purpose. We are committed to discovery in all its forms: in scholarship, research, and wide-ranging exploration to propel progress and enhance the lives of our community, our nation, and the world.

We pause each year to mark our milestones — to reflect, to celebrate the accomplishments of our students and faculty, and to acknowledge the promise we have made to future generations. But the purpose of the world’s great academic and research institutions is never complete. We reach new goals, and then we reach farther.
For decades, researchers have known that the genetic variant ApoE4 greatly increases the chances of developing Alzheimer’s disease — but they did not know why. Now School of Medicine researchers led by David Holtzman, MD, have seemingly solved a new part of that mystery: In addition to exacerbating the buildup of a protein in the brain called amyloid, ApoE4 also exacerbates brain damage caused by toxic tangles of the Alzheimer’s disease-associated tau protein.

“Once tau accumulates, the brain degenerates,” said Holtzman, the Andrew B. and Gretchen P. Jones Professor and head of the Department of Neurology. “What we found was that when ApoE is there, it amplifies the toxic function of tau, which means that if we can reduce ApoE levels in the brain, we may be able to slow the disease process.”

The findings were published in the September 20, 2017, issue of Nature.
DISRUPTED SLEEP CYCLES MAY BE SIGN OF DISEASE

New sleep research findings could help doctors identify people at risk of Alzheimer’s disease earlier than currently possible.

Alzheimer’s disease sufferers are known to experience disturbed sleep/wake cycles, a condition that may increase the risk of developing the disease. This new research shows that such disruptions and fragmented sleep also occur in people whose memories are intact but whose brain scans indicate early preclinical evidence of Alzheimer’s disease.

“We found that people with preclinical Alzheimer’s disease had more fragmentation in their circadian activity patterns, with more periods of inactivity or sleep during the day and more periods of activity at night,” said Yo-El Ju, MD, an assistant professor of neurology.

Alzheimer’s disease damage can take root in the brain 15 to 20 years before clinical symptoms appear. Early diagnosis helps researchers find causal factors and test new drugs with the goal of finding treatments and eventually preventing the disease.

PREDICTING ALZHEIMER’S DISEASE IN ADULT CHILDREN OF PATIENTS

A long-term study of Alzheimer’s disease patients’ adult children, who are at elevated risk of developing the disease themselves, aims to define who is likely to develop the disease and when.

A recent $10.3 million National Institute on Aging grant renewal for the study, which began in 2005, extends the work for another five years.

“Our participants want to know if and when they will experience symptoms such as memory loss,” said John C. Morris, MD, the Harvey A. and Dorismae Hacker Friedman Distinguished Professor of Neurology and director of the Charles F. and Joanne Knight Alzheimer’s Disease Research Center. “Most important, they want to know if there are any steps they can take to prevent its occurrence.”

Researchers are working on developing a set of criteria to predict when symptoms will appear and how quickly the disease will progress. This information could be valuable to patients and their families, as well as researchers searching for treatments to manage, stop, or prevent the disease. Many researchers believe that early diagnosis and treatment will be key to halting disease progression while symptoms are still manageable.
Zika virus-related research projects at Washington University continue to generate significant and at times surprising advances. In the past year, researchers have made several breakthroughs.

While the Zika virus is known to damage the brains of developing fetuses, it may also someday work to treat brain cancer. A study by a research team led by Michael S. Diamond, MD, and Milan Chheda, MD, found that the Zika virus could kill stem cells in glioblastomas removed from patients at diagnosis. Glioblastoma, whose stem cells often survive surgery, chemotherapy, and radiation treatments, represents the most common form of brain cancer, affecting some 12,000 Americans yearly.

“We’ve made significant progress on it but still have some additional basic discovery questions that we need to answer before initiating human clinical trials,” said Diamond, the Herbert S. Gasser Professor of medicine and the study’s senior co-author. The findings were published September 5, 2017, in The Journal of Experimental Medicine.

In another study led by Diamond, researchers found that female mice vaccinated before pregnancy and then infected with the Zika virus while pregnant bore pups with no trace of the virus. That research has led scientists to move forward with testing the vaccines in humans, Diamond said.

In order to treat Zika as quickly as possible, School of Medicine and School of Engineering & Applied Science researchers teamed up to develop a test that uses nanotechnology to detect the presence of Zika virus in blood in 15 minutes. Previously, Zika virus testing required that a blood sample be refrigerated and shipped to a medical center or laboratory, delaying diagnosis and possible treatment with acetaminophen to relieve symptoms such as joint pain and fever. The inexpensive new technology attaches a Zika protein to gold nanorods to enable detection with a hand-held spectrophotometer. If implemented, patients could learn test results before leaving a clinic, allowing for immediate counseling and treatment.
Bacteria could replace oil wells in providing automotive fuel, according to Gautam Dantas and his team of Washington University co-investigators.

Funded by a $3.9 million Department of Energy grant, the researchers at the School of Medicine and the School of Engineering & Applied Science are working to engineer microbes that would turn lignin, a toxic waste product of papermaking, into a biofuel chemically indistinguishable from fossil fuel.

The research focuses on *Rhodococcus opacus* bacteria, first discovered growing on toxic substances near a petroleum plant. The bacteria thrive on these toxic compounds as a food source to produce a renewable fuel. Biofuels are derived directly from plants or indirectly from agricultural, commercial, domestic, or industrial wastes. Fossil fuels such as coal and petroleum are produced by geological processes from non-renewable prehistoric biological matter.

“Our team is using a combination of chemistry, systems biology, and synthetic biology to try to process lignin plant matter into biofuels that can be added directly to current petroleum-based engines,” said Dantas, professor of pathology and immunology in the School of Medicine. “It could fully replace old petroleum products. You won’t have to have hybrid engines. You won’t have to change how our cars work right now.”

He added that the technology — which could have a profound impact on society and the environment — could result in *R. opacus*-created biofuel at the pump in just 10 years.

Other Washington University co-principal investigators include faculty in energy, environment, and chemical engineering Marcus B. Foston, Tae Seok Moon, Fuzhong Zhang, and Yinjie Tang.
**NEW DIRECTOR TO FOCUS ON AFRICAN INITIATIVES**

To strengthen and expand Washington University’s work in Africa, Chancellor Mark S. Wrighton appointed Benjamin Akande as senior advisor to the chancellor and director of the Africa initiative in March 2018. Akande’s mission is to bolster current university programs — such as women’s health initiatives in Ethiopia and Niger and child mental health services in Ghana, Kenya, and Uganda — and also to find new research opportunities.

Akande, a Nigerian-born American, is using his experience in African research, teaching, and learning to align the university’s efforts throughout Africa. “I am crafting and implementing a program that will build upon the work Washington University is already doing internationally and on the continent of Africa,” Akande said.

Wrighton said Akande will help prepare a strategic plan that visualizes the university’s role in Africa’s future. “Africa is going to be growing dramatically in population and economic strength, and we have to be positioned as a university to prepare our students for the challenge,” he said. “We also need to provide opportunities for our faculty to increase their knowledge of and involvement in these issues.”

In addition to the McDonnell International Scholars Academy partnership with the University of Ghana, schools and units across the university are working with partners throughout the African continent to engage in work across myriad disciplines such as socioeconomic development and empowerment, biodiversity, global public health, infectious diseases, malnutrition, child and adolescent mental health, racial identity and ethnicity, history, humanities, finance, and global business.

---

**USING RADIATION THERAPY TO SAVE HEART PATIENTS**

A collaboration between a heart rhythm specialist and a radiation oncologist could radically simplify and improve treatment for patients with heart rhythm disorders — a leading cause of death worldwide.

By aiming targeted radiation therapy directly at the heart, cardiologist Phillip Cuculich, MD, and radiation oncologist Clifford Robinson, MD, have pioneered a new approach to treating the irregular heart rhythm called ventricular tachycardia, estimated to cause 300,000 deaths annually in the United States alone.

“We have been able to reinvent an invasive, seven-hour procedure into an entirely noninvasive, seven-minute procedure,” said Cuculich, an associate professor of medicine.

In the study, electrocardiographic imaging — developed by co-author and biomedical engineer Yoram Rudy, the Fred Saigh Distinguished Professor of Engineering — pinpointed the source of the arrhythmias, allowing Robinson, an associate professor of radiation oncology, to deliver targeted radiation from outside the body.

Results from the first five patients to undergo the procedure were published in the December 14, 2017, issue of the New England Journal of Medicine. A larger trial is underway and the patients continue to be followed. If the procedure proves to be safe and effective, the standard cardiac ablation procedure — threading a catheter into the heart and selectively burning the tissue that causes the electrical circuits of the heart to misfire — could be supplanted by an outpatient treatment, according to Cuculich. The new approach also could help avoid the weeks-long recovery and side effects such as the bleeding and infection problems of catheter ablation, which loses its long-term effectiveness in about half of patients.

“Targeted radiation cardiac ablation may fundamentally change the way we treat patients with heart rhythm disorders,” he said. In the process, it may also save the lives of those who have not responded to standard treatments.
Excavations of the palace acropolis at the Maya city Waka’, Guatemala, revealed a seventh-century stone gallery with relics that told of the gallery’s construction, destruction, and reuse as a subterranean fire-ritual chamber. David Freidel and his colleagues followed those clues to find an ancient royal burial site. Ceramic analysis dates construction of the tomb to 300–350 A.D., making it the oldest known Maya royal tomb in the northwestern Petén region of Guatemala.

Released at a Guatemalan symposium sponsored by the Ministry of Culture in July 2017, the findings represent one of many important discoveries Freidel, professor of anthropology in Arts & Sciences, and his team have documented over more than 14 years. Freidel and Guatemalan archaeologists Griselda Pérez Robles and Juan Carlos Pérez Calderon, along with their group of K’ekchi’ Maya excavators from the town of Paso Caballos, are revealing the unfolding history of a resourceful ancient citadel community.

**ANCIENT TOMB LATEST DISCOVERY IN QUEST TO UNDERSTAND MAYA CIVILIZATION**

Excavations of the palace acropolis at the Maya city Waka’, Guatemala, revealed a seventh-century stone gallery with relics that told of the gallery’s construction, destruction, and reuse as a subterranean fire-ritual chamber. David Freidel and his colleagues followed those clues to find an ancient royal burial site. Ceramic analysis dates construction of the tomb to 300–350 A.D., making it the oldest known Maya royal tomb in the northwestern Petén region of Guatemala.

Released at a Guatemalan symposium sponsored by the Ministry of Culture in July 2017, the findings represent one of many important discoveries Freidel, professor of anthropology in Arts & Sciences, and his team have documented over more than 14 years. Freidel and Guatemalan archaeologists Griselda Pérez Robles and Juan Carlos Pérez Calderon, along with their group of K’ekchi’ Maya excavators from the town of Paso Caballos, are revealing the unfolding history of a resourceful ancient citadel community.

**MIND-CONTROLLED BIONIC HAND BOOSTS STROKE RECOVERY**

More than 7 million Americans are living with the aftereffects of strokes, which can include paralysis. Medical and engineering researchers at Washington University are giving stroke-paralyzed patients enhanced function through a device that turns brain signals into movement.

IpsiHand — now in clinical trials — employs a brain-computer interface to help patients train uninjured parts of the brain to take over functions previously handled by injured portions. It detects electrical signals in the uninjured brain hemisphere and opens and closes a plastic brace fitted over the paralyzed hand, creating, with time, new functional pathways.

“We have shown that the device can achieve meaningful recovery in chronic stroke patients,” said Eric Leuthardt, MD. “The emergence of IpsiHand will allow chronic patients to have access to therapy that is not currently in existence.”

His research team’s growing understanding of how brain–computer interfaces alter the brain “will further enhance our ability to modify brain circuits for functional recovery,” Leuthardt said.

