



OFFICE OF THE PRESIDENT
BROWN UNIVERSITY

BROWN UNIVERSITY
ANNUAL FINANCIAL REPORT
Fiscal Year 2021

Brown University Summary

Fiscal year ended June 30

FINANCIAL (dollars in millions)	Fiscal Year 2021	Fiscal Year 2020
Principal Revenue Sources		
Tuition and fees (net)	\$331	\$399
Grants and contracts	\$236	\$209
Endowment return appropriated	\$182	\$160
Contributions	\$309	\$236
Total investment return	\$2,387	\$495
Principal Purpose of Expenditures		
Instruction and departmental research	\$334	\$363
Academic and student support	\$294	\$265
Financial Balance Sheet		
Total Assets	\$9,793	\$6,894
Total Liabilities	\$1,979	\$1,415
Net Assets	\$7,814	\$5,479
Fundraising		
New Gifts and Pledges	\$431	\$321
Cash	\$302	\$251
STUDENTS		
Enrollment		
Undergraduate students	6,792	7,160
Graduate students	2,561	2,576
Medical students	595	597
Degrees Conferred		
Bachelor's degrees	1,563	1,743
Master's degrees	752	733
Doctor of Philosophy	173	217
Doctor of Medicine	120	137
Annual Tuition and Required Fees		
Undergraduate	\$60,584	\$58,404
Graduate	\$59,673	\$58,180
Medical	\$66,088	\$64,148
FACULTY		
Campus-based Faculty (all ranks)*	791	786
Medical School Faculty	606	599

*Campus-based faculty head counts include professor, associate and assistant professor, and lecturer, senior lecturer and distinguished senior lecturer.

Brown University Financial Report

Fiscal Year 2021

FROM THE PRESIDENT

While the COVID-19 pandemic presented the University with significant challenges in Fiscal Year 2021, our strong mitigation efforts — combined with tremendous market growth and record-breaking fundraising — enabled Brown to close the year in a strong financial position. I am grateful to the members of our extraordinary community who have given generously of their time and resources to ensure that Brown continues to move forward in our ambitious pursuit of academic excellence.

The annual Brown University Financial Report offers an overview of our financial statements, success in fundraising and exceptional investment performance. As you'll read in the endowment report, the endowment and other managed assets achieved an all-time high of \$6.9 billion at the end of the fiscal year, after beginning the year with \$4.7 billion in assets. This single-year result is extraordinary, and the growth will have a transformational impact on the University for years to come.

In a record year of fundraising, more than 35,900 generous alumni, parents and friends gave \$430.5 million to Brown as part of the *BrownTogether* comprehensive fundraising campaign. This eclipsed the previous 2018 fundraising record by nearly \$10 million. Members of the Brown community came together in support of priorities that will advance academic excellence, increase access to a Brown education and fund research expansion and campus growth. More than \$57 million was raised in response to increased need for undergraduate financial aid, and \$54.8 million was provided for endowed faculty positions.

In October, Brown was proud to share that the University reached a historic milestone in meeting the \$3 billion mark in the *BrownTogether* campaign a year ahead of schedule. In light of this extraordinary achievement, the campaign will continue with the objective of fulfilling existing funding targets and building investment in new priorities that have emerged since the campaign launched in 2015.

Even with our endowment and fundraising success, Brown finished FY21 with an operating budget deficit of \$52.2 million. The negative budget impact reflects ongoing expenses for a robust asymptomatic COVID-19 testing program combined with declines in revenues primarily driven by significant reductions in tuition, room and board and reduced summer programs. While this will be challenging to address in the short-term, Brown's net assets grew to \$7.8 billion in FY21, up 43% over the previous year due to the tremendous market-driven growth. Because the endowment's contribution to the operating budget is based on the endowment's average market value over the previous three years, investment returns contributed to the operating budget are expected to steadily increase in each of the coming years.

In addition to reporting on Brown's financial health, the financial report provides an opportunity to share progress in key areas of the University's strategic plan, *Building on Distinction: A New Plan for Brown*. Last year, the report focused on the University's commitment to creating peaceful, just and prosperous societies. The theme for this year's report is the University's commitment to using science and technology to improve lives.

The development of new technology is critical to human progress. In an increasingly data-driven world, Brown is at the forefront of discovery in computational and data sciences. The report details ways in which Brown scholars are generating innovative science and scholarship in fields including mathematics, computer science and biostatistics that will contribute to addressing the complex challenges facing society.

You will read about the Center for Computational and Molecular Biology where researchers are using machine learning, artificial intelligence and other revolutionary techniques to fight disease. You'll discover how researchers in the School of Public Health are using data-driven techniques to improve diagnosis. Meanwhile, the Data Science Initiative is further expanding data science research at Brown and preparing students to thrive in a data-enabled society.

The report demonstrates the ways in which targeted investment is building Brown's strength as an academic powerhouse in numerous areas while continuing to focus on operational excellence. I am excited to share how Brown is achieving new levels of academic leadership through investment in the people and distinctive programs of the Brown community.



Sincerely,

A handwritten signature in black ink, appearing to read 'C. H. Paxson'.

Christina H. Paxson
President, Brown University

Data and Computational Sciences at Brown

Making an Impact

Faculty and students at Brown are using data to inform scholarship in fields ranging from theoretical physics to theater arts, while working to make sure that data technologies are deployed for the benefit of communities and society.

The University has a goal of establishing Brown as a leader in extracting knowledge from data through research and scholarship in the computational and data sciences. Core strengths in mathematics, computer science, biostatistics and other areas have placed the University's world-class faculty in a position to play a central role in generating breakthrough science and scholarship that will contribute to confronting the great challenges facing the world today.

While data science informs research and teaching across the University, this report highlights the groundbreaking contributions of five key contributors to data and computational science at Brown: The Data Science Initiative, the Department of Computer Science, the School of Public Health, the Center for Computational Molecular Biology and the Carney Institute's Center for Computational Brain Science.

THE WORLD IS IN THE MIDST OF A DATA REVOLUTION

From analyzing financial markets to diagnosing disease to predicting the course of a changing climate, Brown researchers and scholars are using the power of big data to answer profound questions and solve critical problems.

Physicists are sifting through huge datasets from particle colliders and radio telescopes to discover elementary particles and detect the emergence of the first stars in the universe. Biologists use data science to understand how genetic instructions are translated into physical traits, and to unravel the mysteries of the human brain. Computer scientists are developing new techniques to explore datasets more efficiently and rigorously, while working to make sure data systems are used equitably and serve the greater good.

Faculty and students across campus are using advanced data science techniques to create new knowledge in a wide range of academic fields, while preparing students to be leaders in a data-driven society.

The Data Science Initiative

Brown's Data Science Initiative has a mission to expand data science research at Brown while preparing students to thrive in a data-enabled society.

Already, Brown stands at the leading edge of the data revolution. Computer scientists have made path-breaking advances in database management and machine learning, while biostatisticians have used data to improve lung cancer screening and move health care toward more precise, personalized care. The Data Science Initiative (DSI) connects data-centered approaches to questions in environmental science, engineering, physics, medicine and public health, public policy, the humanities and elsewhere.

One approach DSI has used to stimulate data-driven research is offering flexible seed funding to Brown faculty across campus to build new data-related collaborative research projects. Projects funded have ranged from research into how social media bots may influence online discussion about climate change to the use of data from wrist sensors to predict complications that may arise in patients after a stroke. In another project, a team led by engineering professor Ian Wong used a branch of mathematics called topology to analyze images of cell clusters and make key predictions about the cell types present. Such a system could one day help understand wound healing processes or better assess how aggressive a cancerous tumor may be.

These kinds of projects not only address critical real-world research questions, they also provide insight into how data science tools can be adapted to answer fundamental questions in a variety of fields of inquiry.

Along with catalyzing new research, the DSI and Department of Computer Science have partnered to launch an undergraduate certificate program in data fluency, designed to provide fundamental conceptual knowledge and technical skills to students with a range of intellectual backgrounds and concentrations. For a deeper dive into data, DSI offers a master's program focusing on foundational mathematical and computational techniques, while enabling students to explore particular applications of their choice.

In 2019, the DSI launched the Data Science Fellows program led by Linda Clark, a lecturer in data science, and the Sheridan Center for Teaching and Learning. As part of a for-credit class, undergraduate students serve as consultants and collaborators with faculty members looking to add data science elements to their courses. Over the past two years, fellows have helped to reshape classes spanning neuroscience to environmental science to history.

Students have helped develop course modules for mapping food access in vulnerable communities. A mathematics and computer science concentrator worked with Sydney Skybetter, a lecturer in theater arts and performance studies, on a method of using body measurement data to interpret



Professor Sohini Ramachandran is a professor of biology and the director of DSI and Brown's Center for Computational Molecular Biology.



My goal for the Data Science Initiative is to ensure that those most in need are not the last to benefit from fundamental research in data science or data-driven applied research. Brown is the perfect place for an inclusive, collaborative approach to data science in which we equally value data generation and methods development.

SOHINI RAMACHANDRAN
DSI Director

dance movements. A religious studies concentrator worked with Elsa Belmont Flores, a lecturer in language studies, to develop a way of using data science techniques to study lineages of Arabic names.

THE FUTURE OF THE DSI IS BRIGHT

Now under the direction of Sohini Ramachandran, a professor of biology and also director of Brown's Center for Computational Molecular Biology, the DSI has recently added two data science faculty members. Karianne Bergen, an assistant professor of data science and earth, environmental and planetary sciences, uses machine learning techniques to detect earthquake activity. Roberta DeVito, an assistant professor of data science and biostatistics, develops techniques for studying highly complex and highly dimensional datasets, such as those that often occur in healthcare and medical settings.



Murchison Widefield Array: Jonathan Pober, an assistant professor of physics, works with researchers at the Murchison Widefield Array, a radio telescope that is currently searching for signals from the cosmic dawn — the moment when the first stars lit up the universe. Picking out that faint signal in a sea of intergalactic noise is fundamentally a data science problem. Data analysis techniques developed by Pober and his colleagues have brought researchers closer than ever to picking out that elusive signal.

More faculty will be added soon, including Suresh Venkatasubramanian, who will work with Seny Kamara, a professor of computer science, to form a new DSI center called Computing for the People. The center will investigate the ways in which artificial intelligence, algorithms and other data systems often fail to serve marginalized populations, and look for ways to rebalance power to

better serve those populations in the further development of computational systems.

The new initiative is a key part of Ramachandran's vision for the DSI moving forward: to make sure that Brown is on the cutting edge of developing and deploying data technologies, but also that the University is a leader in making sure data technologies are used fairly, equitably and for the good of all.

Center for Computational Molecular Biology

Brown researchers are using machine learning, artificial intelligence and other cutting-edge data techniques to piece together human genetic history and fight disease.

In 2001, the world celebrated the first sequenced human genome, a monumental feat of science and technology that promised new insights into human biology and disease. It was also the beginning of the transformation of biology into a “big data” science, in which computation would become a crucial tool in understanding how genetic information is translated into physical traits.

Recognizing this shift in paradigm, Franco Preparata, now professor emeritus of computer science, guided Brown in launching one of the first undergraduate computational biology concentrations in the country. That program would eventually evolve into the Center for Computational Molecular Biology (CCMB), where researchers today use state-of-the-art data techniques such as machine learning and artificial intelligence to understand the genetic underpinnings of human life.

Sohini Ramachandran, a professor of ecology and organismal biology and director of CCMB as well as the Brown Data Science Initiative, uses advanced statistical methods, machine learning and other techniques to understand human genetic history and the genetic foundation for complex physical traits. Her work in deciphering the human genome earned her a Presidential Early Career Award for Scientists and Engineers, the highest U.S. government honor for early career researchers.

One example of Ramachandran's work is a method that uses machine learning to search through human genomic datasets to find rare beneficial mutations. Most genetic mutations are neutral — neither helping nor hurting an individual's chance of surviving and reproducing. But the ability to spot beneficial mutations that have spread through natural selection helps to reveal the evolutionary history of people around the world and to shed light on the evolutionary roots of medical conditions.



Sohini Ramachandran (left) is a professor of ecology and organismal biology and director of CCMB as well as the Brown Data Science Initiative. Lorin Crawford (right) is an assistant professor of biostatistics and a CCMB faculty member.

GENETICS, EVOLUTION AND HUMAN HEALTH

More recently, Ramachandran has been investigating how the genetic architecture of complex traits and diseases may diverge in people of different ancestries. The vast majority of studies aimed at linking genes to medical conditions have used data from people of European ancestry, and it has been assumed that those findings apply to everyone regardless of ancestral background. But that is often not the case, according to research by Ramachandran and Lorin Crawford, an assistant professor of biostatistics and a CCMB faculty member.

