



INDIANA UNIVERSITY

# BICENTENNIAL REPORT 2015–19

VICE PRESIDENT FOR RESEARCH



## Success of research funding means positive impact for IU, state and beyond

The past five years have been a time of significant growth in IU's research infrastructure, funding, and reputation.

A few of the accomplishments of our faculty, staff, and students are highlighted in the pages that follow.

As you read these, I hope you'll take a moment to appreciate the important role that IU research—and IU researchers—play not only in advancing the mission of the university but also in improving the lives of people in Indiana and around the world.

We are working with partners around the state to address some of our greatest challenges—from confronting the scourge of drug addiction to helping farmers, communities, and industry deal with the increasing reality of climate change.

We are improving health, investing in innovation and discovery, and lifting the human spirit through the arts and humanities.

We are developing transformative new technologies, while also working to ensure that those technologies are secure and that our graduates have the skills and hands-on experience to manage them to advance human progress.

Over the past five years, we have attracted to Indiana almost \$3 billion in research investment. This translates into new jobs, new facilities, new tax dollars, and new opportunities for Hoosiers.

As we mark IU's Bicentennial, we pause to honor the remarkable achievements of our faculty, staff, and students, but we also celebrate our many partners and the countless lives enhanced every day by IU's research.



### Fred H. Cate

Vice President for Research  
Distinguished Professor  
C. Ben Dutton Professor of Law

**Photo on cover:** Infant Akala Peters participates in activities in IU Bloomington's Computational Cognition and Learning Lab as part of the Learning: Machines, Brains, and Children research program. See page 14. Photo by Eric Rudd, IU Studios.

All images courtesy Indiana University unless otherwise noted.



**923**  
patents issued for  
IU inventions since 2015

**29**  
startup companies launched  
from IU discoveries since 2015

# 8

faculty named fellows of American Academy of Arts and Sciences since 2015

# 18

faculty named fellows of American Association for the Advancement of Science since 2015

In Fiscal Year 2019, the IU Simon Cancer Center was designated the only National Cancer Institute Comprehensive Cancer Center in Indiana, one of just 51 in the nation

# \$933,999,692

invested with 13,000+ business partners in FY 2019



**25,000+** number of people reached annually by IU's Global Arts and Humanities Festivals

## Record amounts in FY 2019

### \$680.2 million

in external funding received for research and other activities

### \$208.3 million

received in nongovernmental grants

### \$378.1 million

in federal grants and contracts

### \$234.9 million

in funding from the National Institutes of Health



# More than \$30 million

in external funding for arts and humanities at IU Bloomington since 2016



# 159

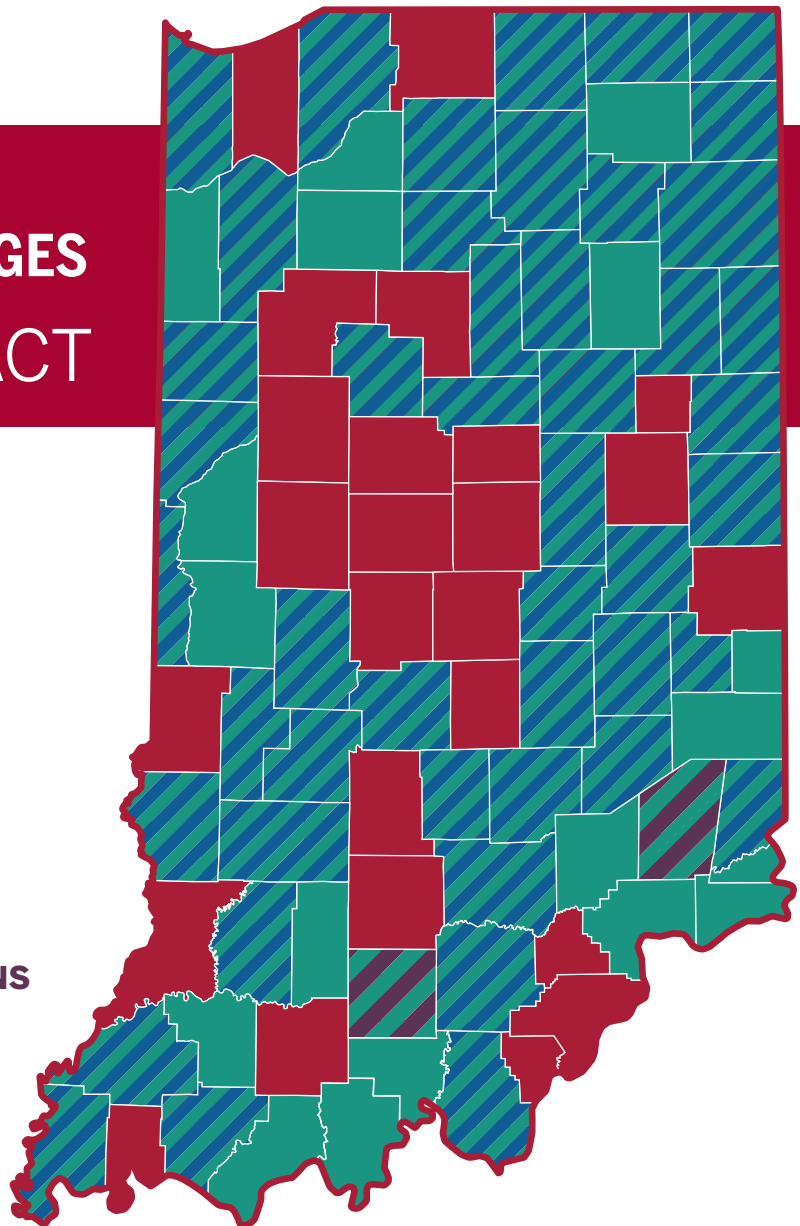
sponsorships contributing \$14,350,666 in 2019



Backed by more than 1,200 faculty and thousands of students and staff, as well as close to 200 research centers across seven statewide campuses, Indiana University's three Grand Challenge initiatives are tackling economic, social, and environmental problems that negatively affect our lives, our state, and the world.