Leuthardt, a professor of neurosurgery, of neuroscience, of biomedical engineering, and of mechanical engineering and applied science, teamed up with Daniel Moran, professor of biomedical engineering in the School of Engineering & Applied Science, to develop the technology behind IpsiHand. The two also co-founded the company Neurolutions Inc. to advance IpsiHand’s ongoing development.

After 12 weeks of using the device as part of their stroke rehabilitation therapy system, study participants’ manual motor skills — the ability to grasp, grip, and pinch — increased significantly, said Leuthardt, “representing notable improvement in the quality of life.”
EMPOWERING STUDENTS TO ACHIEVE

Scholarships give students the opportunity to fulfill their potential. Meet three scholarship recipients determined to make a difference.

Jasmine Brown, Camille Borders, and Lyle Hansen demonstrate how Washington University scholarships enable gifted young people to realize meaningful accomplishments and pursue careers in service to society.

Brown and Borders, both John B. Ervin Scholars, were selected as Rhodes Scholars, joining only 30 other students nationwide chosen for the prestigious academic honor. Both graduated in May with plans to attend Oxford University in the fall.

They are thankful for the financial support they received at Washington University, where their hard work earned them this opportunity.

“Without the Ervin Scholarship, I wouldn’t have been able to go to Washington University,” said Brown, who plans to earn a master’s degree in the history of science, medicine, and technology at Oxford as a prelude to medical school.

Brown, from Hillsborough, New Jersey, majored in biology in Arts & Sciences and worked as an
undergraduate researcher in the School of Medicine, studying the molecular pathways traveled by West Nile and Zika viruses to infect the brain. She also started the university’s Minority Association of Rising Scientists to educate faculty members about implicit racial bias.

For Borders, who hails from Cincinnati, both Ervin and Stamps scholarships played a role in her coming to Washington University. She also was a Mellon Mays Undergraduate Fellow, which, she added, “was instrumental in my ability to do research and become a competitive Rhodes Scholar candidate.”

At Oxford, Borders, who majored in history in Arts & Sciences, plans to research the effects of the abolition of slavery on the United Kingdom. Ultimately, she hopes to earn a doctorate in history and become a professor.

Lyle Hansen’s road to the Graduate School of Architecture & Urban Design led from suburban St. Louis to Mali, where he helped to build water sanitation systems as a Peace Corps volunteer. But he would have stopped short of attending Washington University without financial help.

“I wouldn’t have been able to come to Washington University if I hadn’t received a scholarship,” said Hansen, recipient of the Jay Henges Architectural Scholarship, in addition to other scholarship support.

Currently in his final year of graduate school and aiming to earn master’s degrees in both architecture and urban design in 2019, Hansen has been examining segregation in St. Louis neighborhoods alongside other students and faculty from the Sam Fox School of Design & Visual Arts. Upon graduation, he hopes to continue doing socially engaged work.

“I would like to stay in St. Louis and use what I have learned to help enhance the community and build a more resilient future for the city,” he said.
A delegation led by Brown School faculty members briefed Congress in November 2017 on the debilitating impact of human trafficking on children and families. Just five months later, new federal legislation criminalized online advertising that supports sex trafficking. Prompted by the growing incidence of human trafficking and exploitation, the Maxine Clark and Bob Fox Policy Institute (CFPI) at the Brown School and the Human Trafficking Collaborative Network (HTCN), a multidisciplinary group housed in the university’s Institute for Public Health, brought local and national stakeholders to Washington, D.C., for the congressional briefing.

While acknowledging that many factors come into play in getting legislation passed, Gary Parker, Brown School associate dean for external affairs, said, “Our efforts definitely helped to build momentum for the law’s passage by educating members of Congress and their legislative aides.”

Gary Parker was part of a Brown School delegation that briefed Congress on human trafficking.

Parker added that research from the Brown School often provides policymakers a solid foundation for creating good policy.

“By convening researchers, service providers, advocates, and survivors in front of lawmakers, the CFPI is able to collaboratively design and advance policies grounded in scientific data and shaped by the lived experience of the children and families that are affected,” Parker said. “This holistic approach to the development of evidence-based policy allows for policymakers to make informed decisions, leading to better outcomes.”

Parker, who directs CFPI, and Rumi Kato Price, HTCN founder and professor of psychiatry in the School of Medicine, served as co-moderators at the congressional briefing. Among attendees was Rep. Ann Wagner (R-Mo.), the chief sponsor of the new law.

BROWN SCHOOL HELPS PROMPT ACTION ON HUMAN TRAFFICKING
As many plant and animal species face decline and even extinction, a local partnership has established the Living Earth Collaborative at Washington University to study and help preserve the great diversity of life with which we share this world. This new academic initiative is dedicated to advancing biodiversity, and the university has recruited an internationally renowned biologist from Harvard University to run it.

Jonathan Losos, a St. Louis native and Washington University faculty member from 1992 to 2006, leads the Living Earth Collaborative, established in January 2018 by Washington University and two of the nation’s leading institutions focused on the preservation of plant and animal species: the Missouri Botanical Garden and the Saint Louis Zoo. A leading international expert on biodiversity, Losos is the William H. Danforth Distinguished University Professor and professor of biology in Arts & Sciences.

“The Living Earth Collaborative provides us the opportunity to bring together these three institutions with overlapping expertise and missions in new ways to work toward great outcomes,” Losos said.

The initiative’s aim is to help create a sustainable future on Earth for people, plants, and wildlife. Currently, in more than 3,700 monitored vertebrate species, populations have declined by more than 50 percent in less than 50 years. Also, one in five plant species is threatened by extinction.

“It’s easy to get depressed about the state of the world right now,” Losos said. “But it’s not all gloom and doom. American alligators were threatened with extinction 40 years ago, and now they’re plentiful. The same is true for bald eagles. We have to learn from what’s working and what’s not working and then figure out where the opportunities are to make a difference.”

He is optimistic about the potential impact of the new academic initiative. He said the partnership among the university, zoo, and botanical garden, along with other local and regional organizations, will “build connections and collaborations and synergies” and make the initiative “a world leader in the research and conservation of biological diversity.”
The transformation of the John M. Olin Library includes the Newman Tower of Collections and Exploration, an expanded Whispers Café, and many new exhibit spaces.
LIBRARY RENEWAL

John M. Olin Library’s significant transformation — which adds new and expanded research, study, instruction, and exhibition spaces — is cultivating intellectual growth, fostering creative exploration, and enriching Washington University’s scholarly pursuits.

“Olin Library is helping to advance one of the most important responsibilities of a university: preserving and building upon the intellectual and creative legacies of the scholars who have come before us,” said Denise Stephens, vice provost and university librarian. “Olin Library is at the center of the Danforth Campus, and this transformation increases the facility’s accessibility for users and helps foster collaboration among library staff, faculty, researchers, and students.”

That collaboration and the transformed library’s enhanced and expanded resources help cultivate excellence, prepare leaders, and advance learning and research, according to Provost Holden Thorp: “As various as the many activities taking place at Olin Library may be, they have in common the goal of extending the horizons of knowledge for the benefit of our world.” Among those honored at a May 1, 2018, dedication were John M. Olin’s granddaughter Adele Braun Dilschneider; the late Julian Edison and his wife, Hope; Nancy Kranzberg, University Libraries National Council member, and her husband, Ken; Emeritus Trustee Andy Newman and the Newman family; and Jack Thomas, trustee and chair of the University Libraries National Council, and his wife, Debbie.

Stephens said that many of the library’s new features and renovations “reflect the suggestions and guidance provided by members of our leadership, students, faculty, and staff.” They include the Newman Tower of Collections and Exploration, which offers new group and individual quiet study areas and dramatically increased exhibition space; a rare original broadside of the Declaration of Independence; an expanded Whispers Café; the expanded Julian Edison Department of Special Collections; the Jack E. and Debbie T. Thomas Gallery; a data-visualization and virtual-reality space; a software-optimized research studio for both group and individual work; and new and improved instructional spaces.

Said Chancellor Mark S. Wrighton, “In this modern era of cooperative and interdisciplinary scholarship and research, the scholarly collections, technological resources, and collaborative spaces we have gained through this initiative are making a mark on the university that will last for years to come.”
PRISON EDUCATION PROGRAM TARGETS RECIDIVISM

While teaching practical and technical skills to inmates can help them find work and avoid future incarceration, an education in the liberal arts can empower students to reshape their own futures and give them a sense of ownership in their own lives and in their larger communities.

“A liberal arts education helps you see the world differently,” said Margaret Garb, professor of history. “Transforming one person — whether it’s a student on a college campus or someone in prison — also transforms their family and community.”

Garb is senior faculty co-director of the the Washington University Prison Education Project (PEP) at the Missouri Eastern Correctional Center in Pacific, Missouri. Garb; co-director Robert Henke, professor of drama and comparative literature; and associate director Barbara Baumgartner, teaching professor of women, gender, and sexuality studies, inaugurated the program in 2014 under the auspices of the Office of the Provost. Since then, more than 20 Arts & Sciences faculty have taught archaeology, drama, history, literature, math, philosophy, psychology, and other topics to dozens of students in this nontraditional setting. Incarcerated students take established Arts & Sciences courses and earn credit as registered students of University College, Washington University’s professional and continuing education division.

PEP replicates the rigorous, high-quality education available to all Washington University students, according to Jennifer Hudson, program manager for the project and lecturer in political science. “This is not a remedial program or a community service or campus activism program. It’s about serious academics,” she said. New applicants — who must have a high school diploma or GED — participate in a highly competitive admissions process, based on academic aptitude. The acceptance rate varies from 10 to 17 percent.

“This is a great example of the transformative power of higher education,” said Barbara A. Schaal, dean of the faculty of Arts & Sciences and the Mary-Dell Chilton Distinguished Professor. “The majority of these prisoners will eventually be released, and programs like this help prepare them for that day.”

The Prison Education Project will host its first graduation ceremony in 2019 for 10 students earning associate’s degrees in liberal arts. Garb, Henke, Baumgartner, and Hudson also plan to soon build upon this foundation with a bachelor’s degree program.

KEMPER MUSEUM SCULPTURES PRESERVED FOR FUTURE GENERATIONS

Eight sculptures in the Sam Fox School’s Mildred Lane Kemper Art Museum’s permanent collection will be preserved thanks to a conservation grant received in September 2017 from the federal Institute of Museum and Library Services (IMLS) — the largest such grant ever received by the museum.

“Thanks to this funding, we will be able to share these important artworks with the public through display, publication, and loans for generations to come,” said Sabine Eckmann, the museum’s William T. Kemper Director and chief curator. “The IMLS grant serves as an endorsement of our collection care efforts and is especially important as we prepare for the upcoming museum expansion and reinstallation of the permanent collection.”

Five of these works will feature prominently in the new Florence Steinberg Weil Sculpture Garden when the Kemper Art Museum reopens in fall 2019. The museum’s iconic Five Rudders (1964) by Alexander Calder is being conserved, and four of the outdoor bronze sculptures — Jacques Lipchitz’s Mother and Child (1949), Aristide Maillol’s Homage à Debussy (c. 1930), Pierre-Auguste Renoir’s La laveuse (Washerwoman) (1917), and Auguste Rodin’s The Shade (1880) — are receiving much-needed protective coatings along with other treatments. Also being conserved are Anthony Caro’s Table Piece, CLXXIX (1974), Ibram Lassaw’s Presence (1960), and an Oceanic wooden sculpture known as Homme Oiseau (Man-Bird) (early 20th century). As part of the process, conservators will investigate how several of the works were created in order to restore them to their original appearance.

“Collection care has been a priority for us,” Eckmann added. “The preservation of these sculptures supports significant ongoing research by the museum’s staff and collaborators — including university faculty and students — and strengthens our overall educational mission.”
PERSONALIZED GENE THERAPY KEY TO CANCER BREAKTHROUGHS

The Alvin J. Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine is one of the first centers nationwide to offer breakthrough CAR-T cell therapy for adults with certain types of lymphoma.