Most diseases are not caused by a single genetic variant, but rather a suite of different mutations and genes that interact in complex ways. That means that disease-associated variants in one population aren't always the same variants associated with disease in another population. Ramachandran and Crawford are developing methods to look at the genome at various scales, from single genes to gene networks, in order to account for variation across populations. Such work could help in establishing genetic risk factors and developing treatments for a wide variety of complex medical conditions.

Crawford, whose research earned awards from the Sloan Foundation and the David and Lucille Packard Foundation, among others, is also developing ways of using deep neural networks, a form of artificial intelligence, to discover associations between complex traits and genetic pathways. Deep neural networks are known to be good at detecting subtle patterns in large datasets. However, such systems are something of a “black box”— the way in which they arrive at their answers is somewhat mysterious, even to the people who design the systems. In genomics, that makes their output difficult to fully interpret and validate. Crawford

is working on ways to open the black box. He has developed a method that supplies neural networks with biologically relevant annotations, which help to make their output more interpretable. The work is a step toward bringing the power of artificial intelligence to bear in understanding complex genetic traits.

Another CCMB researcher, Associate Professor Emilia Huerta-Sanchez, uses advanced data analysis and statistical modeling to examine how events in the distant past have helped to shape human genetic variation today. One area of focus is how interbreeding between archaic humans like Neanderthals and Denisovans has influenced the modern human genome.

In a landmark 2014 study published in the journal *Nature*, Huerta-Sanchez and colleagues found that a genetic variant that helps Tibetans live at extremely high altitudes came from ancient interbreeding with archaic Denisovans. More recently, she showed that this gene variant was likely introduced into the lineage around 50,000 years ago, but it remained selectively neutral — meaning not favored by natural selection — until around 9,000 years ago, when permanent inhabitation of the Tibetan highlands began. The findings are a striking example of how variation from ancient interbreeding can be helpful to a population centuries later.

“My goal for the Data Science Initiative is to ensure that those most in need are not the last to benefit from fundamental research in data science or data-driven applied research. Brown is the perfect place for an inclusive, collaborative approach to data science in which we equally value data generation and methods development.”

DAVID RAND

Chair of Ecology, Evolution and Organismal Biology

BRIGHT FUTURE FOR COMPUTATIONAL BIOLOGY RESEARCH AT BROWN

In 2016, Brown was awarded a five-year, \$11.5 million grant from the National Institutes of Health to establish the Center for Computational Biology of Human Disease, led by David Rand, chair of Brown's Department of Ecology, Evolution and Organismal Biology.

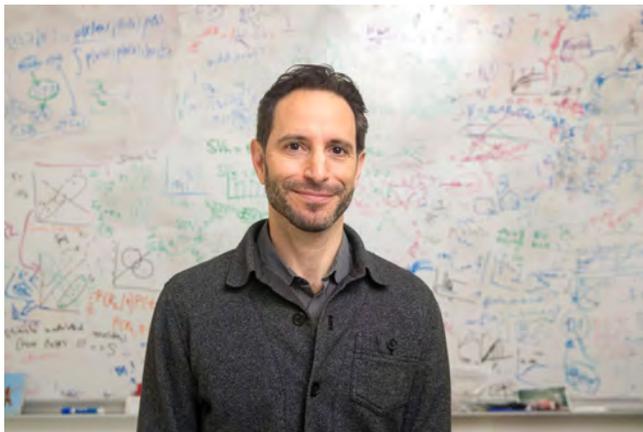
The funding helped to establish the Computational Biology Core, a team of researchers, data scientists and software engineers that facilitates genomic research across the University. The funding also launched research projects by Ramachandran, Crawford and a host of other computational biology researchers at Brown. Projects to date have addressed the genetics underlying cancer, preeclampsia, severe lung infections and other conditions.

In 2021, the National Institutes of Health announced a \$12 million renewal of the grant, which will launch a host of new research projects and keep Brown on the cutting edge of the data revolution in biology.

Computational Brain Science

Brown researchers are using computational approaches to better understand the workings of the brain and to enable new treatments for conditions from ADHD to paralysis.

Understanding the brain is fundamentally a big data problem. Within each human brain, billions of neurons connect with each other in trillions of ways, giving rise to thoughts, memories, emotions and all the rest of the human experience. Understanding how those connections work — and how they can go wrong — is one of the great frontiers of modern science.



Michael Frank is a professor of cognitive, linguistic and psychological sciences and the founding director of CCBS.

At Brown, researchers are using data science and computational modeling to discover fundamental aspects of brain function, which could lead to new treatment approaches for brain disorders. In 2020, Brown's Carney Institute for Brain Science launched the Center for Computational Brain Science (CCBS). The center aims to harness expertise from neuroscience, engineering,

mathematics, computer science and other areas to create new ways of understanding brain function, and to develop new therapies for disorder and disease.

Michael Frank, a professor of cognitive, linguistic and psychological sciences, is the founding director of CCBS. His research combines computational modeling with experimentation to reveal fundamental aspects of how people and other animals think, make decisions and learn.

In a 2020 study published in the journal *Science*, Frank and his colleagues showed the mechanism through which ADHD drugs like Ritalin operate in the brain to enhance cognitive output. Ritalin enhances release of the neurotransmitter dopamine in the striatum, a key region in the brain related to motivation, action and cognition. Using a behavioral economic strategy, the study found that the drugs direct the brain to fix its attention on the benefits, rather than the costs, of completing difficult tasks. The findings were captured by Frank's mathematical model of how dopamine affects decision making and cognition, and could be helpful in developing new therapies for ADHD, as well as other dopamine-related disorders such as anxiety, depression and schizophrenia.

“My hope is to facilitate a deeper understanding of the interconnections among multiple levels of computational brain science.”

MICHAEL FRANK

Director of the Center for Computational Brain Science

In another study released in 2021 in the journal *Cell*, Frank collaborated with Christopher Moore's lab in the Carney Institute to study more precise dynamics of dopamine in the mouse striatum. Contrary to dominant accounts in which dopamine goes up uniformly to rewarding events, the team discovered that dopamine propagates across the striatum in waves of activity, with the direction of the wave depending on whether the animal had “agency” in obtaining its goal. The findings motivated a new computational model in which dopamine dynamics allow animals to infer when they are in control over rewarding events, and to then assign “credit” to the corresponding brain regions that facilitate adaptive behavior.

INVESTIGATING MOTIVATION, MOVEMENT DISORDERS AND OCD

Another researcher associated with CCBS, Amitai Shenhav, uses computational modeling to investigate the brain's role in motivating people to achieve goals. In particular, he is researching what makes some tasks more challenging than others, how people evaluate the costs and benefits of putting in the mental effort to overcome those challenges, and how long they persist in those efforts when there are tempting alternatives.

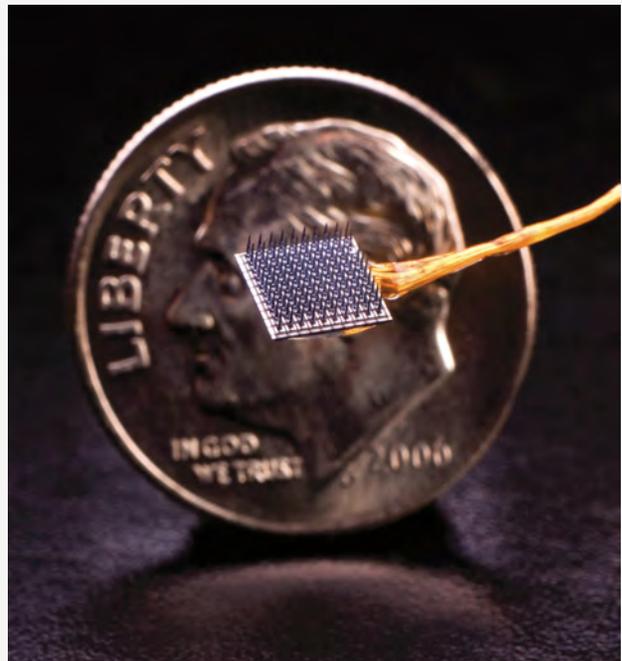
In early 2021, Shenhav published a study combining computational modeling and brain imaging techniques to reveal new details about the neural circuitry that underlies motivation. Those kinds of insights could be useful in helping people who have motivation problems due to chronic depression or other disorders.

Other researchers affiliated with CCBS are working directly on new therapeutic approaches to brain disorders. David Borton, an associate professor of engineering, is working on the development of next-generation deep-brain stimulation (DBS) technologies. DBS uses small implantable electrodes to deliver subtle electrical pulses directly to the brain. The technique is effective in treating movement disorders like Parkinson's disease, but today's devices have limitations.

Currently, doctors adjust the stimulation level according to the patient's symptom response. Once the level is set, the device stimulates at that level continuously until the doctor readjusts it, requiring patients to return to the clinic. But there's interest in developing devices that can adjust stimulation automatically in response to real-time changes in symptoms or related biomarkers in the brain, which requires a system that can stimulate brain activity and sense it at the same time.

The problem is that stimulation can create electrical artifacts that corrupt the native brain signals the system is trying to sense. Working with Matthew Harrison, an associate professor of applied mathematics, Nicole Provenza, a Ph.D. student in biomedical engineering, and Evan Dastin-van Rijn, an undergraduate student in biomedical engineering, Borton and team developed an algorithm that successfully distinguishes stimulation artifacts and removes them, revealing the native brain signals. The work could be an important enabling step toward adaptive DBS systems.

In related work from the Borton lab, a 2021 study led by Provenza demonstrated, for the first time, the ability to sense candidate biomarkers in the human brain associated with symptoms of obsessive compulsive disorder (OCD). Technologies from commercial partner Medtronic enabled brain sensing over the course of years, detecting changes in



Brain-Computer Interfaces: Researchers from Brown are pioneers in the development of brain-computer interfaces (BCIs) — devices that sense activity within the brain and use those signals to control external devices such as laptop computers and robotic arms. Recently, a Brown team led the demonstration of the first wireless, high-broadband BCI systems. The research is a critical step toward a fully implantable BCI system that could help people who have lost the ability to move or communicate due to injury or disease.

the brain's electrical activity associated with OCD as people went about their daily lives. The findings could be a critical step toward bringing adaptive deep-brain stimulation to bear in the treatment of OCD — a project Borton is working on with Frank and applied mathematician Matthew Harrison.

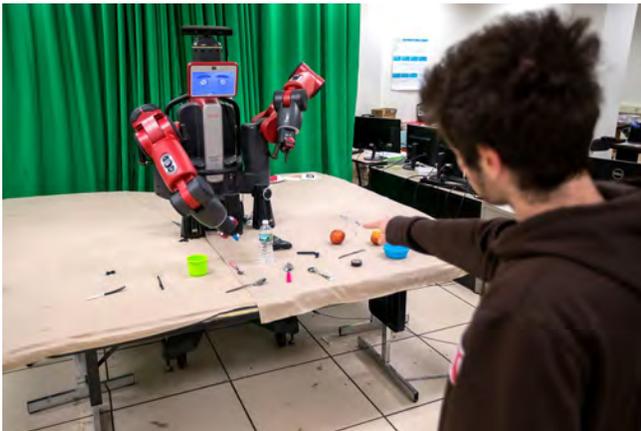
These are just a few examples of computational brain science work happening at Brown, and Frank is hopeful that CCBS will catalyze new collaborations harnessing the wealth of expertise across the disciplines at Brown. Making progress in understanding the brain in all its complexity will require diverse perspectives, and Brown's collaborative research ethos makes it a perfect place for such dynamic research.

The Department of Computer Science

Brown's expanding Department of Computer Science is fortifying its research and teaching excellence in data science, artificial intelligence and socially responsible computing.

The department continues to propel innovation of the foundational and applied technologies that enable productive data-driven discovery.

Professor Eli Upfal, who serves as deputy director of Brown's Data Science Initiative, works to make data exploration tools more useful and rigorous. As more people use analytics software to explore large datasets, the chances increase that random fluctuations in data will be mistaken for significant patterns. Such "false discoveries" could have dire consequences — particularly in areas such as healthcare or law enforcement. Upfal and colleagues have developed data exploration systems with advanced statistical safeguards that help users avoid false discoveries. The research served as the foundation for a commercially available data exploration product and a new startup company called Einblick.



Brown's computer science department continues to propel innovation of the foundational and applied technologies that enable productive data-driven discovery.

In other data science research, Assistant Professor Malte Schwarzkopf and colleagues recently unveiled a new data science framework that dramatically speeds up data exploration. Most data scientists use a computer language called Python for many data analysis tasks. However, industry-standard data science frameworks have trouble processing Python code, which leads to a "performance tax" when using this user-friendly language. The new framework developed by Schwarzkopf, called Tuplex, eliminates that performance tax, enabling the execution of Python queries

up to 90 times faster than current systems. That speed increase could vastly improve productivity for data scientists.

