

RESEARCH & INNOVATION REPORT

UNIVERSITY OF ILLINOIS
URBANA-CHAMPAIGN



UNIVERSITY OF
ILLINOIS
URBANA-CHAMPAIGN

We've been

Rich history.

Bright future.

Illinois research combines
scholarly expertise with
world-class infrastructure,

fuses disciplines,

sparks collaborations,

and nurtures the next

generation of scholars.

changing

the world

since 1867.

Learn more at research.illinois.edu or follow us at [@UofIResearch](https://twitter.com/UofIResearch).

BY THE NUMBERS

\$133.7M

Total Corporate Contract and Philanthropic Support, FY21

56,257

Students

21%

International Students

Total Research Expenditures, FY21

\$731M

3M+

Square Footage for Research

3,029

Faculty Members



Tenure/Tenure Track



Specialized

14

New Companies Launched in Research Park Since 2018

150+

Centers, Laboratories, and Research Institutes

Earned Doctorates, Ranked Third in the U.S.*

*NSF Survey of Earned Doctorates

821

14M+

Volumes in the University Library Collection

HIGHLIGHTS

CELEBRATED

15 years of HRI's Odyssey Project. It provides **low-income adults with free humanities courses** taught by UIUC instructors.

being the **nation's top doctoral institution** for producing **Fulbright U.S. Scholars** in 2021-22.

a **9% increase in DOE research expenditures** (placing us third in the nation in DOE funding). Our NIH support has **increased nearly 40%** over the last five years.

\$40M in newly announced NSF awards to advance research in neuron-based computing and expand the capabilities of U.S. supercomputing.

WELCOMED

NSF Director Sethuraman Panchanathan to campus to announce \$40M in advanced computing research awards.

DOE Secretary Jennifer Granholm to UIUC to explore our diverse portfolio, tour facilities, and meet with key experts.

Want more highlights?
Subscribe to This Week in Illinois Research:
go.illinois.edu/twir

LAUNCHED

the **Front-End Engineering Design** project at PRI, a study developing **commercial-scale carbon capture** technology, with **\$4M from the DOE.**

the **Feed Technology Center** to accelerate discovery in feed science, grain storage and processing, and feed and pet food manufacturing.

Illinois Farming and Regenerative Management or **I-FARM**, a **\$3.9M USDA-funded project** to build the "Farm of the Future."

an iSEE project to optimize the design of "agrivoltaic" systems, a co-location of energy and food production, with **\$10M in USDA support.**

the Institute for Geospatial Understanding Through an Integrative Discovery Environment with a **\$15M NSF award.**

PARTNERED

with IBM on the Discovery Accelerator Institute, a **\$200M initiative** to develop **quantum computing** breakthroughs.

in the **Taylor Geospatial Institute**, a first-of-its-kind center using geospatial science to develop solutions to global challenges.

on **Great Lakes ICORPS**, a **\$15M NSF-supported hub** to nurture regional innovation and move discovery from the lab to the marketplace.

RESEARCH EXPENDITURES

Federal, state, and private investments in research powers discovery and innovation at Illinois.

TOTAL EXPENDITURES (FY17-FY21)