CAR-T cell therapy consists of first extracting a patient's own T cells, which typically fight off disease but in cancer patients have lost the ability to recognize and attack cancer cells. The T cells are then genetically modified to become powerful weapons specifically designed to recognize the cancer again. They are then reintroduced into the patient's body, where they home in on cancer cells and destroy them.

“These are actually living cells that multiply dramatically in the patient’s body to kill the target tumors,” said John F. DiPersio, MD, the Virginia E. and Sam J. Golman Professor of Medicine in Oncology and Siteman’s deputy director.

Clinical trials conducted at Siteman with children suffering from acute lymphoblastic leukemia and adults with lymphomas and multiple myeloma demonstrated significant results, according to DiPersio. Patients who had not previously responded to standard therapies or who had relapsed showed 40 to 80 percent remission rates, some lasting several years.

Such new personalized therapies — made possible by broad advancements in understanding the genetics of cancer and the personalized medicine initiative at the School of Medicine — could dramatically change the ongoing fight against disease, DiPersio said.

Washington University has long been a leader in cancer research and care and a pioneer in genomics. A group of genetic specialists here, led by Li Ding, an associate professor of medicine, recently teamed up with others nationwide in a cancer-sequencing venture, funded by the National Institutes of Health, that identified 300 genes driving tumor growth. Researchers at the Elizabeth H. and James S. McDonnell III Genome Institute continue to detail genetic mutations underlying cancer, while the university’s Genomics and Pathology Services, a state-of-the-art sequencing laboratory, brings new technologies into the clinical setting. At the Genome Engineering Center, researchers use a powerful DNA-editing tool known as CRISPR-Cas9 and other gene-editing techniques to create cells and cell lines with specific mutations and generate libraries of information that help investigators study disease processes, identify drug targets, and advance new treatments.

These genetic capabilities are driving a new wave of precision treatments under the personalized medicine initiative umbrella at the School of Medicine, where physician-scientists like DiPersio advance therapies such as CAR-T that are specific to individual patients and may offer more powerful treatment strategies than current cancer therapies.

OLIN MBA PROGRAM RANKED AMONG BEST FOR WOMEN GLOBALLY

The Olin Business School placed fourth internationally in the 2018 Financial Times top MBAs for women ranking, reflecting the school’s efforts “to expand women’s voices in Olin’s MBA program,” said Dean Mark Taylor, who is also the Donald Danforth, Jr. Distinguished Professor of Finance. “It challenges us to continue the momentum. It’s about fairness, but it’s also about inclusion and diversity.”

“Diversity drives success in business as well as the classroom,” said Olin alumna Shelley Lavender, EMBA ’03, Boeing senior vice president for the Strike, Surveillance, and Mobility division, and head of Olin’s MBA advisory board. “The work Olin is doing to attract women and men from around the globe is ensuring its graduates experience the powerful, profound, and positive impact that diverse teams bring to all aspects of our life.”

The Financial Times ranking assessed MBA programs “based on which are most beneficial to women in terms of ensuring that their investments will pay off,” according to the publication. Olin ranked first in the United States for percentage increase in women’s salaries post-MBA and first globally for parity across genders in the starting salary of new MBA graduates. The school also ranked sixth nationally in gender parity for enrollment, with women comprising nearly 40 percent of the incoming 2017 class.
July

Robyn S. Klein, MD, a physician-scientist recognized internationally for her work on the brain’s immune system, is named vice provost and associate dean for graduate education for the Division of Biology & Biomedical Sciences.

Ali Taheri Araghi, a doctoral student in comparative literature in Arts & Sciences, receives Prairie Schooner’s Virginia Faulkner Award for Excellence in Writing for his story “Snow,” published in the journal’s fall 2016 issue.

Testing begins on a student-designed online app that will help doctors more quickly evaluate patients for Alzheimer’s disease. The app is a collaboration between students in Arts & Sciences and the medical and engineering schools. It consists of 60 to 100 questions for a caregiver to answer on an iPad before the patient sees a dementia specialist.

Bob Hansman, Gephardt Institute community engagement faculty fellow and associate professor of architecture in the Sam Fox School of Design & Visual Arts, publishes Pruitt-Igoe, a book about a vast public housing project built on the near north side of St. Louis in the 1950s.

Researchers at the School of Medicine show that Escherichia coli (E. coli) bacteria — those at the root of hard-to-treat urinary tract infections (UTIs) — hijack trace amounts of copper in the body and use it as a nutrient to fuel growth. The finding suggests blocking this system may starve E. coli infections, opening the door to treating UTIs using drugs that work differently from traditional antibiotics. The study is published in Nature Chemical Biology.

August

Abram Van Engen, associate professor of English in Arts & Sciences, wins a prestigious Public Scholar grant from the National Endowment for the Humanities.

Lori Setton, the Lucy and Stanley Lopata Distinguished Professor of Biomedical Engineering, becomes chair of the Department of Biomedical Engineering in the School of Engineering & Applied Science.

Washington University’s student voting rate in 2016 increased by 11 percent from 2012 and exceeded the national average by 2 percentage points, according to a report issued in August by the National Study of Learning, Voting, and Engagement, part of the Institute for Democracy & Higher Education at Tufts University.

September

Stephanie N. Kurtzman is installed as the Peter G. Sortino Director of the Gephardt Institute for Civic and Community Engagement.

Researchers at the School of Medicine discover that people with a type of chronic itch from an unknown cause improve when given a drug approved for rheumatoid arthritis. The findings are published Sept. 8 in the journal Cell.

Vijay Ramani is installed as the inaugural Roma B. and Raymond H. Wittcoff Distinguished University Professor of Environment and Energy. Ramani also holds a faculty appointment with the International Center for Energy, Environment, and Sustainability and concurrently serves as director of the university’s Center for Solar Energy and Energy Storage.

William F. Tate, dean of the Graduate School, receives the 2017 Inspiring Leaders in STEM Award from INSIGHT Into Diversity magazine. Tate also is vice provost for graduate education and the Edward Mallinckrodt Distinguished University Professor in Arts & Sciences.

William G. Powderly, MD, is installed as the Larry J. Shapiro Director of the Institute for Public Health. Powderly is the Dr. J. William Campbell Professor of Medicine and co-director of the Division of Infectious Diseases at the School of Medicine.

Robert D. Schreiber, the Andrew M. and Jane M. Bursky Distinguished Professor at the School of Medicine and director of the Bursky Center for Human Immunology and Immunotherapy Programs, is named a co-recipient of the Balzan Prize for his groundbreaking work in immunology and melanoma research.

Scott Wilson is named chief investment officer of Washington University Investment Management Company.
**October**

More than 100 students from the Sam Fox School of Design & Visual Arts and the School of Engineering & Applied Science work with industry partners to design, fabricate, and construct CRETE House. The structure is part of Solar Decathlon 2017, a competition sponsored by the U.S. Department of Energy.

Jonathan Barnes, assistant professor of chemistry in Arts & Sciences, is among 18 leading young researchers in the United States honored as a 2017 Packard Fellow.

The National Institutes of Health awards an eight-year, $5.85 million research grant to Gary Patti, Michael and Tana Powell Associate Professor of Chemistry in Arts & Sciences. The award is part of the inaugural Revolutionizing Innovative, Visionary Environmental Health Research (RIVER) program.

Seven recent alumni and one current student are selected by the Fulbright U.S. Student Program.

Lizzy Crist, a May 2017 graduate, is named 2017 NCAA Woman of the Year. Crist was the goalkeeper for the women’s soccer team and helped lead the Bears to the program’s first NCAA title in fall 2016.

The School of Law announces that it will begin accepting the Graduate Record Examination (GRE) as an alternative to the Law School Admission Test (LSAT).

Scott J. Hultgren is elected to the National Academy of Medicine. Hultgren is the Helen Lehrbrink Sloever Professor of Molecular Microbiology and director of the Center for Women’s Infectious Disease Research at the School of Medicine.

George and Debra Couch are honored at the dedication of the Debra and George W. Couch III Biomedical Research Building in recognition of their $10 million pledge to support advances in personalized medicine.

**November**

Men’s and women’s cross country run to top-five finishes at the NCAA Division III Cross Country Championships for the second straight season. Four fall teams win UAA championships: volleyball, women’s soccer, and men’s and women’s cross country.

John C. “Jack” Danforth, former U.S. senator from Missouri, and Jeremiah W. “Jay” Nixon, former governor of Missouri, participate in a fireside chat. The conversation focuses on engaging in dialogue and discourse “across the aisle.”

Research led by the School of Medicine prompts the World Health Organization to issue new treatment guidelines aimed at accelerating global elimination of lymphatic filariasis — a devastating tropical disease. The new WHO guidelines are based on studies in Asia and Africa led by Gary Weil, MD, a Washington University infectious disease specialist, and his international colleagues.

John F. DiPersio, MD, of the School of Medicine, receives a $6 million outstanding investigator award from the National Cancer Institute to support research aimed at improving therapies for leukemia. DiPersio, the Virginia E. and Sam J. Golman Professor of Medicine in Oncology, is also deputy director of Siteman Cancer Center.

LEAP Inventor Challenge establishes collaboration opportunities for drug development teams with GlaxoSmithKline’s Discovery Partnerships with Academia program and Sun Pharma Advanced Research Company Limited. The LEAP Inventor Challenge is a program in the Skandalaris Center for Interdisciplinary Innovation and Entrepreneurship.

**December**

Brown School faculty members Sean Joe, the Benjamin E. Youngdahl Professor of Social Development and the associate dean for faculty and research, and Melissa Jonson-Reid, the Ralph and Muriel Pumphrey Professor of Social Work, are inducted as fellows in the American Academy of Social Work and Social Welfare.

Jean Allman, the J.H. Hexter Professor in the Humanities and director of the Center for the Humanities, is awarded a $1.5 million Mellon Foundation grant.

Three faculty members in Arts & Sciences are awarded fellowships for university teachers from the National Endowment for the Humanities. They are Angela Miller, professor of art history and archaeology; Lerone Martin, associate professor of religion and politics; and Tili Boon Cuillé, associate professor of French and comparative literature.

Noted innovators Samuel Achilefu, the Michel M. Ter-Pogossian Professor of Radiology; David Holtzman, MD; and Eric Leuthardt, MD — faculty members at the School of Medicine — are named fellows of the National Academy of Inventors.

The Summer Entrepreneurial Internship program grows in funding, which allows the Skandalaris Center to support 46 interns (up from 34 the previous year). This includes two doctoral student opportunities, which is a first for the program.

The university is awarded a five-year, $2.5 million grant to train biomedical investigators how to apply innovative and entrepreneurial skills to their research. A team at the Skandalaris Center is developing the platform for disseminating such training tools.

The Resident Officer Training Corps program at Washington University marks its 100th anniversary. Over the past century, thousands of officers have earned their Army and Air Force commissions during their time as students.
YEAR IN REVIEW 2018

JANUARY

The university is named the No. 1 Best Campus by Niche, a company that compiles and analyzes data about colleges.

World-class chemist William B. Tolman is recruited to the university as professor of chemistry and dean of research in Arts & Sciences. His work focuses on inorganic, biological, and polymer chemistry.

The Institute for Public Health launches the regional St. Louis Area Hospital-Based Violence Intervention Program, which aims to promote positive alternatives to violence, thanks to a $1.6 million grant from Missouri Foundation for Health. The new program’s goal is to reduce retaliation, criminal involvement, reinjury, and death among individuals injured by gunshot, stabbing, or assault. It is a collaboration between Washington University, Saint Louis University, Barnes-Jewish Hospital, SSM Health Saint Louis University Hospital, St. Louis Children’s Hospital, and SSM Health Cardinal Glennon Children’s Hospital.