BREAKTHROUGHS IN ARTIFICIAL INTELLIGENCE

Brown researchers are at the leading edge of a field that's driving many of the recent advances in data and computational science over the past decade: artificial intelligence (AI). Ellie Pavlick, an assistant professor, is working with fellow faculty members Stefanie Tellex, Carsten Eikhoff and others on a groundbreaking approach to language processing. Current AI systems learn language by poring over vast amounts of text. That works well for learning to recognize words, but less well when it comes to actually understanding meaning and context.

Pavlick and her colleagues are working on ways of teaching computers to read that is similar to how children are taught: by letting the computer learn language by connecting words with objects and actions it observes in the real world. The project has earned the largest single funding award in the department's history — a contract of over \$6 million from the U.S. Defense Advanced Research Projects Agency (DARPA).

Also working in AI, Professor Michael Littman recently chaired an international panel of researchers tasked with producing a report on the state of the artificial intelligence field. The report is the second from an organization based at Stanford AI100, which aims to track AI development at regular intervals over the next century.

In this newest edition of the report, released in September 2021, Littman and his colleagues found that advances in computer vision, language processing and other areas mean that more people are interacting with AI on a daily basis than ever before — from getting movie recommendations



Technology has created incredible opportunities and wealth, but it has a disparate impact on people. What has motivated me for the last few years is to try to think about what computer science would look like if it centered the needs of marginalized people. That's the motivation for the Computing for the People project at Brown.

SENY KAMARA
Professor of Computer Science

to receiving medical diagnoses. With that success, however, comes a renewed urgency to understand and mitigate the risks and downsides of AI-driven systems, such as algorithmic discrimination or use of AI for deliberate deception. Computer scientists must work with experts in the social sciences and law to assure that the pitfalls of AI are minimized, the panel concluded.

Fortunately, Littman says, the computer science world is increasingly taking these concerns seriously, and Brown is at the forefront of that as well. In 2019, the computer science department launched an effort to infuse social responsibility into a wide variety of classes offered by the department. More than a dozen classes offered in the department now include social responsibility components, from addressing algorithmic bias in artificial intelligence classes to thinking about the securing of genomic data in computational biology. The program goes beyond simply adding an ethics module to classes. Rather, it encourages students and faculty to rethink the creation of computing systems in terms of power dynamics, societal benefits and unintended consequences.

In that same spirit, Professor Seny Kamara, an expert in cryptography, has entirely recalibrated his research agenda around a simple yet profound question: What would computer science look like if it centered the needs of marginalized people instead of those in power?

That question is opening new and important research avenues, including a recent collaboration with the office of Oregon U.S. Sen. Ron Wyden to explore methods of creating a secure and decentralized gun database. Gun violence in the U.S. disproportionately affects communities of color, and hundreds of women each year are shot and killed by domestic partners. The ability to trace guns used in crimes may help to prevent some of that violence, researchers say, but gun registries have faced political headwinds from those worried about data security and government control of such a database.

Kamara and his students developed a strategy for a fully encrypted and decentralized registry. The encryption scheme allows the database to be searched without being decrypted, which means people querying the database see only the records they're looking for and nothing else. Meanwhile, the system places control of data in the hands of county-level officials rather than the federal government, meaning county officials have control over which queries are answered, and can even pull the county's data offline entirely if they are not comfortable with how it is being used. Such a strategy could help to allay some political concerns and aid in making registry legislation a reality.



ICERM: In addition to the computational research happening in the computer science department, Brown's National Science Foundation (NSF) Institute for Computational and Experimental Research in Mathematics (ICERM) is dedicated to bringing new computational methods to bear in areas of pure and applied mathematics. In 2020, ICERM received a \$23.7 million grant renewal, the largest NSF grant in Brown's history.

Kamara also teaches a class called Algorithms for the People, in which students study issues in technology policy — topics like algorithmic bias, inclusion, privacy, technology's effect on immigration and war and others. Based on that study, they then engage in a technical project in which they build software to address a problem they've identified over the course of the semester.

The motivation of centering marginalized populations, and the willingness to engage with entities outside of computer science, serve as a template for Kamara's latest venture. In cooperation with Brown's Data Science Initiative, the Center for the Study of Race and Ethnicity in America and the Center for Computational Molecular Biology, Kamara and Suresh Venkatasubramanian, a new faculty member who joined the Department of Computer Science and the Data Science Initiative in Fall 2021, has launched a new effort called "Computing for the People" — a research center aimed at orienting the field of computing to benefit those in need rather than those in power.

The project is precisely the sort of socially responsible action that Littman and his colleagues identified as the next frontier in computing, and it promises to put Brown on the leading edge of a new paradigm for the field.

PIONEERS IN DATA SCIENCE EDUCATION

A decade ago, computer scientists Kathi Fisler and Shriram Krishnamurthi spearheaded the development of a middle and high school mathematics curriculum called Bootstrap, which teaches kids the basics of algebra in the process of coding their own video games. The curriculum is now used in hundreds of classrooms across the country and was included as part of a national STEM education effort spearheaded by the White House.

In recent years, the team has harnessed the attributes that made Bootstrap Algebra so successful to create Bootstrap Data Science. The new program uses topics and datasets that students are already interested in — sports stats, local crime data or other datasets — and uses them to teach the basics and data exploration and discovery. Just a few years after the program's creation, it's already being used in dozens of classrooms around the country. The program is a step toward increasing data fluency in young students.

Bootstrap Data Science was introduced at a time when interest in computational and data science is skyrocketing. That surge of interest is particularly evident at Brown.

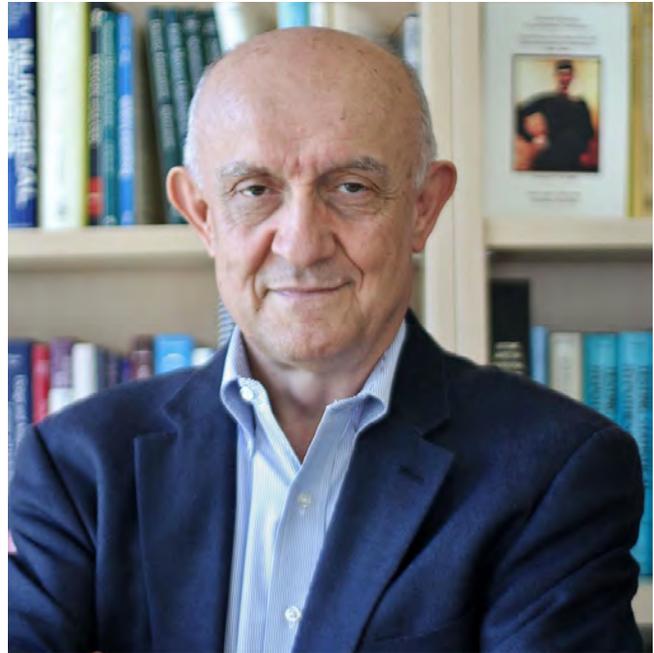
In 2010, Brown awarded undergraduate degrees to 48 computer science concentrators. In the 2020-21 academic year, 692 students declared a computer science concentration — one-sixth of the undergraduate students declaring a concentration. Hundreds more non-concentrators take one or more computer science class every semester.

In 2018, Brown launched the largest expansion of the Department of Computer Science in its 40-year history. The expansion will ultimately add 10 new tenure-track faculty and five lecturers to the department, bolstering research and teaching strength in data science, artificial intelligence, machine learning and beyond with an emphasis on socially responsible computing.

Radiomics Research in the School of Public Health

Researchers in Brown's Department of Biostatistics are gathering data from MRIs, CT scans and other medical imagery to improve diagnosis and clinical assessment for a range of medical conditions.

Members of the department, which is housed in the School of Public Health, have been involved in the new field of radiomics from the beginning and are developing cutting-edge statistical learning methodology for the analysis of complex imaging and clinical data.



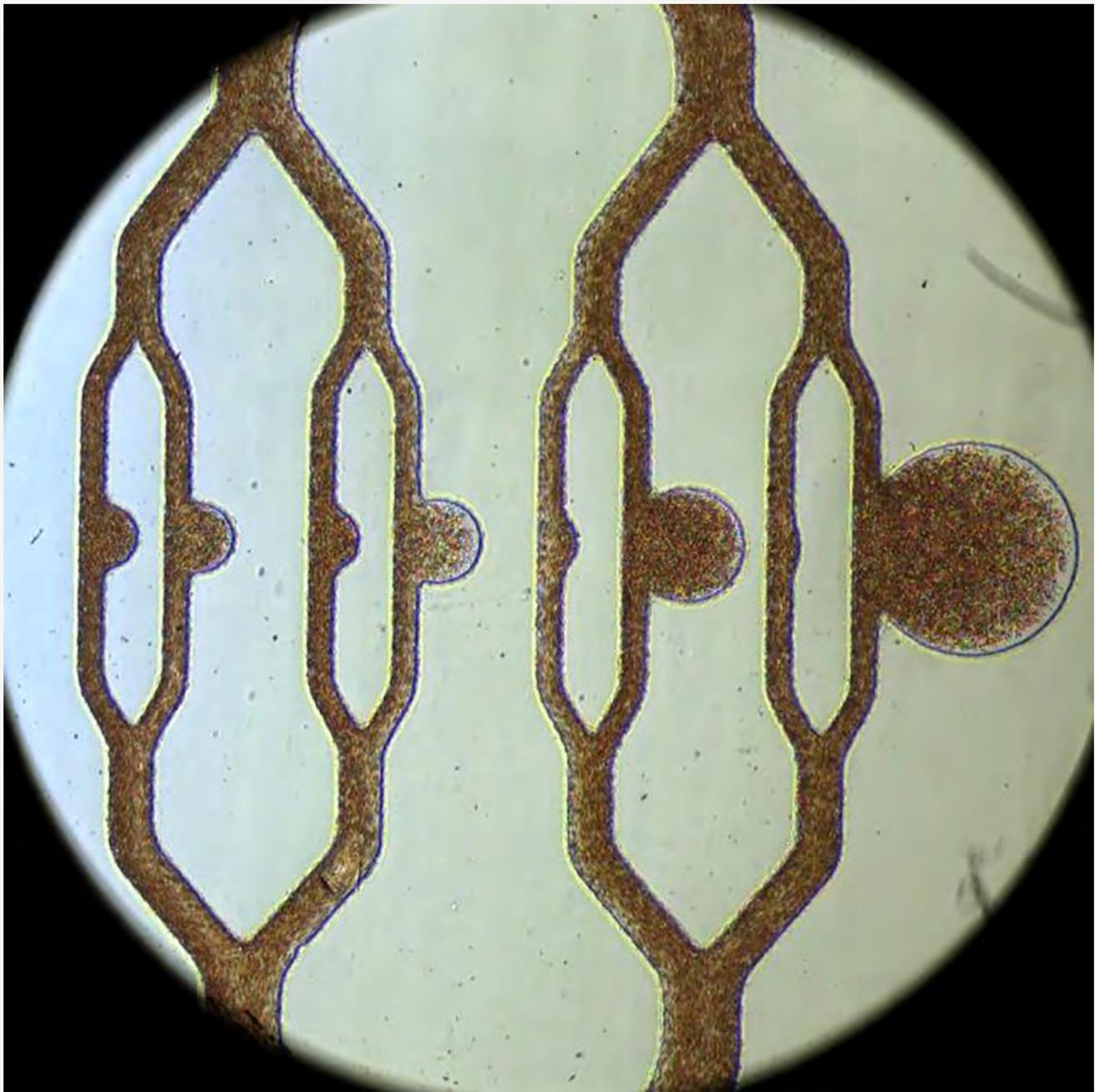
Professor Constantine Gatsonis is the inaugural chair of biostatistics at Brown and director of the University's Center for Statistical Sciences.

What is radiomics? Near the turn of the prior century, the first medical use of X-rays changed medicine. For the first time, doctors could peer inside the body with no incision to see broken bones, congested lungs or other conditions. As medical imaging became more sophisticated, it could be used to find torn ligaments, tumors or blocked arteries.

Today, data science techniques are enabling researchers to learn more than ever from medical images through radiomics — the science of extracting qualitative information from massive sets of medical images. Increasingly, radiomic technology is helping doctors to make predictions about the aggressiveness of a tumor without a biopsy, or to detect disorder or disease years before symptoms manifest themselves.

Brown has a long history of developing rigorous and innovative methods of statistical analysis for medical imaging data. Work in radiomics now involves several biostatistics faculty and graduate students and has a focus on cancer and chronic neurodegenerative diseases.