 INDIANA UNIVERSITY  
**GRAND CHALLENGES**  
STATEWIDE IMPACT

-  **PRECISION HEALTH INITIATIVE**
-  **PREPARED FOR ENVIRONMENTAL CHANGE**
-  **RESPONDING TO THE ADDICTIONS CRISIS**
-  **HEALTH & ENVIRONMENT**
-  **ENVIRONMENT & ADDICTIONS**
-  **ALL GRAND CHALLENGES**





◀ *“When I found out I had gestational diabetes, I felt like I had done something wrong. But my doctor assured me it was truly something out of my control, that I was genetically predisposed to it, so it was something that I could move forward in handling appropriately.”*

—Faith Kunz  
Precision Health patient



◀ *“When it comes to the health effects of climate change, children are the most vulnerable. ... Students in today’s classrooms must be prepared to engineer solutions and advance policies that will allow global society to adapt to and mitigate the effects of climate change. .... Indiana’s K-12 students need these resources now, and for the years to come.”*

—Lizzie Grennan Browning  
Research Fellow,  
IU Environmental  
Resilience Institute

▶ *“We want to make sure no one else is unaware, the way we were, regarding the misuse of prescription drugs. ... We will continue to tell Nick and Jack’s story until there are no more senseless deaths.”*

—Becky Savage  
Savage’s sons Nick and Jack died of overdoses. She is a member of the Responding to the Addictions Crisis Grand Challenge community advisory board.



**Launched in 2016, IU's first Grand Challenge, the Precision Health Initiative, has made important, life-changing progress for Hoosier patients.**

PHI research teams are discovering new ways to personalize care and improve outcomes as they pursue ambitious goals in five disease areas: Alzheimer's disease; multiple myeloma (a blood cancer); pediatric sarcomas (a childhood cancer characterized by tumors in nerves, muscles, or bones); Type 2 diabetes; and triple negative breast cancer.

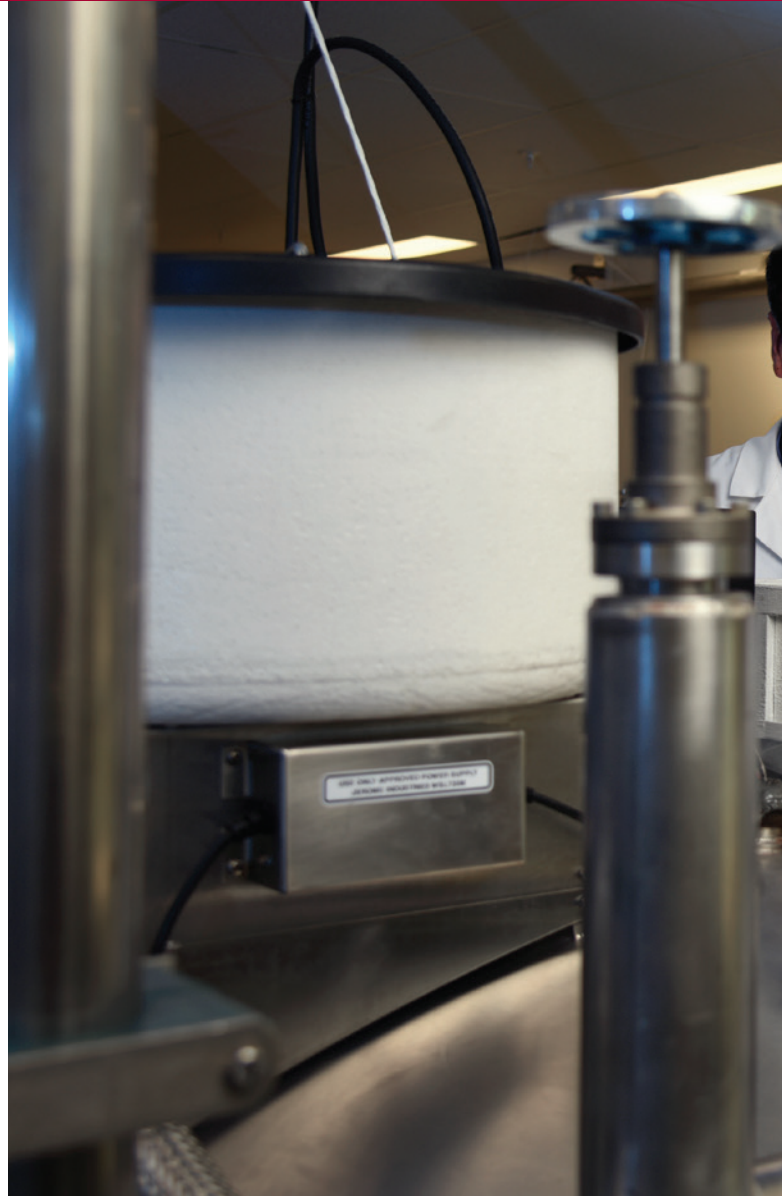
**Enhanced personal medical care available in Indiana**

- In new precision genomics clinics, PHI researchers are exploring the structures of tumors; the Pediatric Precision Genomics clinic, for example, enabled IU researchers to test the DNA of every child at IU Health with aggressive or relapsed sarcomas and identify a treatment in more than 90 percent of cases.
- For the first time, adult cancer patients in Indiana received CAR T-cell therapies, which re-engineer a patient's T-cells to kill cancer.
- Thousands of Hoosiers across 40 counties now have a voice in their health care thanks to the PHI Person to Person interview study, enabling care to be tailored to their unique needs.
- LIFE Extend is the first app to place personalized medicine in the hands of every Hoosier with a smartphone. It was created in partnership with ALL IN for Health.
- Launched a first of its kind study of black women with breast cancer to inform efforts to improve treatment outcomes.
- Tailored treatments for Indiana mothers previously diagnosed with gestational diabetes to prevent progression to Type 2 diabetes in a phase-two study.