The Washington University Libraries, with support from the Department of English, acquires the Joy Williams Papers, a collection of drafts, journals, correspondence, and other materials related to the life and work of celebrated author Joy Williams.

FEBRUARY

The Institute for School Partnership (ISP) expands its signature MySci science education program to include technology. The goal is to enrich learning through student-driven projects like robotics and makerspaces. A collaboration of Little Bit Foundation, Disruption Department, Maryville University, and the ISP, MySci Do is supported by the Monsanto Fund.

The university announces that a five-ring sculpture will be installed to commemorate the 1904 Olympic Games, which were held in facilities built on the Danforth Campus that are still in use today. The sculpture will be at the end of Olympian Way, on the southwest corner of the Danforth Campus.

The physicians of Illinois Oncology Ltd. in Swansea, Illinois, join the faculty of the School of Medicine. With a new, state-of-the-art inpatient tower, Siteman Cancer Center at Barnes-Jewish Hospital and the School of Medicine aims to enhance the care and comfort of oncology patients who require hospitalization. The building, located at Siteman’s main location on the Medical Campus, consolidates and expands existing inpatient services. It also complements outpatient care provided at Siteman’s five satellite facilities.

MARCH

Men’s basketball coach Mark Edwards, AB ’69, announces his retirement after 37 years on the sidelines at his alma mater. Edwards, who led the Bears to back-to-back NCAA Division III National Championships in 2008 and 2009, posted a 685-293 (.700) overall record. He is a three-time Division III National Coach of the Year and 10-time University Athletic Association Coach of the Year honoree.

The Masters of Landscape Architecture students work with the Washington Montessori Elementary School in the Central West End neighborhood to renovate an outdoor classroom and a garden. The project was part of the Sam Fox School’s Office for Socially Engaged Practice, a hub and a resource to support collaborative, socially engaged practices of art, architecture, and design. Through this support, the school fulfills its institutional responsibility to citizens and communities in St. Louis and around the world.

The Institute for School Partnership launches the Transformational Leadership Initiative, a multiyear effort designed to improve the academic performance and the overall learning environment for disadvantaged students in public schools in the St. Louis region.
April

An event celebrating the life of influential author William H. Gass, the David L. May Distinguished Professor Emeritus in the Humanities, is held in Olin Library. Gass died Dec. 6, 2017. He was 93.

“Segregation in St. Louis: Dismantling the Divide,” a report on segregation and housing in St. Louis, is the product of a partnership involving Health Equity Works (formerly known as For the Sake of All), a Brown School initiative, and numerous local partners. The recommendations support the creation and increased funding of affordable housing trust funds in St. Louis County and the City of St. Louis.

Two teams composed of multidisciplinary graduate students from the Brown School, Olin Business School, and the School of Law take part in the first-ever Social Innovation Initiative to address racial disparity in infant mortality rates, with a focus on transportation challenges. The teams pair with community partners already working on the issue, including Generate Health, through its FLOURISH initiative, and FOCUS Health Impact Fellows. On April 5, the two Washington University teams present their findings at the Social Entrepreneurship and Innovation Lab Pitch Day.

John R. Bowen, the Dunbar-Van Cleve Professor in Arts & Sciences, and David H. Perlmutter, MD, the George and Carol Bauer Dean of the School of Medicine, are elected members of the American Academy of Arts & Sciences.

The university marks the 15th anniversary of the Gerry and Bob Virgil Ethic of Service Award, a university-wide award that celebrates individuals who exemplify a character of service and contribution to the St. Louis region.

May

Anne-Marie Slaughter, a renowned foreign policy expert, scholar, and former top State Department official, gives the 2018 Commencement address.

Three faculty members are elected to the National Academy of Sciences. They are Sarah C.R. Elgin, the Viktor Hamburger Distinguished Professor of Arts & Sciences; Jonathan B. Losos, the William H. Danforth Distinguished University Professor; and Richard D. Vierstra, the George and Charmaine Mallinckrodt Professor — all in the Department of Biology in Arts & Sciences.

University College launches the Mentor Collective, an online mentorship program that matches students with University College alumni and others in the university community.

Seven faculty members are named fellows by the American Association for the Advancement of Science, the world’s largest general scientific society. They are Michael G. Caparon Jr., professor of molecular microbiology; Graham A. Colditz, MD, DrPH, the Niess-Gain Professor of Surgery; John A. Cooper, MD, the Raymond H. Witteoff Professor of Biological Chemistry and head of the Department of Biochemistry and Molecular Biophysics; Michael S. Diamond, MD, the Herbert S. Gasser Professor of medicine; Susan K. Dutcher, professor of genetics; Timothy J. Eberlein, MD, the William K. Bixby Professor of Surgery and the Spencer T. and Ann W. Olin Distinguished Professor — all in the Department of Medicine; and Michael L. Gross, professor of chemistry, in Arts & Sciences and the School of Medicine.

The first students graduate from the Texas cohort of the MS in Biology for Teachers program, part of University College.

June

Cheri LeBlanc, MD, becomes the executive director of the Habif Health and Wellness Center—Student Health Services, where she oversees the provision of care and the evaluation and treatment of illness and injury for students, as well as preventive health care and health education.

II “Two” Luscri is named managing director of the Skandalaris Center for Interdisciplinary Innovation and Entrepreneurship and assistant vice provost for innovation and entrepreneurship.

Washington University finishes sixth in the 2017-18 Division III Learfield Directors’ Cup standings, which honors college athletic programs that achieve success in many sports, including both men’s and women’s teams. Points are awarded based on each institution’s finish in the NCAA Championships.

Health Equity Works becomes the new name of the Brown School initiative previously referred to as For the Sake of All. Directed by Associate Professor Jason Purnell, Health Equity Works is committed to translating data and research into collaborative community action to advance health equity in St. Louis.

Deanna Barch is awarded a $3.5 million MERIT award from the National Institute of Mental Health. Barch is chair of the Department of Psychological & Brain Sciences in Arts & Sciences and the Gregory B. Couch Professor of Psychiatry at the School of Medicine.

Jeffrey I. Gordon, MD, at the School of Medicine, receives several awards this year for his role in founding and leading the field of gut microbiome research, including the Sanofi-Institut Pasteur International Award, the Louisa Gross Horwitz Prize, the Massry Prize, and the Copley Medal. Gordon is the Dr. Robert J. Glaser Distinguished University Professor and directs the Edison Family Center for Genome Sciences and Systems Biology at the School of Medicine.
Thanks to the generosity of our donors and favorable investment returns, overall operating results were $410 million, or 12 percent of operating revenues. This includes a generous and unconditional anonymous multiyear pledge of $200 million as well as other unendowed gifts. These gifts along with $323 million of endowment distributions and strong performance from patient care were keys to the overall results. Operating expenses rose 8 percent resulting principally from essential mission costs of instruction, which includes patient care. Nonoperating activities yielded positive results of $602 million due to endowment investment performance and endowed gifts.

Modest increases in both enrollment and undergraduate tuition rates, the university’s lowest in nearly 50 years at 3.5 percent, combined to raise net tuition overall. The increase in tuition rates was tempered by a greater growth in the commitment to meet the needs of our students as financial support to students rose to $248 million, a 7 percent increase over the prior year. The percentage of gross tuition income represented by these awards has grown to 38 percent as the university continues to work toward meeting the needs of all of our students.

**Leading Together: The Campaign for Washington University** ended with a record-breaking $3.378 billion in contributions. In 2018, its final year, the university received $353 million in gifts of cash, securities, and gifts-in-kind. In compliance with accounting conventions, amounts reported in the financial statements, including unendowed gifts, reported as operating revenue, and endowed gifts, reported as nonoperating activity, totaled $528 million. Endowed gifts, restricted for investment and future support, totaled $120 million. The remaining gifts were available for operations.

Research revenues rose 6 percent highlighted by a $46 million multiyear grant from the National Institutes of Health (NIH) to support the Institute of Clinical and Translational Sciences’ efforts to translate clinical discoveries into new diagnostics and therapeutics and to more rapidly apply research findings to improve health in disciplines across the spectrum of health care. The NIH’s National Cancer Institute awarded the School of Medicine $6 million for research aimed at improving therapies for leukemia. Collaboration between faculty in the departments of cell biology and...
physiology and pediatrics have led to research strides into Cantu syndrome, with recent efforts resulting in a $6.8 million NIH award to support further study. In the areas of public health and policy, the university has been granted over $4 million from federal and state agencies as well as private foundations to increase sustainability of tobacco control programs, to promote positive alternatives to violence in the community, and to improve health equity for African-Americans in the St. Louis region. The continued growth of satellite operations, including the opening of Siteman Cancer Center’s fifth location, contributed to an 11 percent increase in patient service revenue. Revenues from affiliated hospitals for providing medical education, direction, and training were up 9 percent.

Expenditures for instruction and research continued to represent an increasing percentage of overall expenditures. Instruction expenditures, which include patient care, grew 10 percent in 2018, while research costs rose 6 percent. The growth in these expenses reflects the university’s commitment to its core missions of world-class education, patient care, and research. Academic support and other administrative costs rose but remained constant as a percentage of total costs.

Following several years of strong growth, reflecting investments in exceptional living and dining options, revenue from auxiliary enterprises fell slightly, attributable in part to the temporary loss of available parking during construction of the east end transformation project. Expenses increased modestly as the university continued restoration of historic residential buildings in the areas immediately surrounding the campuses. The university’s reputation as a leader in college residential and dining facilities was unaffected by the 2018 net results as it continued to earn high rankings from numerous industry publications.

Setting the course for the next era of academic excellence and service to society, the east end transformation began in earnest after breaking ground in May 2017. Along with the generous support of donors, the university issued a significant bond offering to finance the capital project. The comprehensive plan includes eight major components in support of the university’s mission, values, academic excellence, and service to society. They include three new academic buildings: Anabeth and John Weil Hall, Henry A. and Elvira H. Jubel Hall, and James M. McKelvey, Sr. Hall; expansion of the Mildred Lane Kemper Art Museum; two new multi-use facilities: Gary M. Sumers Welcome Center and the Craig and Nancy Schnuck Pavilion; an underground parking garage; and the expansive new Ann and Andrew Tisch Park. During 2018, several milestones were reached in the multiyear project, the most significant in the history of the Danforth Campus, including the completion of the concrete top of the new east end garage. The project remains on track for substantial completion during fiscal year 2019. Elsewhere on the Danforth Campus, improvements to existing structures continued. Renovations to Bryan Hall, originally built in 1965, were completed giving a new home to the Department of Chemistry and providing 25,000 square feet of new research space. Responding to student and faculty feedback, the Olin Library Transformation project, a renovation of the John M. Olin Library, was substantially completed in 2018. The project increases the quantity and variety of seating, study, and research spaces as well as provides expanded special collections exhibition space, including the display of a rare broadside copy of the Declaration of Independence dated July 12, 1776.
At the Washington University Medical Center, as phase one of the multiyear Campus Renewal Project wrapped up with the consolidation of medical and administrative offices in the Mid Campus Center, the School of Medicine turned its focus to technology improvements needed to support innovative research, world-class medical education, and exceptional patient care. The university, in concert with BJC Healthcare, implemented Epic, a health care software suite used to manage electronic medical records, scheduling, and a number of other functions to document and enhance patient care. The deployment of Epic on approximately 10,000 computers involved the coordination of all clinical departments and many centralized services. The software eliminates the need for patients to recall their entire medical history reducing treatment redundancies, potentially saving money, and helping to eliminate harmful drug interactions. The new system also will allow clinicians to view patients holistically and consider all factors across the continuum of care, enabling the provision of the right care at the right time.
WASHINGTON UNIVERSITY’S ENDOWMENT

Washington University’s endowment supports the core university missions of teaching, research, and patient care. Generous supporters have funded 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 and spending 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, hiring and management of investment managers, and all day-to-day investment responsibilities. Endowment funds are pooled with other operating funds and collectively invested. This pool is known as the Managed Endowment Pool (MEP).