Professor Constantine Gatsonis, inaugural chair of biostatistics at Brown and director of the University's Center for Statistical Sciences, has been a leading methodologist in the clinical evaluation of imaging for detection, diagnosis and prediction for years. He was group statistician of the American College of Radiology Imaging Network (ACRIN) since its inception in 1999 and is now group statistician of



Physics-Informed Neural Networks: Other researchers at Brown are also developing new techniques that turn images into information. George Karniadakis, a professor of applied math and engineering, has developed neural networks — key elements of modern artificial intelligence — that are equipped with the equations that govern fluid flows. Those networks can be used to infer properties of a flowing fluid, such as velocity and pressure, just by analyzing images or short videos. In a 2020 study, Karniadakis showed that the technique could reliably predict pressure inside artificial aneurysms. Doctors could one day use the technique to predict when real aneurysms are in danger of bursting.

the ECOG-ACRIN Cancer Research Group (renamed after merging with the Eastern Cooperative Oncology Group). He also leads a large group of statisticians and clinical trialists at Brown's Center for Statistical Sciences. Gatsonis was lead statistician of national studies of screening for breast and lung cancer and is currently the lead statistician for a National Cancer Institute-funded international clinical trial assessing the impact of tomosynthesis (3D mammography) for breast cancer screening.

Associate Professor of Biostatistics Fenghai Duan serves as lead statistician for several ECOG-ACRIN trials and is working to develop new screening techniques for lung cancer based on radiomics, because X-rays and CT scans of lungs often turn up nodules that look potentially cancerous but are actually not a health threat.

Duan is working with a team of pulmonologists and radiologists to find specific features of nodules — such as size, shape and location — that make it more likely that they will develop into cancer. Preliminary research shows that their radiomics-based model is better at distinguishing between benign and malignant nodules than the standard of care risk assessment.

Assistant Professor of Biostatistics Jon Steingrímsson has collaborated with graduate students and other faculty members to develop deep learning algorithms for imaging data when some outcomes are only partially observed. He also has explored whether uncertainty in predictions made from deep learning algorithms applied to images can be used to prioritize which observations are referred to physicians for additional review. Steingrímsson also is involved in several studies that use medical images to improve outcomes for cancer patients or improve cancer screening.

Assistant Professor of Biostatistics Ani Eloyan has developed a radiomic method for assessing tumor heterogeneity. The cells within a tumor often differ substantially in size,

shape, gene expression, mobility and other attributes. That heterogeneity often can be captured by medical imaging. Eloyan and her colleagues developed a statistical method for extracting information generated by images to quantify aspects of tumor heterogeneity and used it to identify tumor attributes that are correlated with survival in lung cancer patients. They found that their new technique outperforms other means of predicting lung cancer prognosis.

Now Eloyan has set her sights on a different disorder: Alzheimer's disease. She's working with data from the Longitudinal Early-onset Alzheimer's Disease Study to identify biomarkers associated with disease states and clinical prognosis in brain imaging.

For Assistant Professor of Biostatistics Lorin Crawford, radiomics has become one of many research interests. Crawford has shown that by analyzing the topology of tumors — certain fundamental properties of their shape — it is possible to make predictions about clinical outcomes. In particular, he looked at glioblastoma multiforme, a particularly aggressive form of brain cancer. In a 2020 study, Crawford showed that topological summaries of tumor images could be better predictors of prognosis than both geometric measurements of tumor images and RNA sequencing of tumor cells.

More recently, Crawford created a general-purpose software pipeline for analyzing libraries of shapes. The algorithm, called SINATRA, draws on topology and statistics to compare classes of shapes and describe fundamental differences between them.

Tools like this will allow researchers at Brown and elsewhere to extract more information from images. Ultimately, Crawford and the rest of Brown's radiomics researchers hope that their work will one day result in better diagnoses and treatments for people with a wide range of medical conditions.

EXCELLENCE FUELED BY INCREASES IN FUNDED RESEARCH

Brown has seen an acceleration in research expenditures in the computational and data sciences, an area in which the University is building its academic strength.

The list below represents just a small sampling of some of the grants, awards and fellowships of significant impact received across the computational and data sciences at Brown University from FY16 to FY21. The funds support faculty and research programs using science and technology to improve lives in an increasingly data-driven world.

- \$1.5M to Applied Mathematics from the National Science Foundation's Transdisciplinary Research in Principles Of Data Science program for studying foundations of model-driven discovery from massive data
- \$23.7M to the Institute for Computational and Experimental Research in Mathematics (ICERM) from the National Science Foundation to re-fund the institute for a further five years
- \$10.8M to renew the Center for Computational Biology of Human Disease from NIH's National Institute of General Medical Sciences for advancing new discoveries, algorithms and genomic screening approaches with direct relevance to several human diseases
- \$4.5M to Computer Science from the Air Force Office of Scientific Research for machine learning and AI
- \$6.1M to Computer Science from Intelligence Advanced Research Projects Activity for building better computational models of natural language
- \$3.7M to Computer Science from the Defense Advanced Research Projects Agency for design and analysis of the complex software systems that operate in the world wide web
- \$1.9M to Computer Science from the Office of Naval Research for developing skills of humanoid robots in complex unstructured environments
- \$790,000 combined to the Costs of War Project from the Colombe Peace Foundation, Open Society Foundations, Fund for Constitutional Government, No One Left Behind, and Carnegie Corporation of New York for studying estimates of the human and financial costs of America's wars
- \$1.3M to the Brown-Lifespan Center for Digital Health for reframing firearm injury prevention through bystander interventions
- \$880,000 to Economics from Arnold Ventures for home visiting in Rhode Island and separate "COVID-Explained" website development

- \$1.8M to Cognitive, Linguistic and Psychological Sciences from the NIH's National Institute of Mental Health to train postdoctoral fellows in computational psychiatry
- \$1.9M to Cognitive, Linguistic and Psychological Sciences from the Office of Naval Research to understand visual reasoning through AI/machine learning models
- \$3.1M to Physics from Fermi National Accelerator Laboratory for an international multi-institutional project on the design and implementation of the sensor upgrade for the Large Hadron Collider at CERN (European Organization for Nuclear Research)
- \$446,000 to Physics from the National Science Foundation for an internationally collaborative project to observe the early universe using the Murchison Widefield Array radio telescope
- \$1.2M to the Institute at Brown for Environment and Society from the National Science Foundation to lead an international collaboration exploring how converging geophysical and socioeconomic pressures shape arctic development between now and 2050
- \$6.3M to Engineering from the Defense Advanced Research Projects Agency for the design, development, and implementation of novel neural interfaces for functional applications to neuromotor diseases
- \$9.6M to the Carney Institute for Brain Science from the NIH's National Institute of General Medical Sciences to renew the COBRE Center for Central Nervous System Function
- \$743,000 to the Center for Statistical Sciences from the Patient-Centered Outcomes Research Institute for

studying missing data when transporting treatment effects from clinical trials to a target population

- \$1.4M combined to Earth, Environmental and Planetary Sciences from the Office of Naval Research for high-resolution modeling of oceans and climate phenomenon such as seasonal monsoons
- \$4.6M to The Policy Lab from Arnold Ventures for operations and administration
- \$6.2M combined to Economics from Arnold Ventures, the JPB Foundation, the Overdeck Family Foundation and the Smith Richardson Foundation for the American Opportunity Study

FACULTY EARN PROMINENT RESEARCH AWARDS

Brown faculty continue to earn prestigious awards for career scientists. The following faculty won awards in the computational and data sciences:

- \$875,000 to Lorin Crawford, Assistant Professor of Biostatistics, from the David and Lucille Packard Fellowship for computational methods that enhance our understanding about the regulatory mechanisms underlying disease
- Presidential Early Career Award for Scientists and Engineers to Sohini Ramachandran, Professor of Biology and Computer Science, Director of the Center for Computational Molecular Biology, and Director of Data Science, from the White House
- \$625,000 MacArthur Fellow "genius grant" to Jesse Shapiro, Professor of Political Economy, from the MacArthur Foundation

Financial Statement Overview

Letter from the Brown Finance Team

Brown University closed Fiscal Year 2021 in strong financial health, despite the continuing challenges presented by the COVID-19 pandemic, and due in large part to the mitigation efforts put in place over the past year. We are grateful to our community for their shared commitment and resilience. This incredible community of students, faculty and staff is the driving force allowing Brown to continue moving forward despite the challenges we have collectively faced since the onset of the global public health crisis.

As Brown entered its first full year of operations during this worldwide pandemic, the University took quick action to support its students, faculty and staff. While many students elected to take leave in Fall 2020, nearly the entire course catalog was converted online to provide students with the option of continuing their studies remotely. At the same time, Brown elected to modify its academic calendar to a three-term schedule, giving every student the option of having two residential semesters in Rhode Island. To accomplish this, Brown leased hundreds of hotel rooms and apartments throughout Providence to enable students to safely attend in person, while living in single-occupancy units to significantly reduce the likelihood of COVID-19 transmission. Steps to ensure the safety of our community also included a robust weekly asymptomatic testing program for all students, faculty and staff members who came to campus. In total these new pandemic-related expenses exceeded \$55 million for FY21 alone, but were of paramount importance to maintain our community's safety, while at the same time keeping the University operational.

University revenues were also significantly impacted for FY21 with declines in excess of \$30 million. This was driven primarily by major reductions in room and board, tuition revenue and other auxiliaries. With hundreds of students studying remotely in the Fall 2020 semester and Brown canceling numerous residential high school and athletics programs during summer 2020 for safety reasons, revenue losses increased quickly. To mitigate these significant revenue declines and expense impacts, the University increased the endowment payout by \$22 million, put in place strict spending limits, added a tightly controlled hiring process for essential positions only, and temporarily reduced retirement contributions, in addition to senior administrators taking voluntary pay reductions. University leadership was deeply committed to ensuring that, through collective action, the effects of the public health crisis did not fall disproportionately on the most vulnerable members of our community. These efforts resulted in protecting our community from layoffs that so many other employers chose to enact first.

As a result of the cumulative impacts of the pandemic, Brown finished FY21 with a \$93.4 million deficit, as calculated on a GAAP basis¹, which is significant in light of the University's FY20 deficit of \$8.9 million. This result, while not unexpected, will still be challenging to recover from in the short term. That said, Brown's net assets saw tremendous market-driven growth to \$7.8 billion, an increase of \$2.3 billion over the prior year, and up 43% from the FY20 result. Total debt at the end of FY21 stood at \$1.45 billion. The current portfolio of debt has an average maturity of 20.2 years and carries a 2.65% blended cost of capital, one of the lowest in the higher education sector. Even with an additional \$400 million of new debt issued in FY21, Brown's credit rating remained at AA+/Aa1 with S&P and Moody's respectively, which is a testament to the ever-strengthening financial health of the University.

¹ The GAAP (Generally Accepted Accounting Principles) deficit of \$93.4 million includes major non-cash items, such as deferred revenue for the University's third semester (which crossed fiscal years over the summer), depreciation, etc. It also includes the operating budget deficit of \$52.2 million.

The endowment continues to play a vital role in supporting the University's operations. The Brown University endowment and other managed assets generated a remarkable \$2.4 billion in investment income in FY21, equating to a 51.5% return, and bringing the endowment and other managed assets to an all-time high of \$6.9 billion. Spending totaled 5% of the endowment's 12-quarter average value. As planned last year, the University temporarily increased the budget appropriation from the endowment in FY21 by 0.20% to mitigate impacts of the pandemic. Fundraising has also been critically important to the University's financial health, and last year Brown experienced another record year for contributions from its generous donors and alumni with \$430.5 million in new gifts and pledges.

We now realize the pandemic will endure longer than first anticipated and, as a result, we will continue to refine and adjust our approach to best suit current circumstances. This will mean greater than anticipated pressures on the University's budget for the foreseeable future, so we must plan accordingly. While we have seen remarkable growth in the University's underlying financial strength this past year, driven primarily by the broader economic markets, the financial pressures created by the pandemic cannot be ignored and are clearly seen in our \$93.4 million deficit.

To address this, President Christina H. Paxson has established the Program on Innovation and Financial Sustainability, composed of several working groups that are focused on the long-term financial health of the University. Led by Provost Richard M. Locke, the program aims to focus specifically on improving targeted areas of revenue, as well as limiting or reducing various areas of expenditures. The program's working groups will be conducting their work over the course of FY22 and beyond to ensure the long-term financial well-being of the University. We are incredibly well positioned to get through this difficult time due to the strength of our collective efforts and look ahead with optimism to Brown's bright future.

I invite you to explore the FY21 results that follow regarding the overall financial health of the University.

Michael White
Chief Financial Officer, Brown University

REVIEW OF THE 2021 FINANCIAL STATEMENTS

The following materials outline the Fiscal Year 2021 financial performance of Brown University. The University's financial statements were prepared in accordance with U.S Generally Accepted Accounting Principles (GAAP) and audited by our independent outside auditors from the firm KPMG LLP. The GAAP financials have been summarized for presentation purposes in the charts and tables presented below.

