

CI Compass Fellowship Program (CICF)

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CICF Program Goals



Broaden student participation in Cyberinfrastructure (CI) research, development, deployment, and operations

Provides undergraduate student fellows the opportunity to

1. Learn about CI development and MFs
2. Develop CI-related skill sets important to the work of MFs
3. Engage with CI Compass and MF personnel
4. Participate in an optional/invited summer program to apply the skills learnt for a particular MF project



CICF Spring Program

Technical Program

- Learn technical skills relevant to CI
 - Software development, Python, Jupyter, Containers, Cloud, ML/AI relevant to CI and MFs, etc.

Research/DLC Program

- Learn about the importance and context of MFs,
- Engage with guest speakers from MFs and greater the greater CI community
- In groups, students research a specific MF to learn about its science mission, CI, and data.
 - Past students researched RCRV, NCAR, NSO, TACC, MagLab, OOI, and CHESS
 - Students present their research to their peers, CI Compass, and MF guests

Spring Program Schedule

Week	Technical Training Program	Research Training Program
Week 1	Orientation, Linux/Unix Shell, Terminal	Cyberinfrastructure, Major Facilities, the Data Lifecycle. Guest Speaker from the Natural Hazards Engineering Research Infrastructure (NHRI)
Week 2	Introduction to Python Programming	Research Data Management. Guest Speaker from ORCID
Week 3	Python Programming, Jupyter Notebooks, Python Data Analysis Packages	Research Computing. Guest speaker from the Texas Advanced Computing Center (TACC)
Week 4	Best Practices in Software Development: Version Control, GitHub, Pytest	Research and Data Ethics
Week 5	Best Practices in Software Development: Container, Docker	Guest Speaker from the National Center for Atmospheric Research (NCAR)
Week 6	Cloud Computing, Part 1	Major Facilities and the Data Lifecycle
Week 7	Cloud Computing, Part 2	Major Facilities and the Data Lifecycle
Week 8	Chameleon Cloud	FAIR Data
Week 9	Spring Break	Spring Break
Week 10	Data Workflows, Pegasus	Professional Skills, Networking
Week 11	Guest Speaker from the National High Magnetic Field Laboratory (MagLab)	Group Presentations Day 1
Week 12	Machine Learning/AI	Group Presentations Day 2

Spring Program Details

- Virtual and free
- Open to all undergraduate students attending a U.S. university or college, including community colleges
- May be taken for course credit depending on their institution's requirements.
- Fellows are provided up to a \$1,200 travel reimbursement to attend a CI-related domestic conference

CICF Summer Program

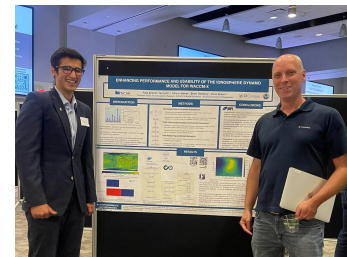
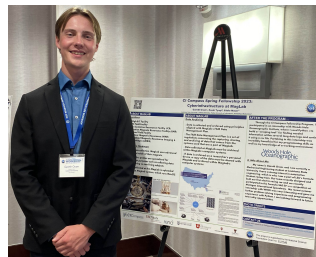
Fellows may apply for an optional, invited, and paid Summer Program to gain hands-on experience.

2022 CICF Summer Program (PILOT)

- Students worked with Chameleon Cloud, Pegasus, and HTCondor to classify lake zooplankton

2023 CICF Summer Program

- Five students placed at NCAR/NEON and 2 students at OOI
- Students worked on a variety of projects



CICF Impact

2022 CICF Program (PILOT)

- Six student fellows participated from two institutions

2023 CICF Program (Year 2)

- 14 student fellows participated from 9 institutions
- 8 female and 6 male students; 3 first-generation
- 6 majors and spanned from 1st years through 5th years

CICF Impact (Year 3)

2024 CICF Program

- 128 applicants from over 50 institutions
- 20 student fellows from 17 institutions and 11 states
- 9 female, 10 male, and 1 non-binary student
- 8 majors spanning from 1st years through 5th years

2024 CICF Summer Program

- Students will be placed at NCAR/NEON, OOI, MagLab, NSO, and Globus/University of Chicago

Ways to Get Involved

Major Facilities can engage in many ways, including:

- Providing feedback on the program structure and content
- Participating as a guest speaker during the Spring Program
- Providing summer opportunities for students
- Spreading the word to students, faculty, or others who may be interested

Contact

If you are interested getting involved, please email cicf@ci-compass.org for further details.

Student Fellowships: <https://ci-compass.org/about/fellowships/>

Thank you from the CICF Team!

- Angela Murilo - CI Compass, Co-Principal Investigator and Director of CICF
- Nicole Virdone - CI Compass, Project Manager and Director of Outreach
- Don Brower - CI Compass, CICF Instructor
- Erik Scott - CI Compass, CICF Instructor
- Sarowar Hossain - CI Compass, CICF Teaching Assistant
- Ewa Deelman - CI Compass Principal Investigator and Director of CI Compass