Scott Wilson, CIO

“Fiscal years 2017 and 2018 were transitional years for WUIMC. Having taken the reins from interim-CIO Eric Upin in December, we have been focused on assessing the portfolio and materially changing our line-up of investment managers. Over the past 10 months, we have significantly shifted the portfolio construction, where we are now pursuing a considerably more concentrated portfolio within each asset class to focus on our managers’ highest conviction opportunities. While this effort will take several more years to complete, there are early signs of improvement in our fiscal 2018 returns. With a more concentrated portfolio, built around our highest conviction investment managers and ideas, we expect modest increases in volatility and tracking error over the next few years, by design. When the portfolio transition is completed, we believe the long-term improvement in performance results will be well worth any short-term increase in volatility. Our long-term goal of building a globally diversified portfolio of attractive investments across all asset classes remains unchanged. We are committed to achieving an attractive long-term risk and return profile in line with our targeted strategic asset allocation. We will continue to adjust the portfolio to changing market conditions as needed to achieve our long-term goals.”

—Scott Wilson, WUIMC, CIO

Eric Upin, AB ’83, WUIMC Executive Board Chair, Trustee

“The MEP returned 10.9 percent in fiscal year 2018, driven by strong performance from nearly every asset class. Private equity and venture capital investments returned 16.7 percent for the fiscal year and private real estate and natural resources generated an 11.6 percent return. As part of a focused effort to enhance long-term outcomes, WUIMC has broadened and upgraded allocations to private equity, venture capital, and real estate. Global equities continued to deliver strong returns. Developed market and emerging market equities both generated 13.0 percent returns. Fixed income and absolute return investments were a modest drag on performance but are an important part of the long-term portfolio as both asset classes provide financial support, stability, and liquidity during more challenging market environments.

“Over the past four years, working closely with Chancellor Wrighton and the Board of Trustees, the Investment Management Company Board of Directors has focused on several initiatives to reposition and enhance the endowment portfolio and broaden the capabilities of the investment team. Our goals centered on improving performance results and ensuring alignment with the university’s funding requirements and long-range strategic aspirations. This multiyear effort has included the development of a new strategic asset allocation policy and portfolio strategy, increased exposure to private asset classes (private equity, venture capital, and real estate), and the keen focus on transforming the portfolio’s roster of external investment managers. A key milestone in this effort was the signing of our new chief investment officer, Scott L. Wilson. Since joining in December 2017, Scott and the investment team have worked tirelessly, making significant changes and progress. While early indications are promising and encouraging, we are resolutely focused on building a portfolio and investment organization that serves the university over the long term, with strong outperformance and compounding over the next 10 to 20 years and beyond.”

—Eric Upin, WUIMC Executive Board Chair
As shown in the above table, the Managed Endowment Pool is diversified among six broad asset classes. The portfolio continued to have significant exposure to equities and other equity-like assets at year-end, consistent with its long-term nature.

<table>
<thead>
<tr>
<th>Asset Class Allocation as of June 30, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALLOCATION</td>
</tr>
<tr>
<td>24%</td>
</tr>
<tr>
<td>12%</td>
</tr>
<tr>
<td>29%</td>
</tr>
<tr>
<td>9%</td>
</tr>
<tr>
<td>20%</td>
</tr>
<tr>
<td>6%</td>
</tr>
<tr>
<td>100%</td>
</tr>
</tbody>
</table>

As shown in the above table, the Managed Endowment Pool is diversified among six broad asset classes. The portfolio continued to have significant exposure to equities and other equity-like assets at year-end, consistent with its long-term nature.

The endowment was valued at $7.7 billion as of June 30th, reflecting an increase of $472 million from the prior year end value. The growth in the endowment was a result of investment gains of $745 million and endowment gifts of $107 million. These gains were partially offset by spending distributions to the university totaling $323 million and other net transfers of $57 million.

Annualized Endowment Returns for periods ending June 30, 2018

<table>
<thead>
<tr>
<th>Managed Endowment Pool (MEP)</th>
<th>Policy Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONE YEAR</td>
<td>ONE YEAR</td>
</tr>
<tr>
<td>10.9%</td>
<td>10.2%</td>
</tr>
<tr>
<td>THREE YEARS</td>
<td>THREE YEARS</td>
</tr>
<tr>
<td>6.1%</td>
<td>8.0%</td>
</tr>
<tr>
<td>FIVE YEARS</td>
<td>FIVE YEARS</td>
</tr>
<tr>
<td>7.6%</td>
<td>8.1%</td>
</tr>
</tbody>
</table>

The table above shows the three- and five-year performance of the MEP as well as the return for the most recent fiscal year. Over the three years ending June 30, 2018, the MEP earned an annualized return of 6.1 percent, while annualized performance over the trailing five-year period was 7.6 percent. The five-year endowment performance is consistent with long-term return expectations.
BOARD OF TRUSTEES AND UNIVERSITY ADMINISTRATION

July 1, 2017 through June 30, 2018

Trustees

Chair
Craig D. Schnuck
Chairman Emeritus, Schnuck Markets, Inc.

Vice Chair
Stephen F. Brauer, GL16
Chairman, Hunter Engineering

Vice Chair
David W. Kemper
Executive Chairman, Commerce Bancshares, Inc.

John D. Beuerlein, GB77
General Partner, Edward Jones

F. Gilbert Bickel III, BUSE
Senior Vice President, Wells Fargo Advisors, LLC

Todd M. Bluedorn 1
Chairman and CEO, Lennox International

Richard L. Kent, BU78, GB79 1
Chairman and CEO, Cequel III, LLC and TierPoint

Sanford C. Loewenthal, LA76 1
Chairman and Co-Founder, L+M Development Partners, Inc.

William J. Marshall, BU70, GB73, GB77
President, NSA Investment Advisors, LLC

Richard P. Mattione, EN77 1
Retired Partner, GPG, LLC

Maxine Clark
Founder, Build-A-Bear Workshop

David P. Conner, LA74
Retired CEO and Director, Overseas-Chinese Banking Corporation Limited

Corinna Cotsen, SI83, GA83
Owner, Edifice Complex

John J. Dains, BU68
CEO Emeritus, Helm Financial Corporation

William H. Danforth
Chancellor Emeritus, Washington University in St. Louis

Arnold W. Donald, EN77
President and CEO, Carnival Corporation & plc

Scott W. Fancher, SB4, EMA92
Former Senior Vice President, The Boeing Company

Jon H. Feltheimer, LA72
CEO, Liongate

Santa Monica, California

Lee Fixel, BU02
Partner, Tiger Global Management LLC

Andreja G. Grant, LA71, LW74
Partner, DL Piper

Washington, D.C.

Hugh Grant
Retired Chairman and CEO, Monsanto Company

Pricilla L. Hill-Airdorn, EMA88
Retired Senior Vice President for Regulatory Compliance and Chief Privacy Officer, AX1 Services, Inc.

San Antonio, Texas

Thomas J. Hillman, LA78
Founder and Managing Partner, Lewis & Clark Holdings

Louis G. Hutt Jr., BU76
Managing Member, The Hutt Company, LLC

Columbia, Maryland

Albert Y. King III, EN71 1
Executive Director and CEO, Langham Hospitality Investments Limited

Hong Kong

Jay Jacobs, LA92
Retired President and Managing Director, PIMCO LLC

Laguna Niguel, California

Donald A. Kubel, EN73
Executive Chairman, Spartan Light Metal Products

Eugene S. Kahn
Former CEO, Claire’s Stores, Inc.

Former Chairman and CEO, The May Department Stores Company

Jerald L. Kent, BU78, GB79 1
Chairman and CEO, Cequel III, LLC and TierPoint

Richard J. Loecky 1
President and CEO, BJC HealthCare

Steven H. Lipstein 1
Retired CEO, BJC HealthCare

Sanford C. Loewenthal, LA76 1
Chairman and Co-Founder, L+M Development Partners, Inc.

Larchmont, New York

William J. Marshall, BU70, GB73, GB77
President, NSA Investment Advisors, LLC

Richard P. Mattione, EN77 1
Retired Partner, GPG, LLC

Susan B. McCollum, LW15
Chairman and CEO, Major Brands Premium Distribution, Eagle Brands Sales

John F. McDonnell, SD06, GB14
Retired Chairman of the Board, McDonnell Douglas Corporation

James M. McKeilner Jr., EN87, LA87
Co-Founder and Director, Square, Inc.

Dennis A. Mullennburg
Chairman, President and CEO, The Boeing Company

Chicago, Illinois

Ralph J. Nagel, A667, G649
President, Top Rock LLC

Denver, Colorado

Steven Cash Nickerson, LW85, GB93
Chairman and CEO, Lodging Hospitality Management Corp.

George Paz
Chairman, Express Scripts

Michael Powell
General Partner, Soffinova Ventures

Merlo Park, California

Scott Rudolph
CEO, Piping Rock Health Products, LLC

Bohemia, New York

Rakesh Sachdev
CEO, Platform Specialty Products Corporation

West Palm Beach, Florida

Harry J. Segile, LA68
Principal, The Elgin Company

Chicago, Illinois

Nicholas E. Somers, LA84
Managing Partner, SV Investment Partners; Executive Chairman, International Decisions Systems, Inc.

Old Greenwich, Connecticut

David L. Stewart, GL17
Founder and Chairman, Worldwide Technology

Mary Stillman
Founder and Executive Director, Hawthorn Leadership School for Girls

Diane M. Sullivan
CEO, President, and Chairman, Cairies

Gary M. Sumers, LAt5
Retired Senior Managing Director and COO, Blackstone Real Estate

New York, New York

Andrew C. Taylor
Executive Chairman, Enterprise Holdings, Inc.

Barbara Schaps Thomas, LA76
Retired Senior Vice President and Chief Financial Officer, HBO Sports

New York, New York

Jack E. Thomas
Chairman and CEO, Coin Acceptors, Inc.

Lawrence E. Thomas, BU77
Partner, Edward Jones

Ronald L. Thompson
Retired Chairman of the Board and CEO, Midwest Storming Company

Holland, Ohio

Ann Rubenstein Tisch, LA76
Founder and President, The Young Women’s Leadership Network

New York, New York

Eric B. Upin, LA83
Senior Partner, Former Chief Investment Officer, Mekena Capital Management

Joseph F. Wayland, LA79
Executive Vice President and General Counsel, Chubb Group

New York, New York

Gary E. Wendlandt, EN72
Retired Vice Chairman and Chief Investment Officer, New York Life Insurance Co.

New York, New York

Mark S. Wilkinson
Chairman, Washington University in St. Louis

Emeritus Trustees

John W. Bachmann
Clarence C. Barkdale
George P. Bauer, EN53, SS59
John H. Biggs, GB83, GR11
Floyd E. Bloom, MD60, GR68
Jeremy F. Brasch, EN44, SI47
B.A. Bridgwater Jr.
Joyce F. Buchheilt, BU76, GB77
Andrew B. Craig III
John P. Dubinsky, LA65, GB67
David C. Farrell, GR07
Richard F. Ford 1
Robert W. Frick, EN60, GB62
David V. Habif Jr.
James H. Hancer Jr., GB68
Earle H. Harbison Jr., LA48
Shi Hui Huang, HS59
Charles J. Lipton
John Peters MacCarthy
Richard J. Mahoney, GR12
Walter L. Metcalfe Jr., LA60
William B. Neaves 1
Philip Needelman, GR99
Andrew E. Newman
Alvin J. Sitemap, GR00
William K.I. Tao, SI50
Mary Anne Van Loven, LA69, EMA88
Robert L. Virgil, GB60, GB67
John K. Wallace Jr., GB62
Shinichiro Watari, AR72, GR76
William H. Webster, LW49
John D. Weil
Raymond H. Wittcoff 1
Roma Broida Wittcoff, BU45
Howard L. Wood, BU61
Arnold B. Zetcher, BU62

Representatives of the Alumni Board of Governors

Steven G. Segal, BU62 1
Chair, Alumni Board of Governors

Lecturer, Executive in Residence, Boston University, Questrom School of Business

Special Limited Partner J.W. Childs Associates, L.P.