Summary of GAAP Financial Statements

dollars in thousands

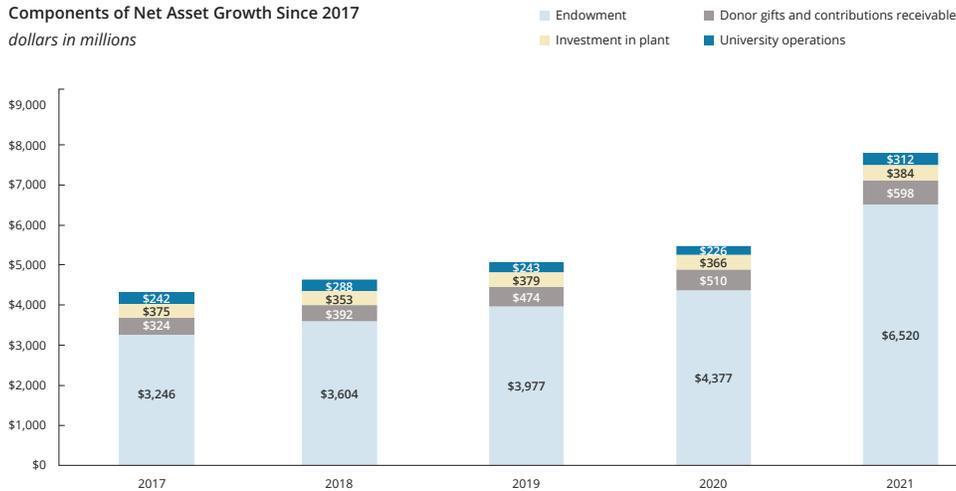
Balance sheet	2021	2020	% Change
Assets	\$9,793,108	\$6,894,193	42%
Liabilities	\$1,978,977	\$1,415,362	40%
Net assets	\$7,814,131	\$5,478,831	43%
Total liabilities and net assets	\$9,793,108	\$6,894,193	42%
Statement of activities	2021	2020	% Change
Operating revenues	\$965,599	\$997,868	-3%
Operating expenses	\$1,058,957	\$1,006,764	5%
Net operating activities	-\$93,358	-\$8,896	949%
Non-operating activities	\$2,428,658	\$414,208	486%
Total change in net assets	\$2,335,300	\$405,312	476%
Beginning net assets	\$5,478,831	\$5,073,519	8%
Ending net asset balance	\$7,814,131	\$5,478,831	43%
Cash flow	2021	2020	% Change
Change in net assets	\$2,335,300	\$405,312	476%
Adjustments	-\$2,475,581	-\$560,877	341%
Net cash used in operating activities	-\$140,281	-\$155,565	-10%
Cash flows from Investing activity			
Additions to land, buildings and equipment	-\$128,196	-\$151,785	-16%
Net investments	-\$58,589	\$65,672	-189%
Other	-\$3,411	\$26,808	-113%
Net cash used in investing activity	-\$190,196	-\$59,305	221%
Cash flows from financing activity			
Gift-related activities	\$201,613	\$185,939	8%
Proceeds and payments on debt instruments	\$400,973	\$272,772	47%
Net cash used from financing activity	\$602,586	\$458,711	31%
Change in cash	\$272,109	\$243,841	12%
Beginning cash balance	\$452,767	\$208,926	117%
Ending cash balance	\$724,876	\$452,767	60%

GAAP financials summarized for presentation purposes

NET ASSETS

The University ended FY2021 with net assets of \$7.8 billion, an increase of \$2.3 billion (43%) despite recording an operating loss of (\$93.4) million. This extraordinary growth of net assets was driven by endowment performance and gifts. Net investment return, after the endowment appropriation, totaled \$2.2 billion, while gifts were \$309 million. The cumulative change in net assets for the last five years total \$3.6 billion.

Components of Net Asset Growth Since 2017
dollars in millions



GAAP financials summarized for presentation purposes

OPERATING REVENUE

The University's total operating revenues declined by (3.2%) to \$965.6 million in FY2021, down from \$997.9 million in FY2020. The change in total revenue was driven by the one-time transition to three semesters for undergraduates in order to de-densify campus as a response to the COVID-19 pandemic. Only 50% of the third-semester undergraduate tuition, fees, room and board revenue is recognized in FY2021.

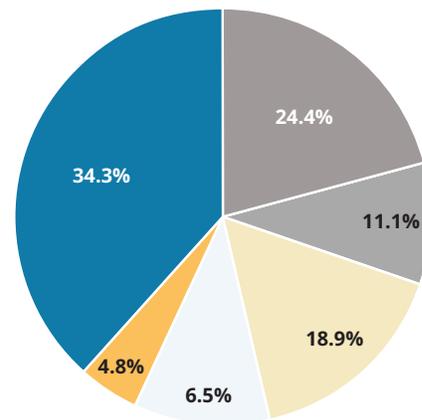
Gross tuition declined by 10.1% (\$62.2 million) to \$553.7 million in FY2021 from \$615.9 million in FY2020, while University scholarships grew by 2.8% to \$222.9 million. The aforementioned one-time transition to three semesters as a response to the COVID-19 pandemic is the contributing factor to the reduction of gross revenue. Scholarships grew at a faster pace as a result of providing an increase in University scholarships to offset the requirement for

University Scholarships Paid
dollars in thousands



GAAP financials summarized for presentation purposes

Components of Revenue
Total Revenue \$965,599
dollars in thousands



Net tuition and fees \$330,385	Grants and contracts \$236,053	Contributions \$107,453
Endowment return appropriated \$182,099	Sales and services of auxiliary \$62,904	Other income \$46,255

GAAP statements summarized for presentation purposes

undergraduates to have summer earnings included in their financial aid package. In aggregate, net tuition and fees declined by 17.1% year-over-year to \$330.8 million.

Grants and contracts revenue from government and private sources increased \$26.8 million to \$236.1 million, a 12.8% increase over FY2020. Of the increase, \$9.4 million is Higher Education Emergency Relief (HEERF) funds received in FY2021. The HEERF funding included a student portion and was disbursed directly to students. An additional allocation of the HEERF funds was used to offset the University’s COVID-19 testing costs. The percentage of revenue from federal funding sources such as the National Institutes of Health, the National Science Foundation and the Department of Defense, remained consistent at 88% in FY2021 and FY2020, while there was a slight decline in the University’s effective indirect cost reimbursement rate from 33% in FY2020 to 32% in FY2021. Indirect cost reimbursement, which allows the University to recover certain overhead expenses related to grants, is a critical component of the operating budget as it broadly supports research at the University.

Operating revenue for current-use gifts increased by \$7.0 million to \$107.5 million in 2021. The strong increase in revenue is attributable to the continued generosity of cash and new pledges.

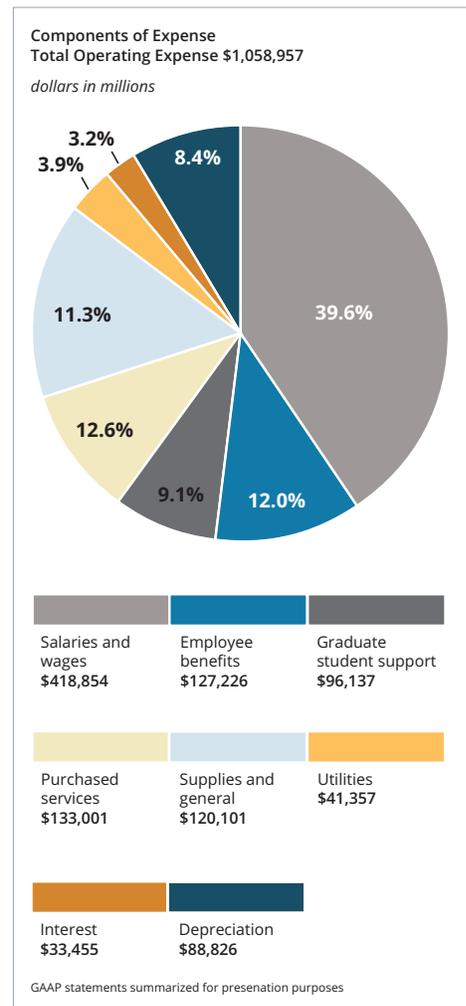
For FY2021, the Corporation approved an endowment appropriation distribution increase to 5.00% from 4.85% in FY2020. This payout rate is applied to the average market value of the Brown endowment over the most recent three-year period. This increase in the endowment appropriation was a response to the COVID-19 pandemic to provide additional resources to the University. This appropriation of \$182.1 million represents approximately 18.9% of the University’s operating revenue.

Auxiliary revenue decreased significantly by -26.9% to \$62.9 million for FY2021. Housing, dining and student health fees constituted just over 80% of these revenues. The pandemic negatively impacted all aspects of auxiliary revenue including housing, dining and bookstore-related revenue.

OPERATING EXPENSES

Total operating expenses for the University increased 5.2% to \$1.06 billion in FY2021 from \$1.01 billion in FY2020. Salaries, wages and benefits expenses, which represent over 50% of the operating expenses of the University, grew slightly by 1.7% to \$546.1 million. Graduate student support, including scholarships and stipends, increased by 7.5% to \$96.1 million. Non-compensation expenses increased by 9.6% to \$416.7 million as a result of COVID-19 testing costs and an increase in interest expense from the FY2021 debt issuance, offset by a reduction in travel and discretionary expenses.

Total salaries and wages slightly declined by -0.7%. In FY2021, in an effort to control costs, there were no merit increases for most faculty and staff and very few new staff positions. Conversely, employee benefits increased 10.3% to \$127.2 million in FY2021. The University offered a staff voluntary retirement plan in FY2021; on a GAAP basis, the separation costs have been accrued at June 30, 2021..



BALANCE SHEET

The Fiscal Year 2021 ended with significant increases to both assets and net assets when compared to FY2020.

Balance Sheet Summary

dollars in thousands

	2021	2020	% Change
Assets			
Cash and cash equivalents	\$724,876	\$452,767	60%
Accounts receivable and other assets	\$91,975	\$80,832	14%
Contributions receivable, net	\$306,557	\$279,082	10%
Funds held in trust by others	\$50,114	\$53,439	-6%
Right-of-use assets-operating	\$98,634	\$0	100%
Investments	\$7,225,770	\$4,766,897	52%
Land, building and equipment, net	\$1,295,182	\$1,261,176	3%
	\$5,791,966	\$6,209,293	7%
Liabilities			
Accounts payable and accrued liabilities	\$124,163	\$91,564	36%
Liabilities associated with investments	\$38,313	\$6,344	504%
Student deposits and grant advances	\$95,822	\$49,754	93%
Operating lease obligations	\$99,172	\$0	100%
Other long-term obligations	\$91,768	\$111,859	-18%
Retirement obligations	\$74,938	\$85,896	-13%
Bonds, loans and notes payable	\$1,454,801	\$1,069,945	36%
	\$1,155,475	\$1,135,774	-2%
Net assets			
Without donor restrictions	\$1,567,060	\$1,143,271	37%
With donor restrictions	\$6,247,071	\$4,335,560	44%
	\$7,814,131	\$5,478,831	43%
Total liabilities and net assets	\$9,793,108	\$6,894,193	42%

GAAP statements summarized for presentation purposes

Investments

During FY2021, Brown investments grew to \$7.2 billion. The endowment and other managed assets generated a 51.5% return in FY2021. Additional information on the endowment can be found later in this report, in the section prepared by the Brown University Investment Office.

Debt

Total bonds, loans and notes payables increased from \$1.1 billion in FY2021 to \$1.5 billion in FY2020. The \$385 million increase was driven by the \$400 million issuance of additional Series 2020A taxable bonds offset by annual principal payments. The additional Series 2020A taxable bonds were issued at an effective interest rate of 2.92%, resulting in the University's average cost of debt of 2.65% at June 30, 2021. The University has maintained its current ratings of AA+ by S&P Global Ratings and Aa1 by Moody's Investor Services.

Capital Expenditures

Brown invested \$128 million in capital projects, building and equipment in FY2021, which is \$24 million less compared to the FY2020 spend of \$152 million. While overall spending declined, the University continued to contribute to a number of significant projects, including completion of the new health and wellness center and residence hall and ongoing construction efforts at the performing arts center.

SUMMARY

Brown continues to thrive despite the many challenges brought on by COVID-19. The financial health of the University is anchored in the collective efforts of Brown's amazing students, faculty and staff, the institution's strong leadership and the generous contributions that members of the Brown Corporation make of their resources and time. The remarkable support from our donors, combined with the outstanding performance of the endowment, has greatly increased the University's overall financial strength. These financial statements highlight that continued commitment from the Brown community and the desire to preserve the long-term financial sustainability of this great institution.