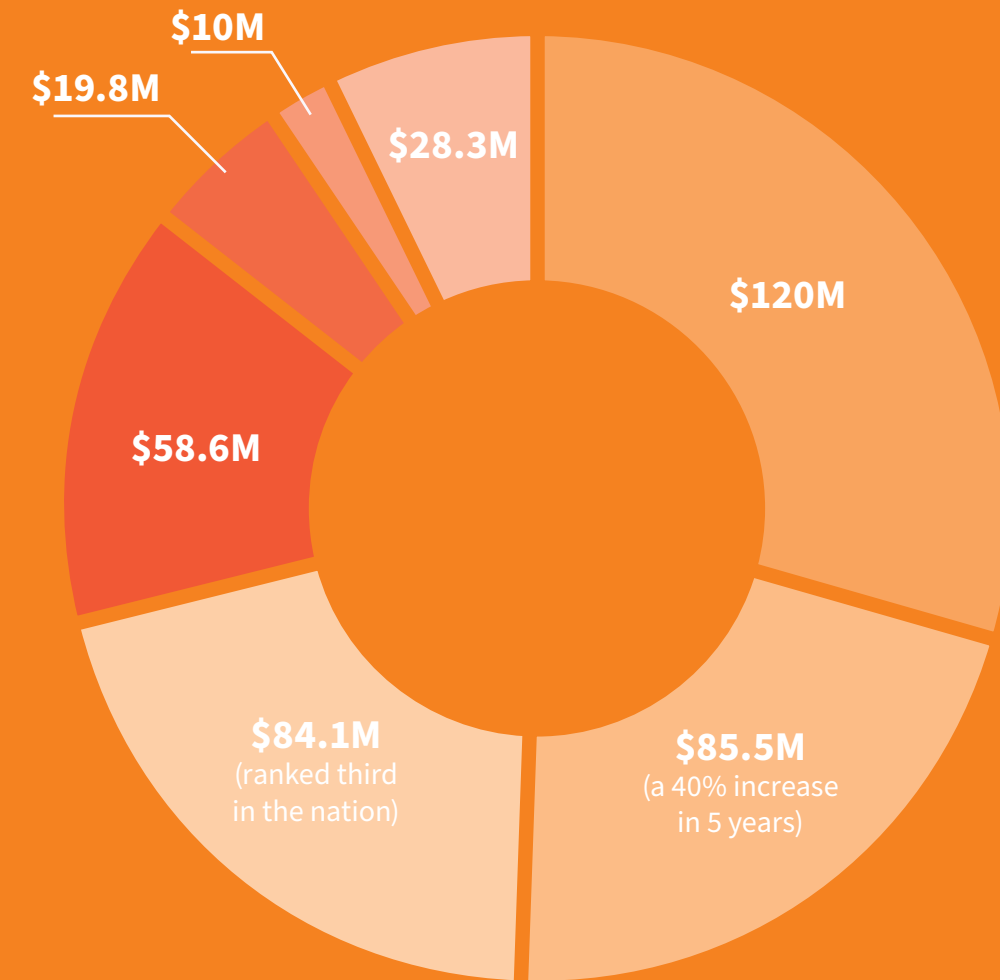
	Research and Development*	Sponsored Federal Research and Development**
FY21 (a 9% increase)	\$731M	\$406M
FY20	\$689M	\$388M
FY19	\$674M	\$382M
FY18	\$653M	\$354M
FY17	\$642M	\$359M

*HERD results include cost-sharing, unreimbursed F&A, and non-sponsored institutional research support.

**Federal prime awardee includes dollars passed through other entities.

TOTAL EXPENDITURES BY FEDERAL AGENCY (FY21)