Boston, Massachusetts

Neil M. Yaris, BU86 1
Vice Chair, Alumni Board of Governors

Retired Co-Head, High Yield Debt Trading, Royal Bank of Canada

Maplewood, New Jersey

Officers of the University Administration

Mark S. Wrighton
Chancellor

Holden Thorp
Provost and Executive Vice Chancellor for Academic Affairs

David T. Blissolame, LA69, GB71
Executive Vice Chancellor for Alumni and Development Programs

David H. Permutler, MD
Executive Vice Chancellor for Medical Affairs and Dean of the School of Medicine

Henry S. Webber
Executive Vice Chancellor for Administration

Monica J. Allen, LA80, GR85, LW92
Vice Chancellor and General Counsel

Dedric Carter
Vice Chancellor for Operations and Technology Transfer

Legai Poole Chandler, SG98
Vice Chancellor for Human Resources

Jill D. Friedman, EMA99
Vice Chancellor for Public Affairs

John L. Goohman 1
Vice Chancellor for Information Technology and Chief Information Officer

Pamela A. Henson
Vice Chancellor for Alumni and Development Programs

Amy B. Keesin
Vice Chancellor for Finance and CFO

Jennifer K. Lodge, GR86
Vice Chancellor for Research

Pamela S. Lokken
Vice Chancellor for Government and Community Relations

William S. Stoll, GR99
Vice Chancellor for Development

Edward D. Welker, SI52
Vice Chancellor for Information Technology and Chief Information Officer

James V. Wertsch
Vice Chancellor for International Affairs

Lori S. White
Vice Chancellor for Student Affairs

Scott L. Wilson 1
Chief Investment Officer, Washington University Investment Management Company

Mark N. Amir
Associate Vice Chancellor for Finance and Treasurer

Eric B. Upin, LA83 1
Acting Chief Investment Officer, Washington University Investment Management Company

Ida H. Early
Secretary to the Board of Trustees

1 Term Began January 1, 2017
2 Term Began January 1, 2018
3 Term Ended December 1, 2017
4 Resigned July 6, 2017
5 Resigned February 12, 2018
6 Deceased January 2, 2018
7 Term Began December 1, 2017
8 Resigned June 6, 2018
9 Effective June 8, 2018
10 Effective December 1, 2017
11 Through November 30, 2017
12 Ex officio Trustee
13 Parent of Washington University student during 2017–18
University Libraries National Council Chair
Jack E. Thomas 3 Chairman and CEO, Coin Acceptors, Inc.

Louis P. Atkin Day for Night Productions

Annie H. Bader Community Volunteer

James L. Goldschmidt, LA73 Partner, Graphix Lab

David M. Grossman, GR68, GR73 Retired Vice Provost and Dean, Thomas Edison State College

Paul M. Koulougeorgis, LA88 Vice President, Marketing, Advertising and Public Relations, GoDaddy Systems

Nancy S. Kransburg, LA66 Education Consultant

Don G. Lents Senior Partner & Chair Emeritus, Bryan Cave Leighton Paisner LLP

Susan Lerner, LA80 Partner, Jamesbeck Global Partners

Steven L. Lopata Writer

Susan Jane Miller, LA76 Community Volunteer and Attorney

Jeffrey S. Missman, GR86 Former Vice President of Enterprise Holdings

Robert J. Shako, HA61 Retired, President and CEO, Hackensack University Medical Center, and President and CEO, The Sinai Hospital System in Cleveland

Patrick T. Stokes Former Chairman, Anheuser-Busch Companies, Inc.

John P. Stupp Jr. President and CEO, Stupp Bros., Inc.

Alan S. Taylor, GM84 Retired Vice President, Regulatory Affairs, Gilead Sciences

Mark C. Trudeau President and CEO, Mallinckrodt Pharmaceuticals

Bruce C. Vladeck Former Senior Advisor, Neera Inc.

Richard K. Welk, Jr. Former Managing Editor, St. Louis Post-Dispatch, Board Member, St. Louis Public Radio

Michael H. Roffler Associate Librarian and Professor, New York Law School

John D. Schaperkotter Partner, Bryan Cave Leighton Paisner LLP

James E. Schiele, LA52, GR85, GR15 Consultant, St. Louis Screw & Bolt Co.

Corey M. Shapiro, LA56 Legal Director, ACLU of Kentucky

Laura Epstein Shindler, LA68 Financial Consultant

James F. Williams II Dean of Libraries, University of Colorado

Todd C. Zubler, LA92 Partner, WilmerHale

Institute for Public Health National Council Chairs
Joyce F. Buchheit, BU76, GR77 Owner, JCB Management, LLC (appointed January 2018)
Steven H. Lipstein Former CEO, BJC HealthCare (resigned January 2018)
Mark S. Clanton, MD Senior Manager, Accenture Health and Public Service, Chief Medical Officer, Accenture Texas Medicaid Claims and Administration
David P. Conner, LA74 Former CEO and Director, Oversea-Chinese Banking Corporation Limited
Nicholas V. Costolini, MD, HS77 Consultant in Gastroenterology, Baptist Hospital R. Chris Doen, LA68 Retired Executive Vice-President, CAO, and CFO, Blue Cross Blue Shield of Florida
Kenneth M. Ducre, HA83 Retired Principal, Human Resources, Edward Jones
Robert A. Freund Jr., GR84, HA94 President and CEO, St. Louis Regional Health Commission
Mark S. Gold, LA71 Former Distinguished Professor, and Chairman, Department of Psychiatry, University of Florida 17th University of Florida Distinguished Alumni Professor
Dolores J. Gunn, MD Community Physician and Liaison, Integrata Physicians Group
Timothy J. Henkel, MD, MD88, GM88, HS90 Chief Medical Officer, VentanaRx Pharmaceuticals, Inc.
Eugene S. Kahn Former CEO, Claire’s Stores, Inc., Former Chairman and CEO, The May Department Stores Company
Alaina Maccia, EN98, GB02 President and CEO, METT, Inc.
Mary Mason, MD, MD94, HS99, PMBA99 Senior Vice President and Chief Medical Officer for Corporate Health Initiatives, Centene Corporation; Instructor in Clinical Medicine and Adjunct Lecturer, School of Business, Washington University in St. Louis
George Paz 1 Chairman, Express Scripts
Donald L. Roesler Former Chairman, Enterprise Holdings
Robert J. Shako, HA61 Retired, President and CEO, Hackensack University Medical Center, and President and CEO, The Sinai Hospital System in Cleveland
Patrick T. Stokes Former Chairman, Anheuser-Busch Companies, Inc.
John P. Stupp Jr. President and CEO, Stupp Bros., Inc.
Alan S. Taylor, GM84 Retired Vice President, Regulatory Affairs, Gilead Sciences
Mark C. Trudeau President and CEO, Mallinckrodt Pharmaceuticals
Bruce C. Vladeck Former Senior Advisor, Neera Inc.

National Council for Student Affairs Chair
Ronald L. Thompson 1 Former Chairman of the Board and CEO, Midwestern Stamping Company
Frank B. Byrd, MD Former President, St. Mary’s Medical Center
Michael L. Carter, LA90 Co-Head & Managing Director of Global Technology Investment Banking, RBC Capital Markets
Li Em Chen, MD, LA99, MD03 Vice President, Mercy Health Group
Mary A. Crosby, LA69 Former Senior Vice President, Wells Fargo Advisors, LLC
Maxine Clark 1 Founder, Build-A-Bear Workshop; CEO, Clark-Fox Foundation
Charles K. Cohn, BU80 Founder and CEO, Vanity Tutors, LLC
Joseph M. Davie, MD, MD68 Retired Senior Vice President, Research, Biogen, Inc.
Suren G. Dutla, EN63, LA67, S67 Former Senior Fellow, Kaufman Foundation; Partner, DynaMatrix LLC

Kevin J. Fjeld, BU96 Head of Business Continuity, Risk Management, NSA Investment Advisors, LLC
Jennifer Hillman, FA79 Founder & Principal, Images and Ideas; Creative Director, S.LI, Inc.
Shelby L. Jordan, LA74 President, Exposition Park, Asset Leasing Corporation; Executive Director, Community Resources; Talent Development
Sheldon Kahn 1 Member/Manager/Partner, Headwaters Advisors; Partner, Headwaters Holdings; Securities Trader, Headwaters Capital LLC
James Lancaster CEO, President, and Owner; Lantech, Inc.
Suzanne Lancaster

National Research Advisory Council Chair
Michael Powell 1 General Partner, Sofinnova Ventures
Lee Babalis Executive Vice President and Chief Scientific Officer/Chief Executive Officer, PPD Inc.
Robert T. Fraley Executive Vice-President & Chief Technology Officer, Monsanto Company
Eric S. Furline, LA81 Independent Biotechnology Executive Consultant, Furline Biotechnology
Michael Giuliani, MD Vice President and Head of Research & Development, Mallinckrodt Pharmaceuticals
Eric A. Galve President and CEO, BioGenerator
Steve Hochberg Managing Partner, Ascent Biomedical Ventures
Janet Jackson Vice-President & Director Basic Research Group, Nestle Purina PetCare Company
Michael K. Kaplan, BU88 1 Founder and Managing Director, Altos Health Management; Managing Director, MMC Health Services
Phill Kerr President and Founder, SERIO Nutrition Solutions LLC
Ganeesh M. Kishore

Nelson S. Damiani Executive Director, St. Louis Hillel
Sarah M. Liron Metallsmith, Sarah Liron Jewelry
Susan R. Ludeman

Robert J. Messey, BU66 Retired Senior Vice President and CFO, Exelco, Inc.
Leslie A. Peters, LA86, PMBA99 CEO and Chief Facilitator, Elements Partnership, Inc.
Sanford E. Pomerantz, LA65, LM65 Attorney at Law St. Louis, Goffstein Raskas Pomranz Kriss & Sherman, LLC
Andrew E. Randall Managing Director, New York Private Bank & Trust
Russell J. Shaw, BU85 Founder, Tech London Advocates; Angel and Venture Investor
Robert A. Skinner, LA91 Founder, Koplar Communications, LLC
William F. Southworth, MD, LA69, MD75 Cardioologist, The Heart Health Center
Lori I. Tenser, LA64 Education Consultant, St. Louis College of Physicians Students, Wesley College
Risa Zwolnick Wrighton, PMBA89 Former, Home Plate
International Advisory Council

Ravinder Agrawal PAL
Practice Leader, Nanyang Technological University Singapore

Sunanda Agrawal PAL
Singapore

Anup Agrawalla, BU91
President & Managing Director, BLA Industries Pvt. Ltd. Mumbai, India

Caly Ang PAL
President, MultiWorld Resources, Inc. Manila, Philippines

Vic Ang PAL
President, MultiWorld Phils. International, Inc. Manila, Philippines

Ho-Ki Byun PAL
President, B-Won International Co., Ltd. Seoul, South Korea

Soo K. Chan, LA84
Principal, SCDA Architects Singapore

Lawrence Chang, EN94, SI96
Chairman & CEO, Unitelk Printed Circuit Boards Co., Ltd. Taipei, Taiwan

Pen-Tsao Chang PAL
Chairman, General Chamber of Commerce Taipei, Taiwan

Shu-Chu Chen Chang PAL
Taipei, Taiwan

Chong J. Chen PAL
Senior Partner, Rajah & Tann Advocates and Solicitors Singapore

Li Jen Chen PAL
Retired Managing Director, Singapura Enterprises Pte. Ltd. Singapore

Mandy Chen, LA96
Taipei, Taiwan

Zhang-Liang Chen, GR87
Vice President, Executive Secretary, China Association for Science & Technology People's Republic of China

Thomas Cheong, EM0F13
Vice President, North Asia, The Principal Financial Group Hong Kong

Nowell Chemick, LA91
Partner, Yaskay Management Ltd. Taipei, Taiwan

Larry Tez-Ying Chang, SI73, SI75 PAL
Honorary Senior Advisor, Siemens, Telecom Systems, Ltd. Taipei City, Taiwan

David P. Conner, LA74 PAL
Retired CEO and Director, Overseas-Chinese Banking Corporation Limited

Gregory L. Curl PAL
President, Temasek Holdings (Private) Limited Singapore

Santanu Das, SI73, SI75
Chairman, Data-Core Systems Incorporated; Retired President and CEO, TransSwitch Corp. Shelton, Connecticut, U.S.A.