Endowment Report

Brown University Investment Office

INTRODUCTION

For the fiscal year ending June 30, 2021, the Brown University endowment and other managed assets generated investment returns of \$2.4 billion, an appreciation of 51.5%. After accounting for gifts to the endowment of \$120 million, and net of investment returns, expenses and a contribution to the University’s operating budget of \$194 million, the endowment and other managed assets stood at \$6.9 billion. The endowment began the fiscal year with \$4.7 billion in assets. By any standard, this is an extraordinary single-year result for the endowment, and the growth will have a transformational impact on Brown’s financial support for current and future scholars.

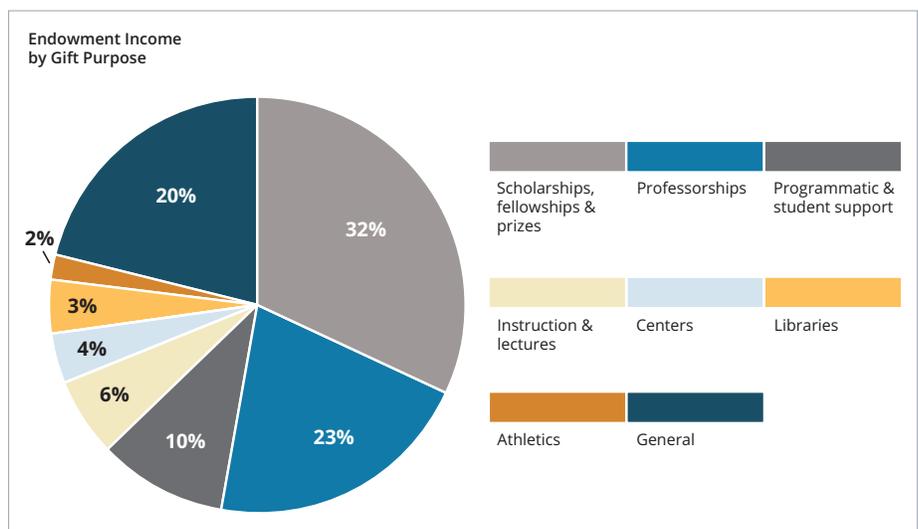
In percentage terms, the gains are exceptional in the context of the historic returns for the endowment’s portfolio of investments. This report aims to illuminate the source of those returns and the unique circumstances of this year, while reflecting on the remote likelihood of such a return being repeated.

Before embarking on this examination, it is important to acknowledge that the human costs and devastation of the COVID-19 pandemic are ongoing. This gives rise to common questions of potential investment opportunism in the face of financial gains accruing during economic volatility tied to moments of national and international crisis. The Brown endowment’s investment program is intentionally designed to both withstand and adapt to unforeseen circumstances, though responding opportunistically to financial asset volatility should not be confused with opportunism. While the positive investments in Brown’s mission of scholarship and research that will ultimately result from the endowment’s appreciation this year will make a significant and meaningful impact, it is clear that these contributions cannot align with the scale of the pandemic’s devastation.

Fiscal Year 2021 was unique in many ways. However, what remains unchanged from year to year are the fundamental characteristics of the endowment’s stewardship: partnerships with outstanding external investment managers; diversification across asset classes, geographies and industries; enthusiastic support from both the University and the broader Brown community; and prudent risk management executed by a committed team of investment professionals with oversight from an engaged Investment Committee.

SUPPORTING THE UNIVERSITY

The endowment is a financial resource supporting the University’s mission of scholarship and research. It is the product of thousands of individual gifts



that not only support the University but also shape its character through the specific designations of purpose that accompany the large majority of endowed gifts. These designations are stipulations of legal contracts with donors of individual gifts. Examples of such designations are gifts specified to fund endowed professorships, libraries, lectures, athletics and research programs. The largest portion goes to one of the University’s highest priorities, financial aid.

The endowment contributes between 4.5% and 5.5% of its value to the University each year. For FY20, spending totaled 4.9% of the endowment’s value. The specific percentage is determined by Brown’s governing body, the Corporation of Brown University, which temporarily increased the budget appropriation from the endowment in FY21 by 0.20% to mitigate budget impacts of the pandemic.

This year’s annual contribution to the University of \$194 million represents 5.0% of the endowment as measured on a trailing 12-quarter basis. The endowment’s contribution is calculated this way to provide University administrators with a more predictable stream of inflows than what can be reasonably expected from the changing prices of financial assets. As a result, the endowment’s contribution will not suddenly grow substantially in the coming year; rather, it will steadily increase year by year, barring a significant market downturn.

The endowment’s FY21 contribution represents 15% of the University operating budget. An alternative measure is \$19,000 per student, annually. Both of these metrics are now certain to increase steadily in coming years as well.

PERFORMANCE

It would be easy to interpret FY21 as a superb year of investment performance. It is the largest gain in dollar terms in the history of the endowment, which is natural for a pool of capital that is managed to appreciate over time.

However, it also would have been entirely possible, in this unique year, to produce an outstanding result in absolute terms but still have fallen short in capturing the extraordinary investment opportunities that were afforded by the market volatility that accompanied the crisis precipitated by the worldwide COVID-19 pandemic. For this reason, the performance must be benchmarked in multiple ways. The highest priority is exceeding the rate of spending in real terms — that is, net of the impact of inflation. Secondary priorities include remaining competitive with market indices and comparisons with peer institutions. This section will examine each of these priorities in turn.

Two interrelated caveats merit discussion. The first is that FY21 — the year from July 1, 2020, to June 30, 2021 — coincides with strong appreciation in financial assets as measured by broad market indices. The S&P 500 gained 40.8% during this period. The initial, destructive reaction of markets to the shock of the pandemic belongs largely to the prior fiscal year. By July 1, 2020,

Fiscal Year Annualized Returns
Annualized Returns as of June 30, 2021

	FY 2021	3 Year	5 Year	10 Year	20 Year
Brown endowment	51.5%	24.1%	19.6%	12.9%	10.3%
Aggregate benchmark*	43.6%	16.2%	13.9%	9.3%	7.1%
70-30 MSCI ACWI/Barclays Global Aggregate	27.4%	11.7%	11.0%	7.7%	6.8%
70-30 S&P 500/Barclays US Aggregate	27.3%	14.9%	13.3%	11.5%	7.7%
MSCI All-Country World (ACWI)	39.3%	14.6%	14.6%	9.9%	7.3%
MSCI All-Country World (ACWI) ex-US	35.7%	9.4%	11.1%	5.4%	6.5%
S&P 500 Index	40.8%	18.7%	17.6%	14.8%	8.6%

*Note:
The Aggregate Benchmark is preliminary as of September 20, 2021.*

markets were already recovering, helped by substantial fiscal and monetary stimulus conducted on a global scale. The fact that FY21 captures the recovery but not the shock is happenstance.

The second, related caveat is that a single year — even a remarkable one — is an inadequate time frame to evaluate an investment program that is designed to achieve its goals over multiple decades. When assessing investment results for Brown, the longer the time frame, the more informative the result.

Those considerations notwithstanding, the results are strong.

Spending

As previously noted, the paramount standard for the endowment’s investment results is to exceed the rate of spending (5% this year), plus the rate of inflation relevant to Brown’s costs as measured by the Higher Education Price Index, which has averaged 3% over the last 20 years. The endowment’s FY21 results easily exceed this standard and have now done so for five consecutive years. The outcome is a rising overall contribution in both nominal and real terms to the University’s operating budget.

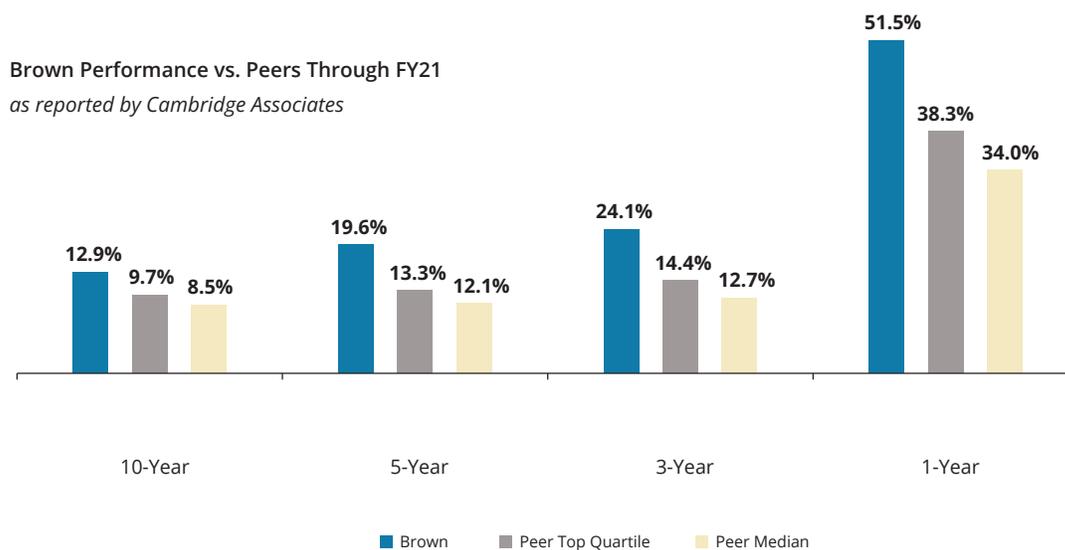
Benchmarks

No single market benchmark, examined over a single period of time, is sufficient to act as an appropriate yardstick for the endowment’s portfolio. A comprehensive measurement can be achieved, however, by examining the endowment’s performance against internally generated benchmarks, as well as market measures and combinations thereof.

The Aggregate Benchmark is a measurement maintained by the Brown Investment Office that combines the asset mix utilized by the endowment’s portfolio with index returns. The resulting difference between the endowment’s performance and the Aggregate Benchmark is an assessment of the incremental value contributed by Brown’s investment managers, net of fees and expenses. In FY21, the endowment’s portfolio gains (51.5%) outperformed the Aggregate Benchmark (43.5%) by 800 basis points, indicating a strong contribution from Brown’s investment partners. The endowment has now outperformed its Aggregate Benchmark over three-, five-, 10- and 20-year trailing periods.

The most appropriate external benchmark by which to measure Brown’s results is a blend of global stock and bond market indices. Global indices reflect the palette of investment opportunities available to the endowment, and a blend of equity and fixed income investments reflects the reality that the volatility of a portfolio of strictly listed equities would be incompatible with the financial planning needs of University programs, some of which draw the entirety of their budgets from the endowment’s annual contribution. Nonetheless, purely domestic and purely equity comparisons are included. Each represents an outcome that could be achieved through a passive, low-cost index strategy.

Brown’s results compare favorably across the board. The endowment’s Fiscal Year 2021 result nearly doubles the result of a global mix of 70% stocks and 30% bonds (27.4%), and has done so in all measured trailing periods. The same is true for a U.S.-only 70/30 portfolio: Brown’s results exceed the index in every trailing time period. Brown’s investment model — and



The Cambridge Associates College & University Universe is preliminary as of September 30, 2021 and includes data from 132 endowments.

that of other peers — relies on a committed group of volunteers acting as an Investment Committee, a dedicated team of professionals operating at modest cost working to build partnerships with outstanding external investment managers. Brown's returns, which are stated net of all external and internal management fees and expenses, have now outperformed a purely domestic passive model by over 600 basis points annually over a trailing five-year period. Finally, Brown's results have also exceeded the results of global stock markets as measured by the MSCI All-Country World Index, also in all trailing time periods.

Peers

A final measure of the success of Brown's investment program should involve a comparison to similar programs, with similar missions, similar constraints and similar resources. While the endowment's results have successfully exceeded the spending requirements, as well as surpassed the opportunities afforded to broad market participants, an assessment of the stewardship of the endowment would be incomplete without favorable results in relation to peer institutions. According to data maintained by investment consultancy Cambridge Associates, Brown's investment returns rival the absolute best outcomes, ranking comfortably in the top 5% of college and university endowments over each of one-, three-, five- and 10-year periods. Brown's five-year returns of 19.6% surpass the threshold for the top 5% (returns of 16%) by a remarkable 360 basis points annually.

LIQUIDITY STRESS TEST

The overwhelming majority of Brown's endowment portfolio is managed in partnership with external asset managers with both specific and superlative expertise. Through this model, the endowment can achieve targeted exposures to attractive investment opportunities while simultaneously realizing the risk-mitigating effects of diversification.

Some of Brown's partners invest in often-termed liquid asset classes — predominantly Public Equities and Absolute Return — in which the underlying securities have the attractive characteristic of relatively quick, seamless conversion into spendable cash without significant frictional costs. Other partners invest in so-called illiquid asset classes — predominantly represented by Private Equity — which are not easily convertible into spendable cash but instead bear different, attractive characteristics that are in part a product of this illiquidity: inefficient pricing and the ability to affect long-term change through control positions. The delineation between liquid and illiquid asset classes is growing increasingly blurred, but it remains a useful framework nonetheless.