*"It's time Indiana is as famous for curing diseases as it is for the Indy 500. We cured testicular cancer; now we're laser-focused on triple negative breast cancer, pediatric sarcoma, and Alzheimer's disease."*

**—Anantha Shekhar**

Distinguished Professor, Associate Vice President for Research and University Clinical Affairs, leader of the Precision Health Initiative



## STATEWIDE IMPACT





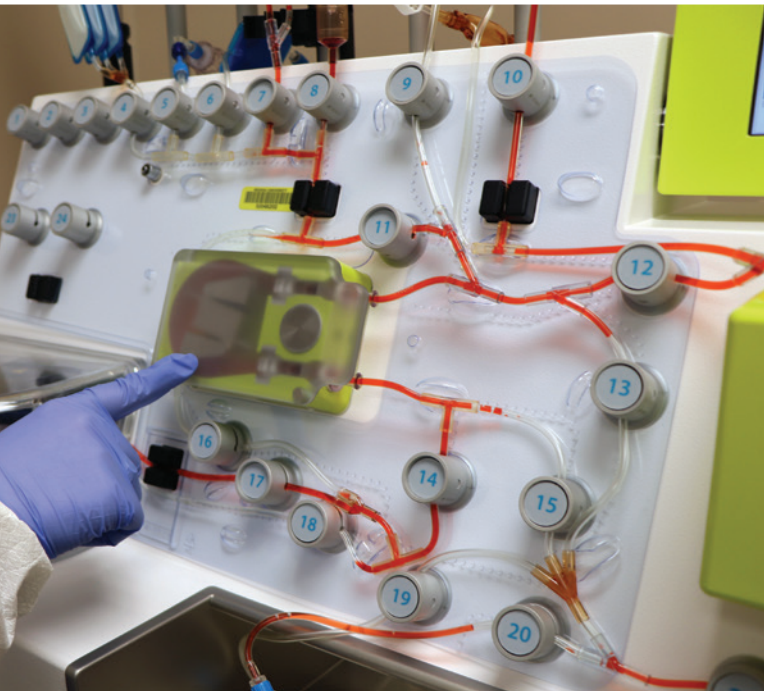
**\$36 million**  
secured in NIH funding for unique Alzheimer's drug discovery center designed to accelerate treatment

**213**  
new jobs created, many a result of faculty researchers who establish research labs in Indiana

**124**  
new faculty members recruited

**\$62M**  
in grant funding secured

**257**  
peer-reviewed publications



Above: Tatiana Foroud, right, works in her genomics laboratory. Foroud is the Joe C. Christian Professor of Medical & Molecular Genetics at the IU School of Medicine and leads genomics medicine—how individual genetics influence clinical care and outcomes—for the Precision Health Initiative.

Left: A researcher works in the IU Cell, Gene and Immunotherapy lab with CAR T-cells.

## Prepared for Environmental Change, IU's second Grand Challenge initiative established in 2017, is delivering targeted data and actionable solutions to Indiana communities to combat the consequences of changing weather patterns.

The work of the Prepared for Environmental Change initiative is facilitated through the Environmental Resilience Institute, which brings leading researchers together with government, business, nonprofit, and community leaders to help them plan and prepare in the face of challenges to our communities, economy, health, and livelihoods.



### Helping Hoosiers prepare

- Partnered with the EPA to launch the Environmental Resilience Institute Toolkit, a digital resource to help Midwestern communities combat the negative impacts of climate change.
- Conducted statewide Hoosier Life Survey on public attitudes toward environmental change to inform policies and strategies specific to Indiana.
- Launched a free, Indiana-specific webinar series in partnership with the Association of Indiana Counties and Accelerate Indiana Municipalities to help local government leaders and residents understand climate change.
- Funded the Indiana Environmental Reporter, an independent reporting organization providing journalism on state environmental issues.
- Produced *In This Climate*, a podcast focused on climate-related problems and solutions around the world.



## STATEWIDE IMPACT







ERI Research Fellow Alex Jahn outfits a bird to study its migration patterns.

**152**

birds were equipped with GPS devices to study how environmental change is affecting migration, which may help forecast how change in one part of the world impacts people in another

*“Will local infrastructure, food supplies and health care providers be able to maintain operation in the midst of new weather patterns? We know our health and economic vitality require increased resilience in the face of our changing climate. IU experts are collaborating with partners across Indiana to empower local officials, policymakers, and other leaders with information needed to reduce risks and prepare to deal with the impacts we can’t avoid. We cannot afford to ignore increasing heat, more severe storms, and flooding.”*

—Janet McCabe

Former EPA administrator and leader of the Prepared for Environmental Change Grand Challenge

**80%**  
of Hoosiers acknowledge climate change is happening

2019 ERI statewide survey

**60%**  
of Hoosiers say effects of climate change pose threats to the livelihoods of residents and farmers

2019 ERI statewide survey

**105° F**  
hottest temperature of a typical year in Indiana by mid-century, 8 degrees higher than the historical average

Source: Indiana Climate Change Impacts Assessment

**38 to 51**  
extremely hot days projected for southern Indiana by midcentury, roughly 6 times the historical average

Source: Indiana Climate Change Impacts Assessment; extremely hot days = days of 95 degrees F

**577,377**

Indiana buildings vulnerable to a 100-year flood event, more than 2 percent of all mapped buildings in the state

Source: Polis Center at IUPUI—produced Flood Analysis

**4,100**

K–12 students taught by Indiana teachers who participated in the ERI Educating for Environmental Change Summer Science Institute workshops during 2019

**8,000**

Midwestern farmers surveyed to gauge attitudes on agricultural practices and conservation

**14**

Indiana local governments completed their first community-scale greenhouse gas inventories in 2019, establishing a baseline for emissions reduction plans

**IU's third Grand Challenge, Responding to the Addictions Crisis, was launched in late 2017. This initiative is one of the nation's largest and most comprehensive state-based responses to the opioid addiction crisis—and the largest led by a university.**

Working together, IU and many partners are implementing a comprehensive plan to reduce deaths from addiction, ease the burden of drug addiction on Hoosier communities, and improve health and economic outcomes.