Ray Fuji, LA95, GB04
Representative Director and Partner, L.I.K. Consulting Tokyo, Japan

Vikas Gore, GBA4
Director, DP Architects Pte. Ltd. Singapore

Albert Ip, EN73
CEO, Landham Hospitality Investments Limited, Independent Non-Executive Director and Member of Audit Committee Eagle Asset Management (CP) Limited; Council Member, The Better Hong Kong Foundation Hong Kong

Sumet Jarawanon PAL
Executive Chairman, Charoen Pokphand Group of Companies Jakarta, Indonesia, and Hong Kong

Deepak Kantawala, SI63, SI66
Consultant Mumbai, India

Young Mok Kim, GF90
Executive Vice President, Hankook Chiraware Company, Ltd. Seoul, South Korea

Julie Kohn, BU78
Consultant Singapore

Margaret Lee, UC94
Artist & Founder, MARET Fine Jewellery Hong Kong

Richard T.C. Lee PAL
Group President, Inventec Corporation Taipei, Taiwan

Vincent C.N. Lee
Senior Vice President, BNP Paribas Wealth Management Hong Kong

Gregg G. Ka Lok Li, LA79
Consultant, G. Li & Company Hong Kong

Alexander Lo, LA08
Associate Director, Great Eagle Holdings Company Hong Kong

Vincent Ho-Yuen Li, EN73, SI75
Group Chairman and Managing Director, Keyboard Limited Hong Kong

Wel-Shan Lin, GB76
Chairman and President, Tungta Company Taiwan, Taipei

Wen Yen (Pamela) Lin
Special Assistant to the Chairman, Tungta Institute of Technology Taipei, Taiwan

Lin-Keil Jackson Ling, GB04 PAL
Chairman and CEO, Enhance Holding Corporation Shanghai, People's Republic of China

Alice Lui, LA89
Bloom Academy Hong Kong

Fumihiko Maki
Principal, Maki and Associates Tokyo, Japan

Bharat Harkishan Malkani, SI89
Chairman & Managing Director, Max Aerospace & Aviation Pvt. Ltd. Mumbai, India

Melissa Jingling Mao, EM0F11
Senior Director, GAW Capital Hong Kong

John F. McDonnell, SI06, GB14 PAL
Retired Chairman of the Board, McDonnell Douglas Corporation St. Louis, Missouri, U.S.A.

Guy Mills, EM0F13
CEO, Manulife Hong Kong Hong Kong

Conrado Bautista Santiago, GB64 PAL
President, MMP Corporation Quezon City, Philippines

Josephina Santiago PAL
Vice President, MMP Corporation Quezon City, Philippines

James E. Schiele, LA52, GR85, GR15
Consultant, St. Louis Science and Bolt Company St. Louis, Missouri, U.S.A.

Gurpreet Singh, GB54, GL87 PAL
Chairman, Continental Device India, Ltd. New Delhi, India

Indeepdeep Singh, GB85, SI86
President and Managing Director, Continental Device India, Ltd. New Delhi, India

Punita Singh, GB84, GB90
Client Communications Manager, Somerset & Company New Delhi, India

Larry Lap-Chong Siu, BU00
Sales Manager, Ampro Products Ltd. Hong Kong

Ja Song, GB62, GB67
Chairman, Daejyo Corporation Seoul, South Korea

Dan Swift, FA89
Managing Director, Goldman Sachs Singapore

Shuzaburo Takeda
Consultant, Takeda & Associates Tokyo, Japan

Cho-Yee To, GR63
Emeritus Professor of Education, University of Michigan Ann Arbor, Michigan

Patricia To
The Dow Chemical Company Ann Arbor, Michigan, U.S.A.

Chung-Ping Wang, GA73
Co-Founder & Principal Architect, C.Y. Lee & Partners Taipei, Taiwan

David Wang PAL
Senior Counselor, The Boeing Company Langley, Washington, U.S.A.

Shinichiro Watari, LA72, GA76 PAL
Chairman, Comes & Co., Ltd. Hong Kong and Japan

Chi-Wei Woo, GR61, GR66
Retired President, Hong Kong University of Science and Technology Hong Kong

Kevin Xu, EM0F14
CEO, Ruijiang Group, General Manager, Hangzhou Ruijiang Chemical Co., Ltd. Hangzhou

Jeffry Chi Kiet Yoo, BU94
CEO Europe Watch Company, CEO Puiji Group Hong Kong

Nan-Hong Yeh, GB84
Chairman, Realtek Semiconductors Taipei, Taiwan

Eric Yeung, GB74
Vice President, Perfekta Enterprises, Ltd. Hong Kong

Tony Young, BU00
Managing Director, The Peterson Group Hong Kong

Peter Young, EN80
Chief Executive, Chemcentral Group Ming Yuan Chemicals Trading Co., Ltd. Hong Kong

James K.L. Yuann, SI81
Managing Director, Boyden China Limited Shanghai, People’s Republic of China

Public Relations National Council

Dexter M. Fedor, BU79, FA79
Chief Branding Officer and Partner, Dick Cook Studios

Dan Beckmann, LA01
Co-Founder & Managing Director, BSBK; Co-Founder, Foodshed.io

Jerry Bryan
President, Bryan Consulting

Sheila Barkett, EMBAA99
Co-Founder and CEO, Stry Digital

Christy Cavallini
Vice-President, The Dow Chemical Company

Wayne Drash, LA94
Digital Senior Producer, CNN

June Mcklister Fowler, GR80
Senior Vice President, Communications, BUC HealthCare

Laurie Goldberg, LA07
Group Executive Vice President, Public Relations, Discovery Channel, Animal Planet and Science Channel

Jonathan Katz
Partner, Acorn Healthcare

Steve Lewis
President and Senior Executive Producer, CNBC

Melinda Love
Vice President, Client Engagement, 2e Creative

Cynthia McCafferty, EMBAA1
President, Hawthorne Strategy Group

SAHIL Patel, LA14
SVP Director of Creative Development, HarperCollins Publishers Worldwide

Barbara Schaps Thomas, LA71 PAL
Retired Senior Vice President and Chief Financial Officer, HBO Sports

Robert L. Virgil, GB60, GB67
Dean Emeritus John M. Olin School of Business, Washington University in St. Louis; Retired Partner, Edward Jones

Derek Wei, GR52
President, goBrandgo!

Jessica Willingham
Vice President, Corporate Communications and Marketing, Spire

Philip Needelman, GR99 PAL
Senior Partner, BioEnergix LLC

Diego Olego
Chief Strategy & Innovation Officer, Philips Healthcare

Paul D. Ollivio, MD
Senior Medical Director, Quidel Corporation

Don A. Rubin
President and Chief Executive Officer, BioSTL

Krishnan K. Sankaran
Retired Senior Technical Fellow, Materials & Processes Technology, The Boeing Company

Harold H. Schmittle PAL
Chief Science Officer, Mars, Inc.

David A. Smoller
Executive in Residence, Center for Emerging Technologies

Jim Wrightson, GB78
Retired Vice President, Strategic Planning, Lockheed Martin Corporation

Parent of Washington University student during 2017-18

Parent of Washington University Alumni

▲ Deceased
HONORARY LIFE ELOIT

Mrs. Jane E. Barnes
Ms. Elisabeth W. Case
Mr. & Mrs. Thomas J. Clemens
Mrs. Oliver Howe Lowry
Ms. Paula K. WelI

LIFE DANFORTH CIRCLE

Chancellor’s Level

George & Carol Bauer*
John H. & Penelope P. Biggs
Mr. & Mrs. Stephen F. Brauer*
Joyce & Chauncey Buchheister
Andrew & Jane Burskey*
Maxine Clark & Robert N. Fox*
Debra & George W. Couch III
Dr. William H. Danforth

Adèle-Brion Dithlienreider, in recognition of her grandfather, John M. Olin

Hope & Julian* Edison
Mr. & Mrs. David C. Farrell
The Honorable & Mrs. Sam Fox
Mr. & Mrs. Preston M. Green
Dr. David V. Habit

Mrs. Linda J. Habif
Mr. & Mrs. Donald Alan Judel
Judy &erry Kent
Dr. Charles Kilo
Mr. & Mrs. Charles F. Knight
Mr. Kim Durning Kuehner
Ms. Karen Feintuck Loewenthal
Mr. Sanford Carl Loewenthal
Tracey & William J. Marshall
Mr. & Mrs. James S. McDonnell III
Anne & John McDonnell
Mr. & Mrs. James Morgan McKelvey Jr.
Ralph J. Nagel
Trish M. Nagel*
Phil & Sima Needleman*
Paula C. & Rodger G. Riley
Mr. Scott Rudolph*
Mr. & Mrs. Harry J. Seigel*
Alvin & Ruth Siteman
Bob & Julie Skandalaris*
Mr. Gary M. Sumers*
Mr. & Mrs. Andrew C. Taylor*
Ann & Andrew Tisch*
Ms. Anabath Weil*
Mr. John Weil*
Roma & Raymond* Wittcoff
Howard & Marilyn Wood
One Anonymous Member

LIFE DANFORTH CIRCLE DEAN’S LEVEL

Sue Bahle*
Todd & Barbara Bluedorn*
Caroline & Howard Cayne*
Dr. Jane Lincuando Clark
Mr. Robert G. Clark
Mr. David P. Conner*
Mr. Robert G. Clark
Dr. Jane Lincuando Clark
Caroline & Howard Cayne*
Todd & Barbara Bluedorn*

Honorary Life Eloit

Mrs. Jane E. Barnes
Ms. Elisabeth W. Case
Mr. & Mrs. Thomas J. Clemens
Mrs. Oliver Howe Lowry
Ms. Paula K. WeIl

LIFE DANFORTH CIRCLE

Chancellor’s Level

George & Carol Bauer*
John H. & Penelope P. Biggs
Mr. & Mrs. Stephen F. Brauer*
Joyce & Chauncey Buchheister
Andrew & Jane Burskey*
Maxine Clark & Robert N. Fox*
Debra & George W. Couch III
Dr. William H. Danforth

Adèle-Brion Dithlienreider, in recognition of her grandfather, John M. Olin

Hope & Julian* Edison
Mr. & Mrs. David C. Farrell
The Honorable & Mrs. Sam Fox
Mr. & Mrs. Preston M. Green
Dr. David V. Habit

Mrs. Linda J. Habif
Mr. & Mrs. Donald Alan Judel
Judy &erry Kent
Dr. Charles Kilo
Mr. & Mrs. Charles F. Knight
Mr. Kim Durning Kuehner
Ms. Karen Feintuck Loewenthal
Mr. Sanford Carl Loewenthal
Tracey & William J. Marshall
Mr. & Mrs. James S. McDonnell III
Anne & John McDonnell
Mr. & Mrs. James Morgan McKelvey Jr.
Ralph J. Nagel
Trish M. Nagel*
Phil & Sima Needleman*
Paula C. & Rodger G. Riley
Mr. Scott Rudolph*
Mr. & Mrs. Harry J. Seigel*
Alvin & Ruth Siteman
Bob & Julie Skandalaris*
Mr. Gary M. Sumers*
Mr. & Mrs. Andrew C. Taylor*
Ann & Andrew Tisch*
Ms. Anabath Weil*
Mr. John Weil*
Roma & Raymond* Wittcoff
Howard & Marilyn Wood
One Anonymous Member

LIFE DANFORTH CIRCLE DEAN’S LEVEL

Sue Bahle*
Todd & Barbara Bluedorn*
Caroline & Howard Cayne*
Dr. Jane Lincuando Clark
Mr. Robert G. Clark
Mr. David P. Conner*
Mr. Robert G. Clark
Dr. Jane Lincuando Clark
Caroline & Howard Cayne*
Todd & Barbara Bluedorn*
ORGANIZATIONAL SUPPORT

The following corporations, foundations, and other organizations provided support of $1,000 or more to Washington University between July 1, 2017 and June 30, 2018.