Participating in a mix of partnerships with liquid and illiquid features ultimately results in a measure of portfolio-level liquidity. This is a profoundly important metric. For the endowment to fulfill its most basic function, it must have sufficient liquidity to send contributions to the University on a quarterly basis, regardless of extenuating circumstances. However, in order to fulfill its mission to maintain and prudently grow the purchasing power of the endowment over time, the portfolio must be invested for high returns, thus accepting a degree of illiquidity.

The appropriate balance of liquidity, therefore, is of paramount importance, and the Brown Investment Office models and monitors it carefully. Further complexity is introduced by the reality that the availability of capital is inherently circumstantial. Included in this modeling, then, are stress tests projecting steep sell-offs in financial markets, reductions in dividends and distributions from cash-flowing investments, and accelerated claims on promised but not yet completed investments.

As the pandemic quickened in spring 2020, these stress tests became reality. The liquidity of the endowment's portfolio was impinged from all sides, while the University's costs swelled in response to necessary safety measures. The pandemic was the most severe test of the endowment's liquidity since 2008, and all stakeholders in the endowment — current as well as future students, faculty, alumni, staff and parents — should all take assurance that even in an unprecedented crisis, the endowment's liquidity remained strong and available.

ASSET ALLOCATION

The value of traditional asset classes as an organizing principle continues to dwindle. Many equity investors on both sides of the traditional public/private divide have decided to discard any such distinction. The implication of this trend for Brown's investment program — aforementioned liquidity concerns notwithstanding — is not particularly significant. This is because Brown's Investment Committee has eschewed the practice of conforming to a policy portfolio based on asset class weights, and instead has set wide ranges for asset class exposures. In a changing environment, this approach allows the discussion of

a potential investment to set aside questions of categorization in favor of the most critical elements. Namely, does this partner have demonstrated ability, a verifiable record of high integrity, and a competitive advantage in pursuit of investments that have the potential to deviate from their intrinsic value?

Nonetheless, despite the growing complexity, the portfolio can still be appropriately understood by categorizing investments into three large groups: Public Equity, Private Equity and Absolute Return, and two smaller groups: Real Assets and Fixed Income. Each generated a significant contribution during the fiscal year, resulting in a balanced overall performance.

Public Equities

Public Equity strategies represent 19.8% of the endowment, or \$1.4 billion. For FY21, Brown's Public Equity portfolio generated a 58.9% return. This result handily exceeded the 39% return of the

broad, global equity markets as represented by the MSCI World Index. Consistent with a pattern that has held for most of the past decade, U.S. markets outperformed International and Emerging Markets, albeit narrowly. This trend has been supportive for Brown's Public Equity portfolio, which is weighted more heavily toward domestic exposure. Brown pursues predominantly actively managed strategies in Public Equities, despite an acknowledgement of the difficulty of consistently outperforming low-cost index funds by active managers. Fiscal Year 2021 afforded significant opportunities for active managers to add value for their partners, net of fees. When no inefficiencies exist to be capitalized upon by active managers, Brown seeks to supplement its Public Equity exposure with index funds at minimal cost.

Absolute Return

Brown's Absolute Return portfolio comprises a diverse set of strategies selected in part for characteristics that complement the overall portfolio. Considerations when compiling a portfolio of these strategies include but are not limited to: investing and research style, target geography, average market exposure, use of leverage, liquidity and turnover. The intended result is a collection of investments that is capable of generating equity-like returns over the long term, but with reduced volatility and correlation combined with acceptable overall liquidity, thus enabling re-allocation in the circumstance of a substantial price dislocation in an attractive market. Absolute Return is currently \$1.7 billion, 24.8% of the endowment.

Brown's Absolute Return portfolio has performed its task exceedingly well in recent years, and outperformed the S&P 500 in each of the two prior fiscal years. This is a performance in excess of expectations considering that a portion of the group — Market Neutral strategies — seeks to take no market risk at all. This streak was unlikely to continue, and it ended in FY21. Absolute Return collectively generated a 15.3% return, falling short of expectations.

The two predominant strategies represented in Brown's Absolute Return portfolio are Long/Short Equity and Market Neutral, and elemental to each is the ability to effectively sell stocks short. Short-selling, though commonly misunderstood, is the legitimate activity of borrowing stock from its owner in order to sell it, and subsequently buying it back in the future in order to return it. This year saw relatively unprecedented challenges to the practice of short-selling enabled by a confluence of emergent factors: the communal cooperation of small traders organized on the internet; easy access to derivatives by inexperienced participants; and a large number of workers idled by the pandemic experimenting with stock trading. Regulators took notice and short-sellers, in some cases, took losses.

A lasting change in the effectiveness of short-selling would, in theory, impact the scale of the endowment's use of some of its Absolute Return strategies. The Investment Office, having worked closely with Brown's investment partners on this topic, does not believe this to be the case. Brown's partners are selected in part for the dynamism of their organizations and strategies, and they have quickly adapted to these changing market conditions. In the long term, short-selling is an essential component of healthy securities markets, aids in price discovery and ultimately serves to help protect investors from bad actors.

Endowment Asset Allocation as of June 30, 2021

dollars in millions

Asset class	Market value	% of endowment
Public equity	\$1,371	20%
Absolute return	\$1,719	25%
Private equity	\$2,707	39%
Real assets	\$525	8%
Brown total risk assets	\$6,321	91%
Fixed income	\$369	5%
Hedges	\$4	0%
Cash & receivables	\$246	4%
Total endowment	\$6,940	100%

Private Equity

Brown's Private Equity strategies employ \$2.7 billion of capital, or 39% of the endowment. In Brown's Private Equity portfolio, two models play leading roles: Buyouts and Venture Capital. Buyouts tend to be control investments in smaller companies with a focus on operational improvements and restructurings. Venture Capital investments are generally minority investments in immature, fast-growing companies. Both strategies are, for the most part, illiquid.

In the prior fiscal year, Private Equity generated strong returns and this report warned earnestly of the cyclical nature of Private Equity strategies. Brown's managers work for years identifying and nurturing their companies, helping them to find key employees, customers and sources of capital. Eventually, conditions must allow for value realization through a sale to a strategic buyer or a public offering of stock. Such investments can appear to have accrued only modest increases in value until such a sale, thus making returns from even a properly diversified portfolio of private equity investments somewhat inconsistent in nature, with several years of work concentrated into bursts of strong performance. By most indications, this was the case last year, leading to notes of caution in last year's Endowment Report.

This forecast proved incorrect. Brown's Private Equity portfolio generated a spectacular return of 87.2% in FY21. Buyouts produced a 48% return, while Venture Capital produced a 114.1% return. Albeit with slightly weakened confidence, the assertion that this performance is not likely to be repeated is deserving of an echo.

Venture Capital, in particular, is experiencing a set of virtually unmatched conditions. The disruption to consumer and business forums by digitally native solutions enabled by the combination of both mobile and cloud computing is an extraordinarily powerful trend. Public equity markets are greeting new issues — the exit path for the most successful venture investments — with exuberant valuations. The burden of high expectations accompanies those valuations, and only time will tell if years of profitable growth will reward today's buyers.

Competitive advantages in investments are precious and rare, but long-duration capital is one, and Brown's investment program is designed to maximize the advantage conferred by the permanence of the institution. Venture Capital requires a long time horizon — too long for many market participants — but offers the possibility of cumulatively exceptional returns. It therefore is well suited to remain a foundational pillar for the endowment, even if returns like those experienced this year are never repeated.

Real Assets and Fixed Income

Brown makes investments in real estate, infrastructure and commodities that are grouped together under the banner of Real Assets, which represents 7.6% of the endowment and generated a return of 93.8% for Fiscal Year 2021. In the case of Fixed Income, Brown uses a variety of approaches to access primarily corporate lending opportunities. These investments comprise 5.3% of the endowment and generated a return of 26.4%. Fixed Income and Real Assets each has been the focus of research, effort and new investment in recent years, and the results of FY21, though too brief to appropriately judge, are an encouraging data point and exceeded relevant asset class benchmarks. Fossil fuel-based energy investments, previously a component of the Real Assets category, are now a trivial amount of illiquid capital that represents exposure of effectively zero.

BROWN'S INVESTMENT APPROACH

Examining the investment returns for the endowment over the trailing 10-year period, the degree to which Fiscal Year 2021 stands out warrants comment. Is something different? Has some underlying characteristic of the endowment's investment program shifted to precipitate such a result?

The Investment Office at Brown constructs the portfolio meticulously. Critically, however, it does not do so with a view of what the future holds. Rather, a foundational premise is that future events are unknowable, and the emergence of the global pandemic offers an example without parallel of this unpredictability. The goal of the Brown Investment Office is to construct a balanced portfolio that is capable of thriving in accommodative market environments and surviving in more difficult ones.

In this sense, the underlying characteristics of the endowment's approach remain unchanged. They include partnerships with outstanding investment managers, reflecting long-term cooperation for mutual benefit with trust and alignment as the foundation upon which they are built. They include an emphasis on competitive advantage, a reliance on the guidance and oversight of an engaged Investment Committee, and a commitment to thinking empirically from first principles. And they include a constant focus on risk and a willingness to be aggressive when it becomes mispriced.

THE SOCIAL IMPACT OF BROWN'S INVESTMENTS

The importance of environmental, social and governance considerations in investments is steadily growing. The Brown endowment is playing a role, perhaps modest but important. Through dialogue with investment managers and other asset owners, as well as through formal statements of policy and intent, Brown's investments are accompanied by a clear set of expectations for tangible progress. An area of particular focus is diversity, equity and inclusion, and an important process of data collection and structuring will enable monitoring of improvements in the diversity of the staffs of our managers, as well as our own.

Some of these actions are relatively new and also overdue. However, an aversion to investments in business models that seek to extract value rather than to create it for critical stakeholders has been a longstanding tenet of Brown's partnerships. Investment managers are selected on the basis of not only ability but also integrity, and that integrity implicitly extends to the business practices of the underlying investments. That implicit understanding is now increasingly being made explicit.

IN CLOSING

The results of Fiscal Year 2021 do not indicate success in the management of the endowment's portfolio. Brown's investment program is predicated on executing a repeatable investment process rooted in prudent risk management. From this perspective, FY21's results are no more or less worthy of commendation than any other year in which this process was methodically executed.

The endowment's success, rather, is measured entirely through its role as a financial resource for Brown's mission of scholarship and research. The financial contribution of the endowment to Brown's highest priorities — most particularly financial aid — is now more certain to grow in the coming years. Success for the endowment is substantially defined by the path toward eliminating cost as a barrier to a given individual's ability to participate in Brown's mission. In that regard, this year was marked by significant progress.

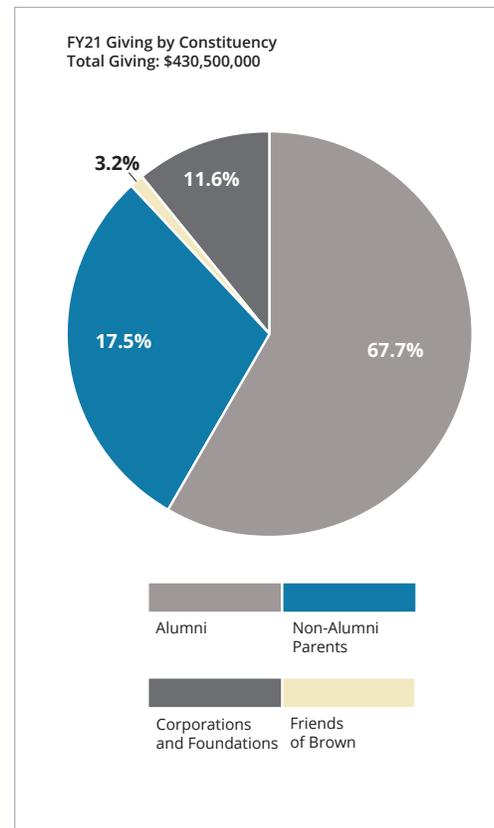
Report on Fundraising

Brown University Division of Advancement

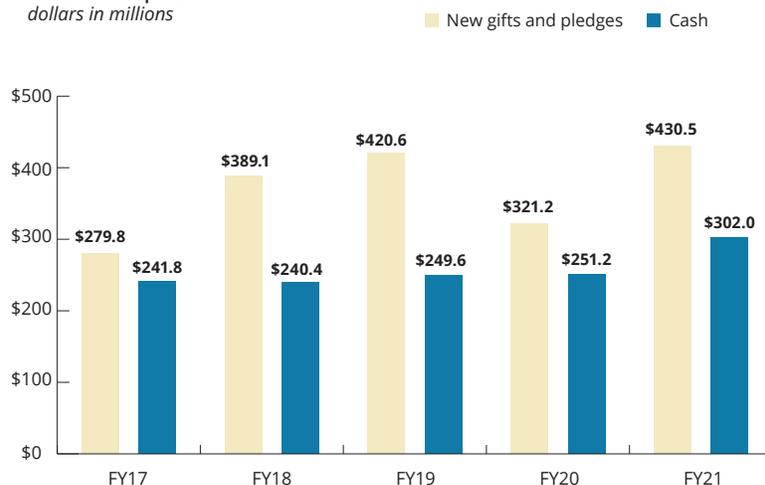
Fiscal Year 2021 was the most successful fundraising year in Brown's history. More than 35,900 donors combined to contribute \$430.5 million in new gifts and pledges. This total eclipses the previous record for a single fiscal year set in 2019 by nearly \$10 million. Within this total, the University raised \$302 million in cash, an increase of more than \$50 million from FY20.

