

National Center for Supercomputing Applications

Update for HPC User Forum

I ILLINOIS

NCSA | National Center for
Supercomputing Applications

NCSA's Role

Mission: NCSA leads and supports partnerships around campus, the nation, and the world by developing our staff and leveraging their expertise, experience, and innovation in digitally-enabled scholarship to solve the most scientifically and societally important and challenging problems.

Vision: NCSA envisions a world in which interdisciplinary approaches that leverage advanced computing, data, and data-driven methods are used to create solutions to the most important and challenging problems.

Quick facts: Funding

FY21 Project
Portfolio Value

USD\$415M

FY21 NCSA All Funding
Sources Expenditures

USD\$80M

FY21 Grant
Expenditures

USD\$57M

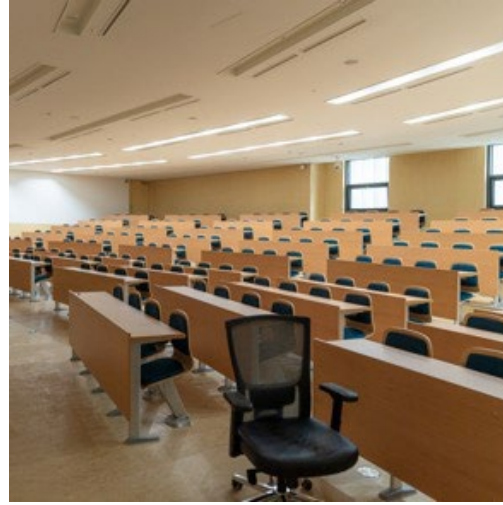


Quick facts: Students, faculty, staff



Staff & Post-Docs

241



Faculty & Campus
Affiliates

179



Departments

58

Colleges/Schools

9

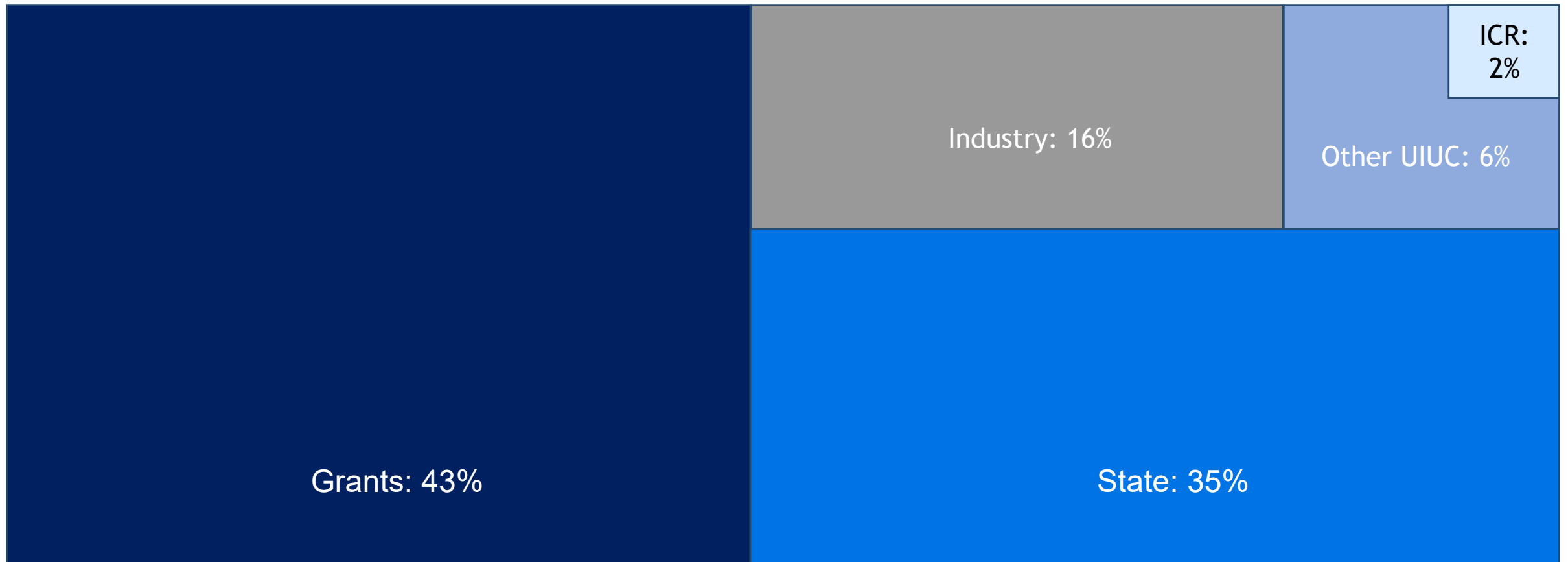


Students

112

NCSA personnel funding

FY21: \$25M



Leadership

Systems & Expertise

- Computing: Delta, HTC, Radiant, Nightingale, iForge
- Expertise: XSEDE (national), state, campus

1



2



Technologies

- AI & machine learning
- Data Science
- Software

3



4



Disciplines

- Astronomy
- Health Care
- Agriculture
- Materials
- Engineering & design

NCSA Industry

- Health
- Manufacturing
- Agriculture
- Energy

Centers & campus project collaborations

Center for
Digital Ag (CDA)
& AIFARMS
& CROPPS

nanoMFG node

NSF Materials
Science NRT
(DIGI-MAT)