\$406.3M

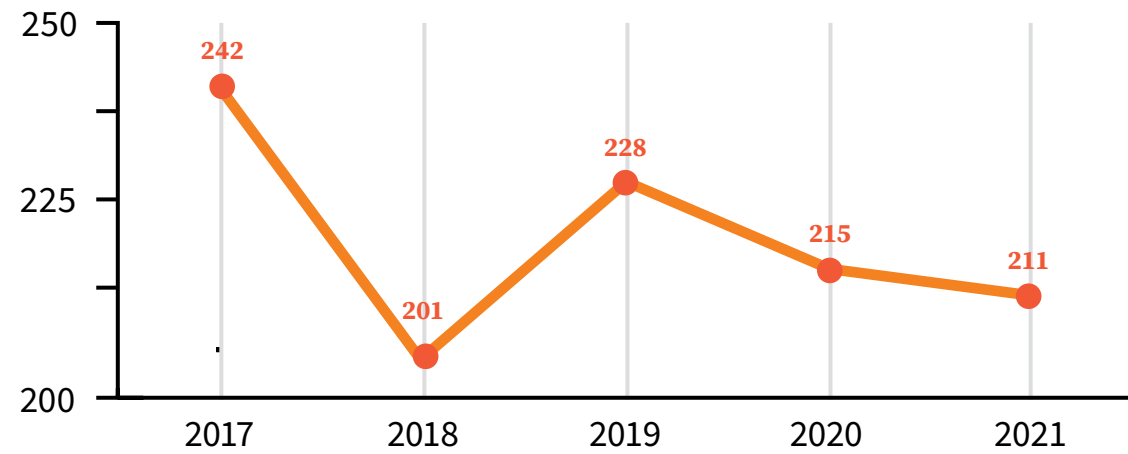


- National Science Foundation
- Dept. of Defense
- Dept. of Health and Human Services*
- Dept. of Agriculture
- Dept. of Energy
- NASA
- Other

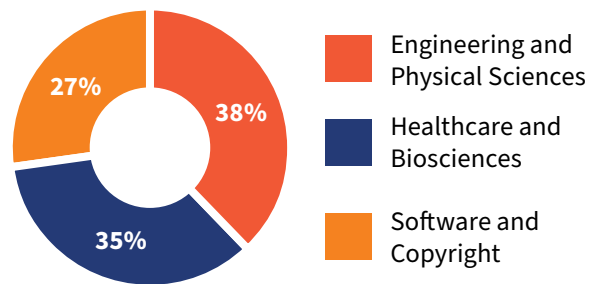
*Includes National Institutes of Health

TECHNOLOGY COMMERCIALIZATION

Invention Reports

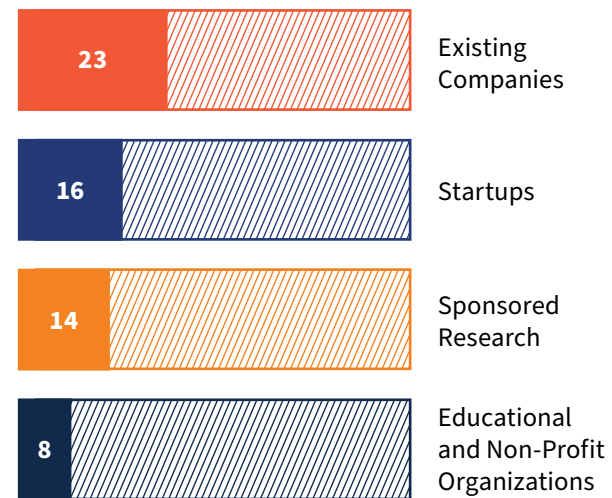


Innovations By Type



Licenses and Options

61 licenses and options transferred 149 technologies.



U.S. PATENTS

216

Patent Applications

78

Issued Patents

More than **2,000** students work in labs, have field experiences, and learn to use cutting-edge equipment.

Research faculty and staff **actively foster the training of students**, create unique experiences, and educate the next generation of visionaries.

RESEARCH AND STUDENT EDUCATION

ILLINOIS RESEARCH INSTITUTES

CONVERGE
RESEARCH
INNOVATE
CREATE

It started with a bold idea—bring researchers from different disciplines together under one roof and see what happens! More than 30 years later, we’ve set the standard for a new way of conducting interdisciplinary research at scale, addressing pressing societal challenges.

Together, these 10 research institutes transcend college, school, and departmental boundaries to elevate ideas, drive discovery, and push the limits of our knowledge.

Beckman Institute for Advanced Science and Technology

Interdisciplinary collaboration to advance imaging, molecular science, and intelligence.

C3.ai Digital Transformation

Advancing AI for business, government, and society.

Cancer Center at Illinois

Cancer research and educational programs uniting campus strengths in science and engineering.

Carl R. Woese Institute for Genomic Biology

Fundamental and applied genomics research in food security, energy, health, technology, and environmental conservation.

Center for Social and Behavioral Science

Research into poverty, globalization, food insecurity, and more.

Humanities Research Institute

Insight and study of the cultural, historical, and imaginative boundaries of the human condition.