As the University grappled with issues created by the global COVID-19 pandemic and the resulting unstable economy, members of the Brown community came together to fund priorities that sustain academic excellence, access to a Brown education, research expansion and campus growth through the *BrownTogether* campaign. In particular, donors responded to the increased need for undergraduate financial aid with gifts totaling \$57 million; provided \$54.8 million for endowed faculty positions; committed \$29.8 million to various high-level priorities at the Brown University School of Public Health; and gave more than \$20 million in leadership gifts to support diversity, equity and inclusion initiatives.

International donors contributed \$31.2 million, which included gifts to scholarships for international students, research funds for economics and the Watson Institute for International and Public Affairs, and multiple endowed chairs in applied math, public health and medicine. The University received more than \$75.6 million in planned gifts and realized bequests, and saw grants and awards from corporations and foundations grow from 8% of total fundraising in FY20 to 11.6% of this year's total.



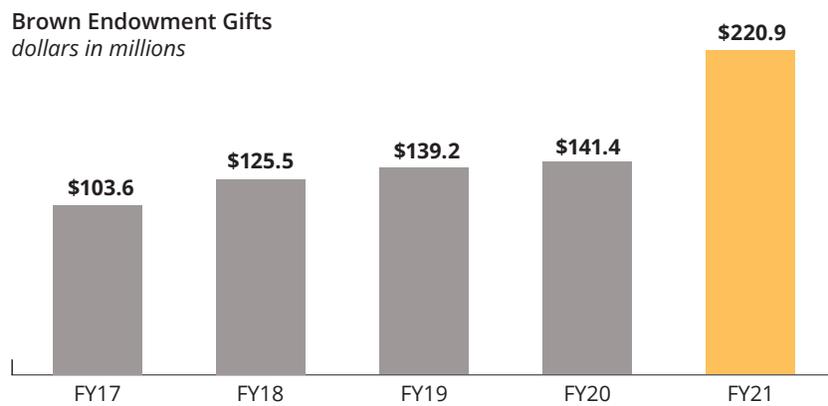
Fiscal Year 2021 Fundraising Results Comparison
dollars in millions



The University was also able to launch the Center for Alzheimer’s Disease Research with \$30 million in new gifts and establish the Center for Library Exploration and Research with an anonymous eight-figure gift.

Following the close of the 2021 fiscal year, the University was excited to share with the Brown community in October 2021 the historic milestone of reaching the \$3 billion mark in the *BrownTogether* campaign. This would not have been possible without the generosity and commitment of the entire Brown community. The generosity of Brown’s donors is matched in full measure by the dedication of academic and administrative leaders who have given their time to the campaign.

Having reached the \$3 billion goal ahead of the 2022 target end date, University leaders announced that fundraising for the campaign will continue, with the objective of fulfilling existing funding targets in some areas and building on the current momentum to help fund priorities that have emerged since the campaign’s launch. For instance, the opportunities for Brown to make a significant impact in public health became clear during the pandemic. The events of the past year have also underscored the importance of making a Brown education even more affordable for students from a wide range of backgrounds and income levels.



Below, we provide a snapshot of progress in key campaign priority areas from Fiscal Year 2021.

OUR PEOPLE

Goal: \$1.019 billion

% Raised as of June 30, 2021: 79%

FY21 Highlights

Strengthening financial aid remains a major priority of the *BrownTogether* campaign. In FY21, the urgency increased as the need for financial assistance rose by approximately 12% among undergraduates, likely driven by the ongoing employment challenges and other hardships confronting families during the pandemic. Donors contributed a total of \$57 million to undergraduate financial aid, including \$16 million for the Brown Promise endowment, which allows Brown to build its undergraduate financial aid packages without including loans. The University also received an exceptional \$20 million gift, half of which creates a scholarship program for military veterans, and half of which creates scholarships for the Resumed Undergraduate Education (RUE) program that enrolls students who delayed college because of military service, family obligations or other commitments.

Donors continued to support endowed faculty positions this year, with a total of \$54.8 million in new gifts or commitments. This generosity created 19 new endowed professorships, bringing the total established during the *BrownTogether* campaign to 107. The positions help Brown retain and recruit top talent and were established in public health, mathematics, economics, brain science, history, computer science, medicine and public and international affairs, among other disciplines. Two of these new positions are part of the Provost’s Professorship Initiative, which aims to raise professorships that provide additional flexibility to the senior academic administration as Brown identifies new areas in which to strengthen scholarship, research and teaching. These positions support distinguished junior and senior faculty working in the highest-priority areas for the University, thus enhancing Brown’s ability to expand scholarly expertise for new initiatives and invest in fields that are poised for growth.

The University also received two gifts of \$5 million each to endow the directors' positions at the Pembroke Center for Teaching and Research on Women (the largest gift to date in the center's history) and at the Center for the Study of Race and Ethnicity in America. These gifts provide resources to bolster programming and continue breaking down barriers related to race, ethnicity, gender, sexuality and other identities through research and engagement.

EDUCATION AND RESEARCH

Goal: \$804 million

% Raised as of June 30, 2021: 141%

FY21 Highlights

Donors placed strong emphasis on funding education and research in areas where Brown is well positioned to lead the way forward. Two gifts totaling \$30 million enabled the University to launch the Center for Alzheimer's Disease Research in April 2021. The center integrates existing expertise within the Robert J. and Nancy D. Carney Institute for Brain Science and the University's Division of Biology and Medicine to advance experimental techniques, joint projects across departments and promising clinical trials focused on early detection and effective treatment.

Dean Ashish K. Jha brought new leadership to the School of Public Health and quickly became a leading voice on strategies to mitigate challenges related to COVID-19. Donors responded positively to his top priorities by committing \$29.8 million to the school in FY21. This includes two new endowed professorships, \$11 million to support a center for pandemic preparedness and \$1.6 million to support the Health Equity Scholars Program. The Health Equity Scholars Program provides funding for Master of Public Health candidates from historically Black colleges and universities.

The 2021 fiscal year was also a highly successful year for support from corporations and foundations. The Center for the Study of Slavery and Justice at Brown was the recipient, in partnership with Williams College and the Mystic Seaport Museum, of a \$4.9 million Mellon Foundation grant to use maritime history as a basis to generate new insights on the relationship between European colonization in North America, the dispossession of Native American land, and racial slavery in New England. The JPB Foundation awarded \$1.5 million to support Professor of Economics John Friedman's work with the American Opportunity Study Project, and a \$1 million grant was approved by the Keck Foundation to support the development of a 10 million frames-per-second infrared microscope by engineering professors Pradeep Guduru and Jacob Rosenstein.

In addition, the Wyncote Foundation based in Pennsylvania helped create a \$5 million endowment to support the work of the Center for the Study of Slavery and Justice and issued a challenge for donors to match that \$5 million for a total of \$10 million.

This year the Brown University Library received one of the biggest gifts in its history from anonymous donors to create the Center for Library Exploration and Research. With hubs in the Rockefeller Library, the John Hay Library and the Sciences Library, the center will strengthen academic excellence, fuel innovative scholarship and extend the library's impact beyond campus, bringing research resources and collections to more adults and K-12 students in the greater community.

In addition, the Department of Computer Science received a seven-figure gift to jumpstart its Socially Responsible Computing Initiative, which will support education and research related to the impact of technologies on society, communities and the environment; equity in computing across industries; and the development of technologies to address pressing societal challenges.

CAMPUS AND COMMUNITY

Goal: \$792 million

% Raised as of June 30, 2021: 73%

FY21 Highlights

Brown's campus and community initiatives continue to evolve thanks to the generosity of multiple donors. Non-alumni parents made two multimillion-dollar gifts toward enhancing campus facilities: one to support the construction and naming of a new residence hall on Brook Street and one to fund the renovation of 22 Benevolent St., which will become the new home of the University's LGBTQ Center.

Brown’s athletic programs have returned to competition in 2021 and are benefiting from donor support for facilities, coaching, travel and training resources. An alumnus and past parent endowed the vice president for athletics and recreation position with a gift of \$10 million. Another alumnus made a gift that supported the upgrade of Brown Stadium’s football field from natural grass to synthetic turf. Donors established an endowed assistant coaching chair for women’s water polo, and strengthened the endowment funding for both water polo and track and field with six-figure gifts.

BROWN ANNUAL FUND

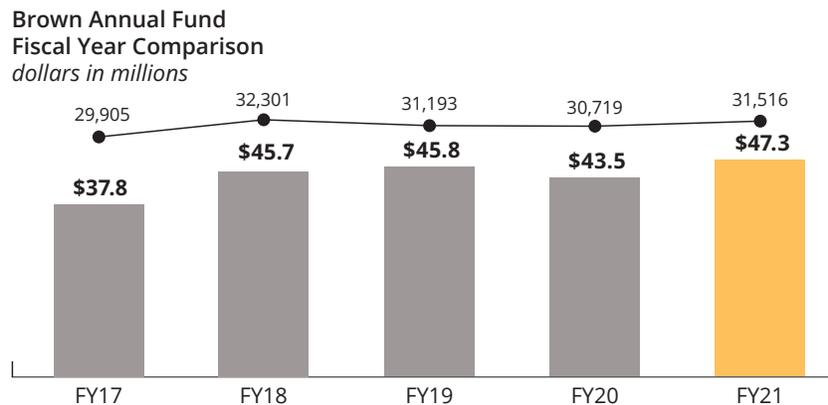
Goal: \$400 million

% Raised as of June 30, 2021: 81%

FY21 Highlights

In FY21, the Brown Annual Fund (BAF) family of funds — which includes The Brown Fund, three professional school funds and four targeted impact funds — raised \$47.3 million from 31,561 donors, a new all-time high. This total included \$36.1 million in unrestricted, immediate-use funding through The Brown Fund and a record-breaking \$8.4 million through the Parents Fund. In addition, the School of Public Health Annual Fund saw a 50% increase in dollars and a 67% increase in donors over its FY20 totals.

Giving Tuesday, held December 1, 2020, was once again a record-setting giving day for the Annual Fund in terms of both dollars and donors. Overall, the University raised \$4.1 million from 4,945 donors and earned a \$500,000 giving day match in full, bringing the total for the day to \$4.6 million. Participation came from across the Brown community, including undergraduate alumni from the Class of 1945 through the Class of 2020. The Brown Medical Annual Fund received gifts totaling \$104,620 from 137 donors (a giving day dollars record), and the School of Engineering Annual Fund received gifts totaling \$81,295 from 127 donors (another giving day record for both dollars and donors).



Overall, the Athletics Annual Fund raised \$4.4 million. The Brown University Sports Foundation held Bruno Gives Back Day in October 2020, netting more than \$1.7 million in current-use funding from more than 4,000 donors. Both the track and field/cross country and crew programs broke the \$200,000 mark for the day.

In terms of BAF impact funds, the Inman Page Council BAF Scholarship, which provides financial aid for Black and African American undergraduates, raised \$1.2 million in gifts, including \$500,000 in challenge funds. There was also a 93% increase from FY20 in donors to BAF diversity initiatives.

Even during a time of continued uncertainty, the enduring generosity of Brown’s donors sustains critical support for high-impact research and scholarship and the opportunities provided by Brown’s residential educational experience.



ABOUT THE COVER

The banner images used in this report depict the recently renovated 164 Angell St. — home to Brown’s Data Science Initiative, Carney Institute for Brain Science, Center for Computational Molecular Biology and other academic units. Among the features of this building are common spaces with writable walls, which foster collaboration across academic disciplines.

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Nicholas Dentamaro

Financial Statement Overview
Division of Finance and Administration

Endowment Report
Brown University Investment Office

Fundraising Report
Division of Advancement

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Brown University **Financial Report** **Fiscal Year 2021**

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