Deep Learning
MRI (HAL)

Center for
Astrophysical
Surveys (CAPS)

Center for
Artificial
Intelligence
Innovation (CAII)

Midwest Big Data
Hub (MBDH)

Illinois Mayo
Alliance

Center for
Exascale-Enabled
Scramjet Design
(CEESD)

Healthcare
Innovations
Program Office

Collaborate with NCSA

- Expert technical staff
- Project managers, program & grant administration
- Computing, software, data resources
- Data analytics & visualization
- Educational and DEI programs



Working with NCSA: Technologies

Systems and Facilities

- [Delta \(HPC\)](#)
- [HAL \(ML\)](#)
- [Illinois HTC program](#)
- [Radiant \(cloud\)](#)
- [Nightingale \(HIPAA-compliant\)](#)
- [NPCF Facilities](#)
- Cluster for Cancer Center (coming)
- Innovative ML system (coming)

Data and storage

- [Integrated Data and Database Services](#)
- Storage Enabling Technologies
- [Taiga & Granite](#)

Networking & security

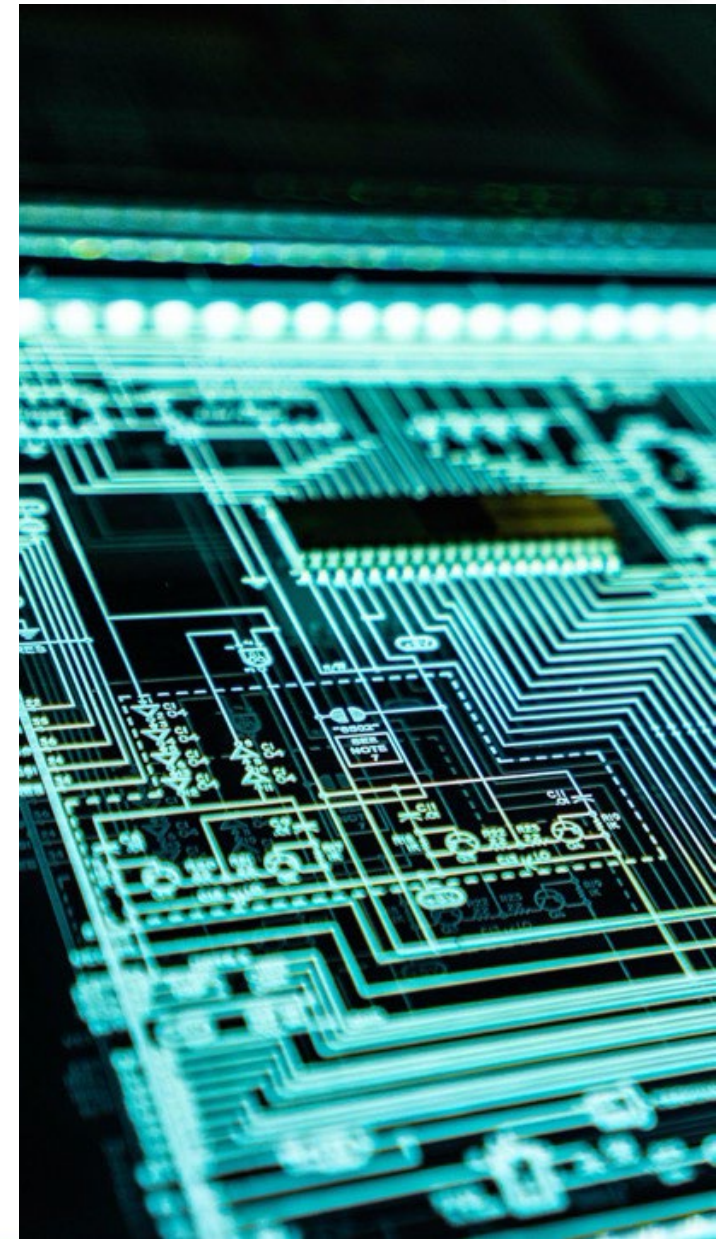
- Cybersecurity
- [Network Engineering and Research](#)

Software

- [Innovative Software and Data Analysis](#)
- [Visual Intelligence Group](#)

Services

- Innovative Technology Services
- Scientific Computing Services & System Administration
- [Advanced Application Support](#)
- [Scientific Engineering Application Support](#)
- Technology Management Group



Working with NCSA: People

For faculty & staff

- [NCSA Fellows](#)
- Faculty Affiliates
- [Fiddler Fellowships](#)

For students

- [SPIN \(Students Pushing Innovation\)](#)
- [REU \(FoDOMMaT\)](#)
- [NCSA International Research Internship](#)
- University of Illinois Student Cluster Competition Team
- [NCSA Frankel Uni High Scholar Program](#)
- [Fiddler Fellowships](#)

Centers

- [Center for AI Innovation](#)
- [Center for Digital Agriculture](#)
- [Healthcare Innovations Program Office \(HIPO\)](#)
- [Midwest Big Data Hub](#)

Labs:

- [Advanced Visualization Lab](#)
- [Data Analysis & Visualization Lab](#)
- [Data Exploration Lab](#)
- [vi-bio lab](#)
- [Innovative Systems Lab \(ISL\)](#)

Programs

- [Computational Science & Engineering](#)
- [NCSA Industry](#)



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