Researcher Andrea Pfeifle works with students at the IU School of Medicine.



*“From education and training to data collection and analysis to community and workforce development, Indiana University’s Grand Challenge is going to go such a long way to help turn the tide against this crisis of addiction. Thank you, Indiana University. We’re going to beat this thing together. I just know it.”*

—Indiana Gov. Eric Holcomb

**CONFRONTING THE ADDICTION CRISIS ALONGSIDE MORE THAN 130 PARTNERS THROUGHOUT INDIANA**

**Ψ INDIANA UNIVERSITY GRAND CHALLENGES**  
Responding to the Addictions Crisis



Expanding Clinical Training Capacity



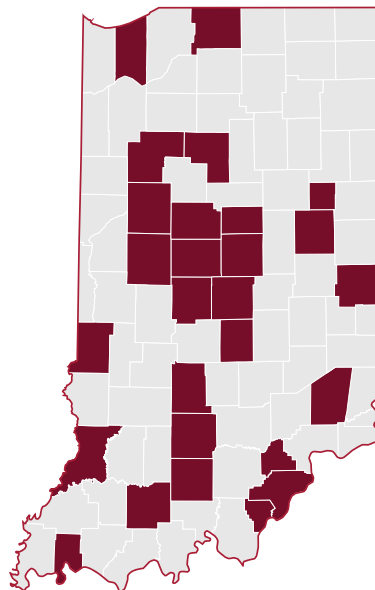
Conducting Public Health Research & Developing Policy Recommendations



Improving Access to Prevention, Treatment and Recovery Services



Partnering with Harm Reduction Organizations





## **IU researchers involved in 31 projects**

Examples include:

### **Connected primary-care teams around the state**

with specialists, providing training on Hepatitis C, HIV, LGBTQ patients, prison peer education and more

### **Launched the Comprehensive Pain Assessment Clinic**

conducting three Prescribing and Treating Opioid Abuse workshops to train future front-line workers at IU Family Medicine Center in Indianapolis

### **Trained 55 community mental health staff and providers**

in critical intervention techniques to reduce substance use in Wayne and Tippecanoe Counties, with expansion to eight more counties in progress

**12%**

decline in drug overdose deaths in Indiana in 2018—improving twice as much as the national average (CDC)

**12%**

decrease in opioid prescriptions in Indiana in 2018—a fall faster than the national average

**42%**

increase in number of addiction treatment providers in Indiana since 2014

Left: A participant learns how to administer naloxone during an IU public health conference on the opioid crisis.

## ARTS AND HUMANITIES

Indiana University's New Frontiers in the Arts and Humanities program, now called the IU Presidential Arts and Humanities Program, was established in 2004 with funding from Lilly Endowment Inc., and has long been a unique university investment in the creative and scholarly work of IU faculty. Here's just one example of the remarkable projects made possible by this program.



## Uffizi Gallery seeks out IU to make world-famous art digitally accessible to all

A collaboration between Indiana University and the Uffizi Gallery in Florence, Italy, has made it possible to view some of the world's most admired ancient artifacts and sculptures in 3D without traveling overseas. The result is access to more digitized works of classical sculpture than has ever been done in a single museum.

The **unprecedented initiative to digitize in 3D the Uffizi's entire collection of irreplaceable Greek and Roman sculpture** was launched in 2016 with funding support from the New Frontiers in Arts and Humanities program. Today, the Uffizi Digitization Project contains hundreds of digitized sculptures and fragments in an online collection at [www.digitalsculpture-uffizi.org](http://www.digitalsculpture-uffizi.org).

"It would be nearly impossible to overstate the cultural and educational impact of this extraordinary and inventive collaboration that is bringing to virtual light a collection of classical antiquities that has inspired some of the greatest artistic geniuses in the history of Western art," IU President Michael A. McRobbie said.

Bernard Frischer leads the project. A professor in IU's Luddy School of Informatics, Computing, and Engineering, Frischer is also director of the university's Virtual World Heritage Laboratory and one of the world's leading virtual archaeologists.

IU's scholarly expertise in ancient art and culture and its extensive technological capabilities were the perfect combination to create this new approach to the Uffizi's collection of classical antiquities, making them broadly available to scholars, museum professionals, students, and the general public.

The digitization project includes training IU informatics and art history students in the techniques of 3D data capture, digital modeling, and interactive online publication. Key partners in the project include the Politecnico di Milano and the University of Florence.



Classical sculptures at the Uffizi Gallery in Florence, Italy, have been scanned and digitized in 3D through a partnership with IU.

## Learning: Machines, Brains, and Children

Launched 2017

Using sensors attached to infants as they play, a team of IU experts is pursuing new and better understanding of the development of human learning. How infants learn at an extraordinary rate could **inform enhanced machine learning**. Linda Smith, Distinguished Professor of psychological and brain sciences at IU Bloomington, leads this team of faculty and researchers in psychology, neuroscience, artificial intelligence, and network science.

An infant interacts with toys while wearing a vision-tracking headset.