Institute for Sustainability, Energy, and Environment

Actionable research in sustainability, energy, and the environment.

Interdisciplinary Health Sciences Institute

Coordinating and accelerating campuswide health research and innovation.

National Center for Supercomputing Applications

Computation tools and expertise to advance research.

Prairie Research Institute

Use-inspired transformative research and innovation and at-scale solutions for a society in transition.

RESEARCH INFRASTRUCTURE

Cutting-edge research requires world-class facilities. From microscopes to manuscripts, scholars at Illinois have access to an exceptional range of tools, services, and equipment that supports inquiry and discovery.



IGB Core Facilities

Instrumentation for biological microscopy and image analysis, including microscopes, nuclear magnetic resonance, tissue processing, and 3D printing.



Beckman Biomedical Imaging Facility

World-class imaging facility that offers access to the Carle Illinois Advanced Imaging Center, home of the only Siemens MAGNETOM Terra 7 Tesla MRI scanner in Illinois.



Krannert Art Museum

Expansive, permanent collection with over 10,000 works dating from the fourth millennium BCE to the present, representing numerous cultures.



Roy J. Carver Biotechnology Center

Tools and services that support discovery in genomics, proteomics, and metabolomics, including the nation's only microscopy to omics flow.



Veterinary Diagnostic Laboratory

Diagnostic medical testing for infectious agents, toxins, and other causes of disease in animal samples.



Energy Farm

A 320-acre "living laboratory" on UIUC's South Farms focused on alternative energy resources, sustainable food production, and environmental stewardship.



Holonyak Micro and Nanotechnology Lab

Equipment for photonics, microelectronics, biotechnology, and nanotechnology research.



Integrated Bioprocessing Research Laboratory

A lab and pilot plant that bridges the gap from basic discovery to commercialization of bioproducts.



NCSA Systems

Robust supercomputing resources, including Delta, a new NSF-sponsored, GPU-based supercomputer; HOLL-I, an instrument to handle large-scale AI and machine learning tasks; and Nightingale, a secure resource for sensitive data.



Center for Advanced Study

Brings together scholars from diverse disciplines and backgrounds, encouraging and rewarding excellence in all areas of inquiry.



Materials Research Laboratory

Advanced instrumentation for materials research, including 140+ instruments.



University Library

14M+ volumes, including one of the greatest rare and special book collections in the world.

RESEARCH PARK

Research Park is an environment where technology-based businesses work with faculty and students on collaborative research with access to university labs, equipment, and services. Research Park has attracted hundreds of companies since it began operations in 2000.

BY THE NUMBERS

2,220

Employees

875

Student interns

120

Companies located in Research Park

200

Events annually

\$82M

Annual payroll

3rd

Largest employer in Champaign-Urbana

\$500K

Awarded to build wet lab space for growth-stage companies

RESEARCH PARK EXPANSION: A LIVE, WORK, PLAY COMMUNITY

Research Park is transforming! Over the next two years, the technology hub will evolve into a live-work-play destination. In addition to more space for companies seeking to locate in the center, Research Park will add apartments and townhouses, a clubhouse, a pool, a dog park, and commercial spaces. This transformation will make it one of the most unique communities in the nation.

The development will have a phased timeline, with partial completion projected in 2023 and final completion in 2024.

Research Park companies include:

abbvie

CATERPILLAR®

State Farm®

ADM®

bp

Cargill™

BAYER

nVIDIA

JOHN DEERE

Abbott

Capital One

synchrony

ENTERPRISEWORKS

Research Park fosters startup companies that commercialize technology through EnterpriseWorks, an incubator for early-stage tech firms that helps launch successful scientific and research-based startup companies.