3Mgives
21st Century Rehab, P.C.
AAASD Foundation
Abbotts Laboratories
Abbbie, Inc.
Alex & Alise Aboosie Family Charitable Foundation
Acety L.P., Inc.
Acetion Pharmaceuticals Ltd.
Action On Hearing Loss
Mammon Group LLC
ADAPT Pharma, Inc.
Adobe Systems Incorporated
Aesthetic Surgery Education & Research Foundation
Aeta Foundation, Inc.
AGA Research Foundation
Agilent Technologies
Alex’s Lemonade Stand Foundation
AllianceBernstein LP
Allied Universal
Aper Audi, Inc.
Aphrward Foundation
The ALS Association
Alzheimer’s Association
The American Orthopedic Society for Sports Medicine
Ameren Corporation Charitable Trust
The American Academy of Allergy, Asthma & Immunology Foundation (AAAI Foundation)
American Brain Foundation
American Academy of Pediatrics
American Academy of Otolaryngology
American Acne & Rosacea Society
American Association of Physicists in Medicine
American Association for Cancer Research (AACR)
American Board of Obstetrics and Gynecology
American Cancer Society, Inc.
American Chemical Society Petroleum Research Fund
American College of Physicians
American College of Radiology
American Diabetes Association
American Electric Power Company, Inc.
American Express Company
American Federation for Aging Research
American Foundation for Suicide Prevention
American Foundation for Surgery of the Hand
American Friends of the Herzog August Bibliothek
American Geriatrics Society
American Heart Association
American Heart Association – Midwest Affiliate
The American Hernia Society Foundation
American Honda Motor Co., Inc.
American Institute of Architects, St. Louis
American Lung Association
American Parkinson Disease Association, Inc.
American Physiological Society
American Psychological Association
American Psychological Foundation
American Regent, Inc.
American Society for Gastrointestinal Endoscopy
American Society for Microbiology
American Society for Radiation Oncology
The American Society for Reproductive Medicine
American Society of Hematology
American Society of Primatologists
American Syringomyelia & Chiari Alliance
American Thoracic Society
American Thrombosis & Hemostasis Network
Ameriwest Development, LLC
Amen, Inc. and the Amen Foundation
Anrock Property Consultants Private Limited
The Andrew McDonald B Foundation
Angeland’s Fastpitch Team
Anheuser-Busch Companies, LLC, and Anheuser-Busch Foundation
The Annenstedt Family Foundation
Annoa Furnishings, Inc.
The AO North America Charitable Foundation
Appalisc
A-One Towing
AOspine North America
Arch Coal, Inc.
Ang Foundation
Angoraul Management Services, Inc.
Laura and John Arnold Foundation
Arthrex Foundation
Arthritis Foundation
Arthritis Foundation – Georgia
Waterkotte Harley-Davidson
Asian Association for Psychological Science
The Association for Frontotemporal Degeneration
AT&F and the AT&F Foundation
Autodesk, Inc.
AXA Foundation
Baker Hughes Foundation
Bank of America Charitable Foundation
Barond Cancer Institute
The Foundation for Barnes-Jewish Hospital
Barnes-Jewish Hospital Medical Staff Association
Barrett Barra, Projects
Barth Syndrome Foundation, Inc.
BASF Corporation
Battelle Memorial Institute
The Family of Andrew N. Baur
Baxter International, Inc.
The Arnold & Mabel Beckman Foundation
BECS Technology, Inc.
Bellevue School District #119
The Bellwether Foundation, Inc.
Benson Electric Company, Inc.
Binnational Science Foundation
Bio-Logic Science Instruments SAS
bioMérieux
BJC Healthcare
Blakout Melanoma
Marion and Henry Bloch Family Foundation
Bloomington Normal Jaycees
Bloomington Normal Jaycees
Blue Mountain Capital Management, LLC
Blues For Kids Foundation
The Boeing Company
Bon Appetit Management Company
Boost Allen Hamilton, Inc.
Born This Way Foundation
Boston Scientific Corporation
BP Foundation, Inc.
BPV Market Place Investors, LLC
Brain & Behavior Research Foundation
Brain Research Foundation
Breast Cancer DIY
The Breast Cancer Research Foundation
BrightFocus Foundation
Bristol-Myers Squibb Company and the Bristol-Myers Squibb Foundation
Brookfield Properties
The Dana Brown Charitable Trust
Brown Family LLP
Barrett Brown Foundation
Marissa Brown Memorial Fund
Brown-Forman Corporation
G.A., Jr. & Kathryn M. Buder Charitable Foundation
Bums & McDonnell
Burnsough’s Welcome Fund
Byron Carlson Petri & Kab/LLC
C.Y. Lee & Partners Architects/Planners
May & Wallace Cady Memorial Trust
Caleres Cares Charitable Trust
Cambridge Engineering, Inc.
Sam & Louise Campe Foundation, Inc.
Cancer Care Foundation
Cancer Research Foundation
Cancer Research Institute
Cannon Design
Capes Sokol
Capital Group Companies Charitable Foundation
Capital One Financial Services, Inc.
The CART Fund
The Annie E. Casey Foundation
Case Information Systems, Inc.
Celgene Corporation
Centene Corporation and the Centene Charitable Foundation
Central Society for Clinical Research
Cerebral Palsy Alliance Research Foundation, Inc.
Cha Boutique LLC
Chan Zuckerberg Initiative
Chevron Corporation
Children’s Cardiomyopathy Foundation
Children’s Discovery Institute
Children’s Tumor Foundation
China Overseas Development Association
Christian Brothers College High School
Christmas Valley Foundation
Christine, Inc.
CHS, Inc.
Cincinnati Zoo & Botanical Garden
Circle of Hope Bracelets
Cisco Systems, Inc.
Civic Foundation, Inc.
C.J.’s Journey Foundation
Clario Foundation
Clostia, LLC
Colgate-Palmolive Company
Collinsville High School Leadership Class
Colorectal Cancer Alliance
School Activity Fund Columbia Community Unit #4
Communications Data Group, Inc.
Concern Foundation
ConocoPhillips Company
Conquer Cancer Foundation
Consortium for Graduate Study
Constellation Brands, Inc.
Construction Specifications Institute
Cook Medical, Inc.
Core & Cordell, PC
Core Energy Works, LLC
Corning, Incorporated.
Council of Professional Geropsychology
Creative Educational Concepts, Inc.
Cronin’s & Cortis Foundation of America
Crowe Horwath LLP
Cruise for Jeff
Cystic Fibrosis Foundation
Delta Air Lines Foundation
Deutsche Bank Americas Foundation
Don C. Muick Construction Company
Kamille & Henry Dreyfus Foundation, Inc.
Drury Hotels, LLC
Doris Duke Charitable Foundation
ESI Enterprises, Inc.
eBay, Inc.
Eckenhoff Saunders Architects
EDF Trading North America, LLC
Edward Jones
Eisai Co., Ltd.
Elanco Management Corporation
Electronic Arts, Inc.
Emerest Health of Missouri LLC
Emerson
Endocrine Fellows Foundation
Energizer Holdings, Inc.
Energy Foundation
Epharmix, Inc.
Epcc Charitable Fund
Epic Systems Corporation
Episcopal Presbyterian Health Trust
Equifax, Inc.
Ernst & Young Foundation
Essex Industries, Inc.
Edward P. Evans Foundation
Experiment.com, Inc.
Express Scripts Holding Company and the Express Scripts Foundation
ExxonMobil Corporation and the ExxonMobil Foundation
FAM LLC
Families ROC
Fashion Footwear Charitable Foundation of New York
The Federal Home Loan Mortgage Corporation
William P. Fenando Memorial Scholarship Foundation
FILA USA, Inc.
Gene Yoon & Jon Epstein
The Irene C. Finkenstein Foundation
Fischer-Bauer-Knirps Foundation
FM Global
William Guy Forbeck Research Foundation
Ford Foundation
John Henry B. Bemadine Foster Foundation
Foundation for Anesthesia Education and Research Foundation
Foundation for Physical Therapy
Foundation for Surgical Fellowships
FOXBORO LLC
Delbert H. Fraise Charitable Foundation Trust
Frasch Foundation for Chemical Research
Frick Foundation for ALS Research
Kathy and Jeffrey Friedland Foundation
Frost Family Limited Partnership
Fullbright & Jaworski LLP
The Fulgent Foundation
Fuller Theological Seminary
Future Vision Education Services LLC
Gabrielle’s Angel Foundation for Cancer Research
GACA Fund
Gallop Family Foundation
Yash Gandhi Foundation-Finding a Cure for I-Cell
Gannett Foundation

Defined Health, Inc.
Dell, Inc.
Victor & Selene deliunere Charitable Foundation
The Gladys Kribel Delmus Foundation
The people of the Deloitte US Firm’s and the Deloitte Foundation
Delta Air Lines Foundation
Dermatology Foundation
Deutsche Bank Americas Foundation
Don C. Muick Construction Company
The Camille & Henry Dreyfus Foundation, Inc.
Drury Hotels, LLC
Doris Duke Charitable Foundation
ESI Enterprises, Inc.
eBay, Inc.
Eckenhoff Saunders Architects
EDF Trading North America, LLC
Edward Jones
Eisai Co., Ltd.
Elanco Management Corporation
Electronic Arts, Inc.
Emerest Health of Missouri LLC
Emerson
Endocrine Fellows Foundation
Energizer Holdings, Inc.
Energy Foundation
Epharmix, Inc.
Epcc Charitable Fund
Epic Systems Corporation
Episcopal Presbyterian Health Trust
Equifax, Inc.
Ernst & Young Foundation
Essex Industries, Inc.
Edward P. Evans Foundation
Experiment.com, Inc.
Express Scripts Holding Company and the Express Scripts Foundation
ExxonMobil Corporation and the ExxonMobil Foundation
FAM LLC
Families ROC
Fashion Footwear Charitable Foundation of New York
The Federal Home Loan Mortgage Corporation
William P. Fenando Memorial Scholarship Foundation
FILA USA, Inc.
Gene Yoon & Jon Epstein
The Irene C. Finkenstein Foundation
Fischer-Bauer-Knirps Foundation
FM Global
William Guy Forbeck Research Foundation
Ford Foundation
John Henry B. Bemadine Foster Foundation
Foundation for Anesthesia Education and Research Foundation
Foundation for Physical Therapy
Foundation for Surgical Fellowships
FOXBORO LLC
Delbert H. Fraise Charitable Foundation Trust
Frasch Foundation for Chemical Research
Frick Foundation for ALS Research
Kathy and Jeffrey Friedland Foundation
Frost Family Limited Partnership
Fullbright & Jaworski LLP
The Fulgent Foundation
Fuller Theological Seminary
Future Vision Education Services LLC
Gabrielle’s Angel Foundation for Cancer Research
GACA Fund
Gallop Family Foundation
Yash Gandhi Foundation-Finding a Cure for I-Cell
Gannett Foundation

56 | PURPOSE