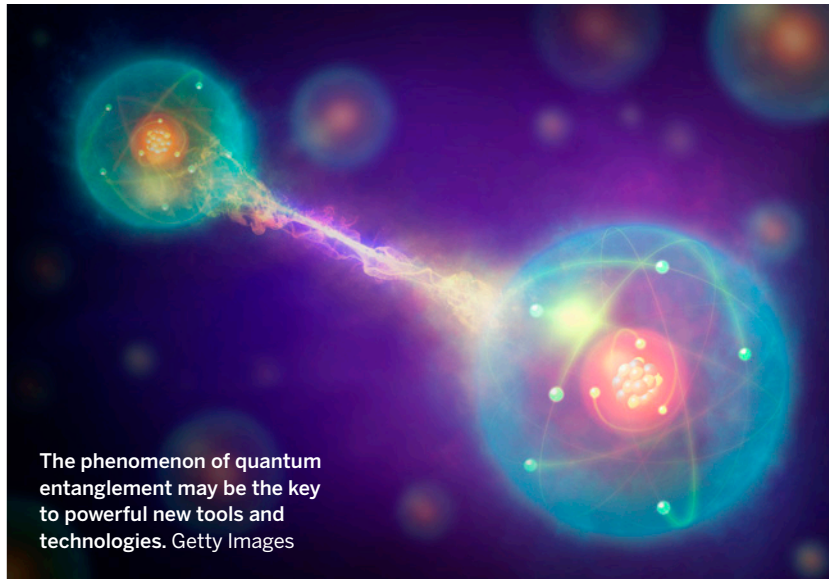


## Sustainable Food Systems Science

Launched 2018

Looking at sustainable food system development, nationally and internationally, from farm to fork, this initiative is studying how to **build more resilient food systems**. The goals are to bolster food justice, increase public health and well-being, improve livelihoods, and enhance community quality of life. Attracting more than \$950,000 in grant funding, the IU team is assisting Indiana communities with food system change as well as working with partners on sites located in Brazil, Italy, Madagascar, Norway, and Zambia. James Farmer, an associate professor in the O'Neill School of Public and Environmental Affairs, leads this team.





The phenomenon of quantum entanglement may be the key to powerful new tools and technologies. Getty Images



Researchers at IU are working to improve sustainable food system development, from farm to fork.

## Quantum Science and Engineering

Launched in 2018

Einstein called the phenomenon of quantum entanglement “spooky action at a distance,” in which particles that interact continue to act on one another, even when separated. The power of quantum entanglement and quantum physics is fueling **cutting-edge science that may develop new and massively powerful technologies and devices**. A cross-disciplinary team of researchers from physics, informatics, intelligent systems design engineering, mathematics, and other areas has already received notable funding from the Department of Energy and is forming partnerships with other higher education institutions, such as Purdue University, and with national laboratories such as Argonne National Lab and Oak Ridge National Lab. Gerardo Ortiz and David Baker, both professors of physics at IU Bloomington, lead this team.

**As the fields of artificial intelligence and cybersecurity have developed rapidly over the last five years, so has Indiana University's research capacity in these crucial areas. For example:**

- As a **National Center of Academic Excellence in Information Assurance Research** and in **Information Assurance Education**, IU is addressing ever-increasing **cyberthreats**. In 2017, IU used its internationally recognized strengths in cybersecurity research and education to launch the MS in Cybersecurity Risk Management, the first degree of its kind to combine IU's highly ranked Kelley School of Business, Maurer School of Law, and School of Informatics, Computing, and Engineering into one degree program.
- In 2019, the university established a first of its kind **Cybersecurity Clinic** to offer practical, hands-on training to help students learn to address and manage the global problem of cyber-risk.
- Also in 2019, the National Science Foundation renewed five-year funding for **Trusted CI, the NSF Cybersecurity Center of Excellence**, that the IU Center for Applied Cybersecurity Research leads in collaboration with the National Center for Supercomputing Applications, the Pittsburgh Supercomputing Center, the University of Wisconsin-Madison, Internet2, and the U.S. Department of Energy's Lawrence Berkeley National Laboratory.
- IU is home to **OmniSOC**, an initiative of Big Ten universities including IU, Northwestern University, Purdue University, Rutgers University, and the University of Nebraska-Lincoln, to help higher education institutions reduce the time from first awareness of a cybersecurity threat to mitigation. IU is also home to the **Research and Education Networking Information Sharing and Analysis Center**, one of 19 industry-specific centers recognized by the Department of Homeland Security with 620 member institutions in the U.S., Canada, the U.K., Australia, and New Zealand.
- IU is expanding on its long and productive relationship with **Naval Surface Warfare Center, Crane Division** that includes 10 active cooperative research and development agreements in software development and artificial intelligence assurance, intelligent systems engineering,

### Looking ahead

- In October 2019, IU alumnus and IT pioneer Fred Luddy gave **\$60 million to establish a multidisciplinary initiative in AI** at IU based in the School of Informatics, Computing, and Engineering. The initial focus will be on AI approaches to digital health.
- IU will develop intergrated curriculum and co-curricular opportunities to better equip students and faculty to address ethical challenges presented by digital technologies thanks to a planning grant from Lilly Endowment Inc. announced in September 2019. Bringing together IU and Purdue faculty, as well as outside experts, IU will prepare faculty and students to **confront ethical challenges of our increasingly digital world**.

trusted microelectronics, and advanced data visualizations for robust deep machine learning, among other fields.

- **AI research** at IU includes teaching computers to "see" the visual world the way humans do so computers can better accomplish tasks such as identifying counterfeit money or products. Other AI researchers are studying how to improve the way robots and humans interact and the uses of robots in settings such as nursing homes. Still others are addressing unique AI challenges associated with autonomous vehicles, developing technologies that improve autonomous vehicle recognition of other vehicles, pedestrians, bicyclists, road environments, traffic flow, dangerous events, and potential accidents.
- IU is acquiring the fastest university-owned supercomputer in the nation to advance research in artificial intelligence, machine learning, data analytics, medicine, and more. The new system is named **Big Red 200** in honor of the IU Bicentennial, and is the most recent addition to IU's supercomputing and massive data storage resources.