By the Numbers



56 startup tenants



43,000 sq. ft. for start-up incubation



250+ startups have gone through EnterpriseWorks since 2003

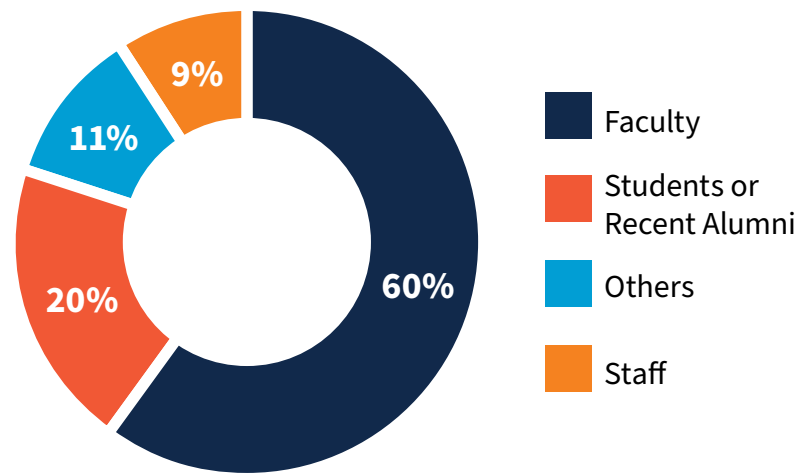


\$1.2B venture capital raised by startup companies



\$147.3M in SBIR/STTR funding awarded to companies since opening

Composition of EnterpriseWorks Incubator Tenants



Location of Graduated Startup Companies

71% of graduates remain in Illinois

66% of graduates remaining in Illinois are in Champaign County



FEATURED STARTUPS

Pioneering New Companies

Ascent Integrated Tech

Providing actionable insight on the health, environment, and location of firefighters, SWAT, and warfighters.

EarthSense

Using robotic farm equipment and AI to create dramatic new possibilities for crop breeders and scientists and field agronomists.

Epivara

Developing better, safer methods for spaying and neutering pets with EpiFix, a low-cost injection to spay and neuter pets efficiently, without surgery.

PSYONIC

Making advanced bionic limbs that are accessible to all people with amputations.

SimBioSys

Virtualizing cancer through computational oncology to transform decision-making and patient experience in cancer care.

Madhu Khanna named ISEE's second director | Carl R. Woelke
Catherine Murphy won the 2022 RSC Centenary Prize | P
develop novel approaches to clean energy challenges | NCS
in advance | The Energy & Biosciences Institute entered in
Kumar named Executive Director of PRI | Molecule Maker I
for organic electronics | Ralph Nuzzo named Kavli Prize La
Academy of Sciences and Arts | **NCSA unveiled HOLL-I** for
UIUC Native American Graves Protection and Repatriation
received the Gold Medal from the International Society of
campus to meet with members of the UIUC GLIDE pr
installed inside Talbot Laboratory, the largest of its kind | Nick
Series launched | *Ana Barros named to the National Academy*
National Academy of Sciences | *School of Music celebrated its*
Oliver Guggenheim Fellows | May Berenbaum named to the
RIPE project featured—for the second time in two years—
dean of the Carle Illinois College of Medicine | **College of Medi**
Extreme Wind Research Center | *to mitigate the im*
named to a three-year term in the National Academy of Scien
Nahrstedt named to the National Academy of Engineering | Li
and Pablo Perez-Perez won a \$12M from the NIH to
received a 2021 Michelson Prize: Next Generation Grants |
Champaign-Urbana Population Study, a project using the
function | Zhi-Pei Liang and King Li named Fellows of the
Foreign Member of the Chinese Academy of Engineeri
funding to develop a microscope, a precision medicine platform
Soybean Innovation Lab awarded \$5M from USAID for Fe
for Design opened | *UIUC won the International Laboratory F*
awarded first grant to fund consultation and documentati

OFFICE OF THE VICE CHANCELLOR FOR RESEARCH & INNOVATION

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

601 E. John St., Champaign, IL 61820

research.illinois.edu | ovcri@illinois.edu

Follow Us!

@UofIResearch | #IllinoisResearch



UNIVERSITY OF
ILLINOIS
URBANA-CHAMPAIGN