Getty Images

**Biometrics and AI**

User authentication and identity management are the first line of defense for cyber-systems. Compromises in user credentials and authentication contribute to frequent data breaches with serious consequences for government organizations, companies, and individuals. A research team at IUPUI, led by Xukai Zou, associate professor of computer and information science, is conducting cutting-edge research on fundamental security/privacy issues by integrating advanced deep-learning techniques and secure biometric recognition methods. Zou and his colleagues have demonstrated that their system can defend against malicious attacks, as well as offer universal identity management and “single sign-on” across multiple platforms. This research is supported by a Cybersecurity Innovation for Cyberinfrastructure grant from the National Science Foundation.



IU is acquiring the fastest university-owned supercomputer in the nation to advance the use of AI across diverse research fields.

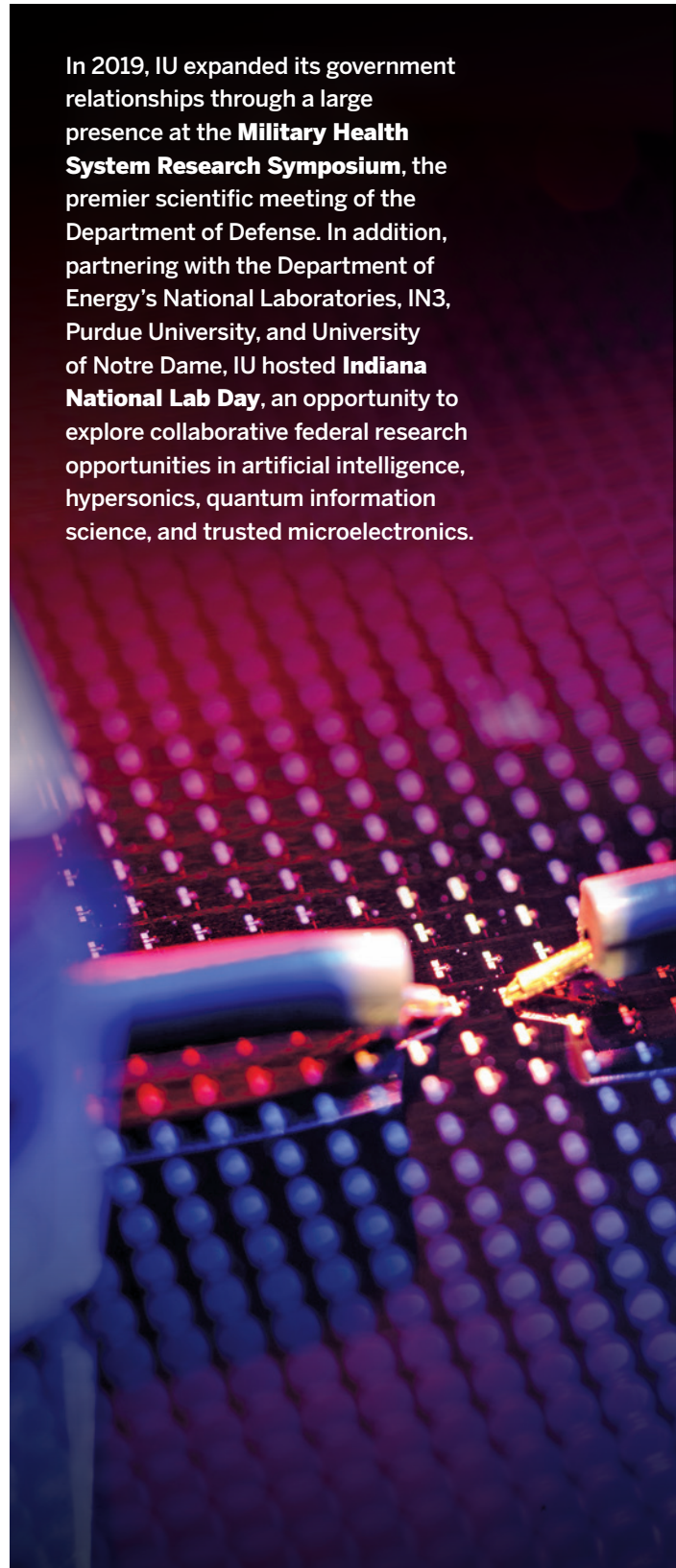


**In today's complex world, research partnerships are crucial to protecting America, both its many citizens and the nation itself. Indiana University continues to build such partnerships with various divisions of the U.S. Department of Defense, yielding many innovative projects with real-world application and impact.**

IU is contributing to research at the highest levels in regenerative medicine, Internet of Things, autonomous vehicles, cybersecurity, trusted microelectronics, hypersonics and high-performance modeling, and quantum science. Highlights of IU research in these fields include:

- Robust and expanding relationships with the **Naval Surface Warfare Center, Crane Division**, including PhD fellowships, graduate fellowships, SMART Scholars, postdoctoral fellows, Crane employees pursuing doctoral degrees at IU. Examples of active research partnerships include
  - Wireless Energy and Power Innovation
  - Computation Microscopy of Microelectronics
  - Self-Assembly of Nanomaterials for Structural Health Monitoring of Navy Materials
  - Molecular Design of Organic Films for Improved Charge Transport
  - Improving the Energy Density Lithium-ion Batteries with Electrolyte Additives
  - Achieving Scientifically Secured User Reassurance in Electronics, a partnership with IN3, a statewide effort to address real-world problems established with support from Lilly Endowment Inc.
- IU researchers such as Chandan Sen, IU's first associate vice president for military and applied research, are finding new ways to heal burns, address diabetic complications, and treat injured soldiers through regenerative medicine by **regrowing damaged and diseased tissue**.
- The large **Concussion Assessment, Research and Education (CARE) Consortium**, co-led by IU School of Medicine and others, involves student athletes and cadets from 30 U.S. universities and military service academies and is changing how concussion is treated nationally and in the military.
- The **newly established Language Training Center** at the Hamilton Lugar School of Global and International Studies deepens critical knowledge and awareness for U.S. Department of Defense personnel.
- **DoD Minerva Research Initiative awards** to IU informatics experts for work that will improve our basic understanding of security, broadly defined.

In 2019, IU expanded its government relationships through a large presence at the **Military Health System Research Symposium**, the premier scientific meeting of the Department of Defense. In addition, partnering with the Department of Energy's National Laboratories, IN3, Purdue University, and University of Notre Dame, IU hosted **Indiana National Lab Day**, an opportunity to explore collaborative federal research opportunities in artificial intelligence, hypersonics, quantum information science, and trusted microelectronics.



# INDUSTRY AND GOVERNMENT RESEARCH PARTNERSHIPS



Nanotechnology is driving change globally.



Chandan Sen, director of the Indiana Center for Regenerative Medicine and Engineering, is developing new techniques to treat, heal, and even regrow damaged tissue.



A researcher performs baseline concussion testing on a student athlete.

**American Academy  
of Arts and Sciences**



(2014–15) **Roger Temam**  
Distinguished Professor and  
College Professor, Department of  
Mathematics, College of Arts and  
Sciences, IU Bloomington



(2014–15) **Robert M. Nosofsky**  
Distinguished Professor and  
Chancellor’s Professor, Department  
of Psychological and Brain  
Sciences, College of Arts and  
Sciences, IU Bloomington



(2014–15) **Feisal A. Istrabadi**  
Professor of Practice and director  
of Center for the Study of the  
Middle East, Hamilton Lugar School  
of Global and International Studies



(2015–16) **Robert L. Goldstone**  
Distinguished Professor and  
Chancellor’s Professor, Department  
of Psychological and Brain  
Sciences, College of Arts and  
Sciences, IU Bloomington



(2016–17) **Jerome R. Busemeyer**  
Distinguished Professor and  
Provost Professor, Department of  
Psychological and Brain Sciences,  
College of Arts and Sciences,  
IU Bloomington



(2016–17) **Sumit Ganguly**  
Rabindranath Tagore Professor,  
Department of Political Science,  
College of Arts and Sciences,  
IU Bloomington



(2016–17) **Andre Watts**  
Jack I. and Dora B. Hamlin Endowed  
Chair in Music and Distinguished  
Professor, Jacobs School of Music,  
IU Bloomington



(2018–19) **Marietta Simpson**  
Rudy Professor of Voice, Jacobs  
School of Music, IU Bloomington

**American Association  
for the Advancement of Science**



(2015–16) **William F. Carroll Jr.**  
Retired vice president of Occidental  
Chemical Corp.; past present and  
board chair of American Chemical  
Society; adjunct professor,  
Department of Chemistry, College of  
Arts and Sciences, IU Bloomington



(2015–16) **Armin Moczek**  
Professor, Department of Biology,  
College of Arts and Sciences,  
IU Bloomington



(2015–16) **Richard Wilk**  
Distinguished Professor Emeritus,  
Department of Anthropology,  
College of Arts and Sciences,  
IU Bloomington



(2016–17) **Volker Brendel**  
Professor in Department of Biology,  
College of Arts and Sciences and  
Luddy School of Informatics,  
Computing, and Engineering,  
IU Bloomington

## MEMBERS OF NATIONAL ACADEMIES, 2015-2019



(2016–17) **Ken Mackie**  
Jack and Linda Gill Chair, Gill Center for Biomolecular Science, and Distinguished Professor, Department of Psychological and Brain Sciences, College of Arts and Sciences, IU Bloomington



(2018–19) **Andrea G. Hohmann**  
Linda and Jack Gill Chair of Neuroscience, Gill Center for Biomolecular Science and professor, Department of Psychological and Brain Sciences, College of Arts and Sciences, IU Bloomington



(2017–18) **L. Jean Camp**  
Professor, Luddy School of Informatics, Computing, and Engineering, IU Bloomington



(2018–19) **Daniel Kearns**  
Professor, Department of Biology, College of Arts and Sciences, IU Bloomington



(2017–18) **Matthew Hahn**  
Professor, Department of Biology, College of Arts and Sciences, and Luddy School of Informatics, Computing, and Engineering, IU Bloomington



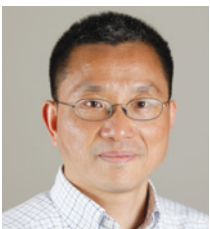
(2018–19) **David M. Kehoe**  
Professor, Department of Biology, College of Arts and Sciences, IU Bloomington



(2017–18) **Andrea Wiley**  
Professor, Department of Anthropology, College of Arts and Sciences, IU Bloomington



(2018–19) **Jay T. Lennon**  
Professor, Department of Biology, College of Arts and Sciences, IU Bloomington



(2017–18) **Chen Zhu**  
Haydn Murray Chair and professor, Department of Earth and Atmospheric Sciences, College of Arts and Sciences, IU Bloomington



(2018–19) **Robert M. Nosofsky**  
Distinguished Professor and Chancellor's Professor, Department of Psychological and Brain Sciences, College of Arts and Sciences, IU Bloomington



(2017–18) **Adam Zlotnick**  
Professor, Department of Biology, College of Arts and Sciences, IU Bloomington



(2018–19) **John Patton**  
Associate professor and Blatt Chair of Virology, Department of Biology, College of Arts and Sciences, IU Bloomington

American Association for the Advancement of Science, cont.



(2018–19) **Peter Todd**  
Provost Professor, Department of Psychological and Brain Sciences, and director, Cognitive Science Program, College of Arts and Sciences, IU Bloomington



(2018–19) **Claire E. Walczak**  
Professor of biochemistry and molecular biology, Medical Sciences Program, IU Bloomington

### American Physical Society Fellows



(2017–18) **James Musser**  
Professor, Department of Physics, College of Arts and Sciences, IU Bloomington



(2017–18) **Gerardo Ortiz**  
Professor, Department of Physics, College of Arts and Sciences, IU Bloomington



(2017–18) **Zhe-Yu Jeff Ou**  
Professor, Department of Physics, School of Science, IUPUI

### National Academy of Medicine



(2015–16) **Richard DiMarchi**  
Distinguished Professor and Linda and Jack Gill Chair in Biomolecular Science, Department of Chemistry, College of Arts and Sciences, IU Bloomington



(2016–17) **Bernice Pescosolido**  
Distinguished Professor, Department of Sociology, College of Arts and Sciences, IU Bloomington

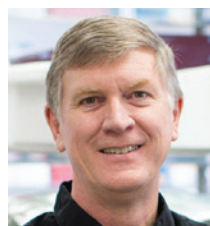


(2017–18) **Robin Newhouse**  
Distinguished Professor and Dean, School of Nursing, IUPUI

### National Academy of Sciences



(2015–16) **Michael Hamburger**  
Jefferson Science Fellow and professor, Department of Earth and Atmospheric Sciences, College of Arts and Sciences, IU Bloomington



(2016–17) **Craig Pikaard**  
Distinguished Professor and Carlos O. Miller Professor, Department of Biology, College of Arts and Sciences, IU Bloomington, and Howard Hughes Medical Institute Investigator

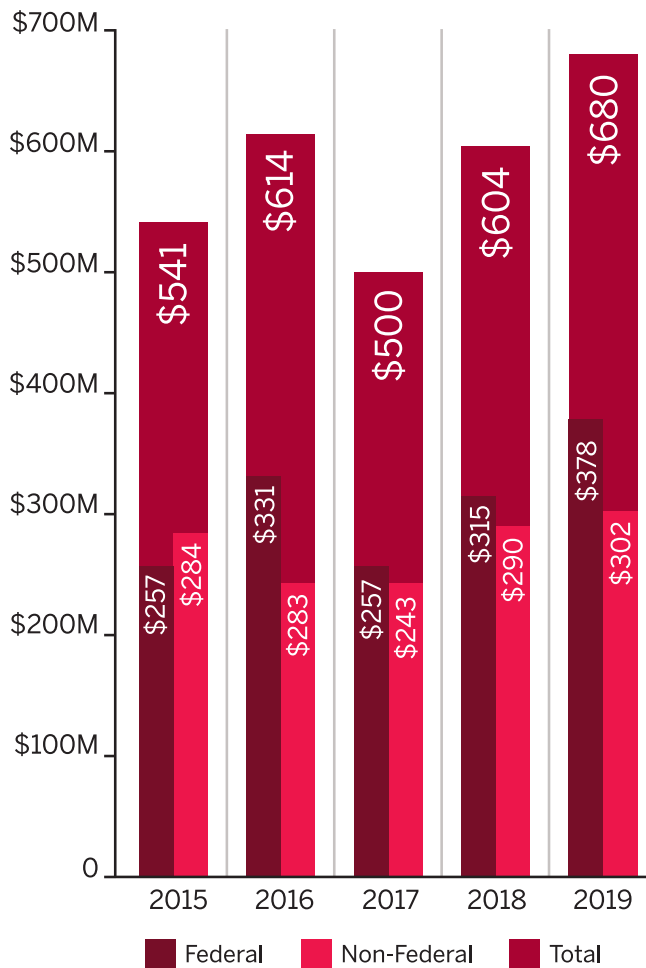


(2018-19) **Linda B. Smith**  
Distinguished Professor, Department of Psychological and Brain Sciences, College of Arts and Sciences, IU Bloomington

**\$2,939,668,896**

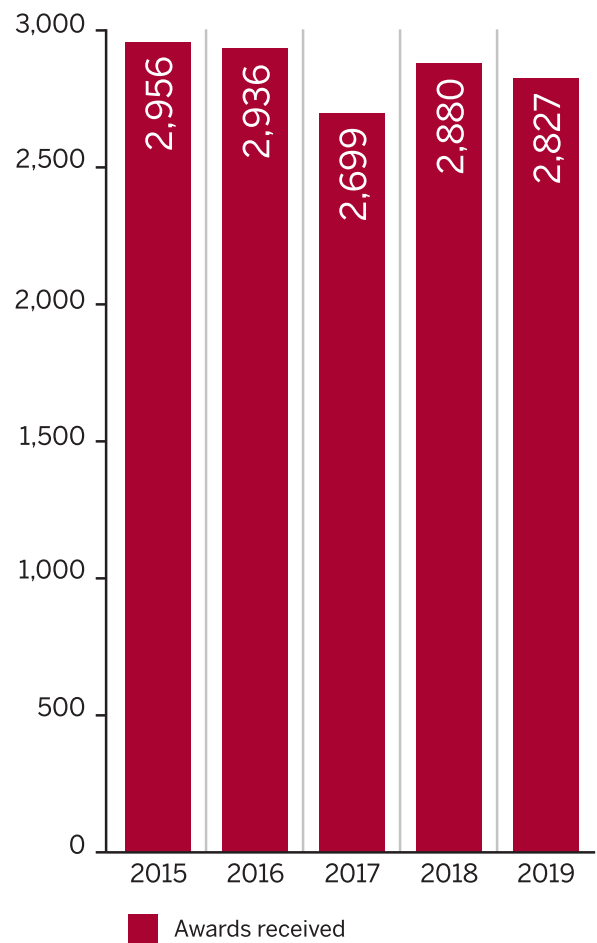
Total Amount of Sponsored Program Awards, 2015–19

**Sponsored program awards**



Dollar figures given are in millions.

**Sponsored program activity**



INDIANA UNIVERSITY  
OFFICE OF THE VICE PRESIDENT FOR RESEARCH

**Bryan Hall 300**  
**107 S. Indiana Ave.**  
**Bloomington, IN 47405**



1820-2020

**INDIANA UNIVERSITY**