CI Compass: The NSF Cyberinfrastructure (CI) Center of Excellence for Navigating the Major Facilities Data Lifecycle
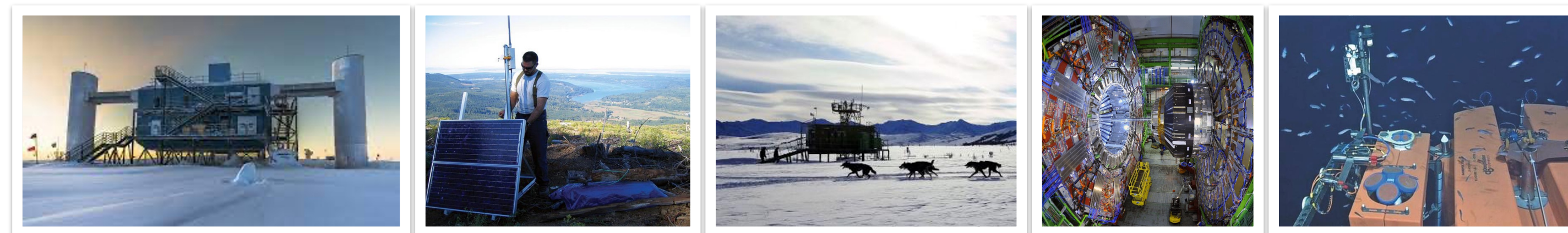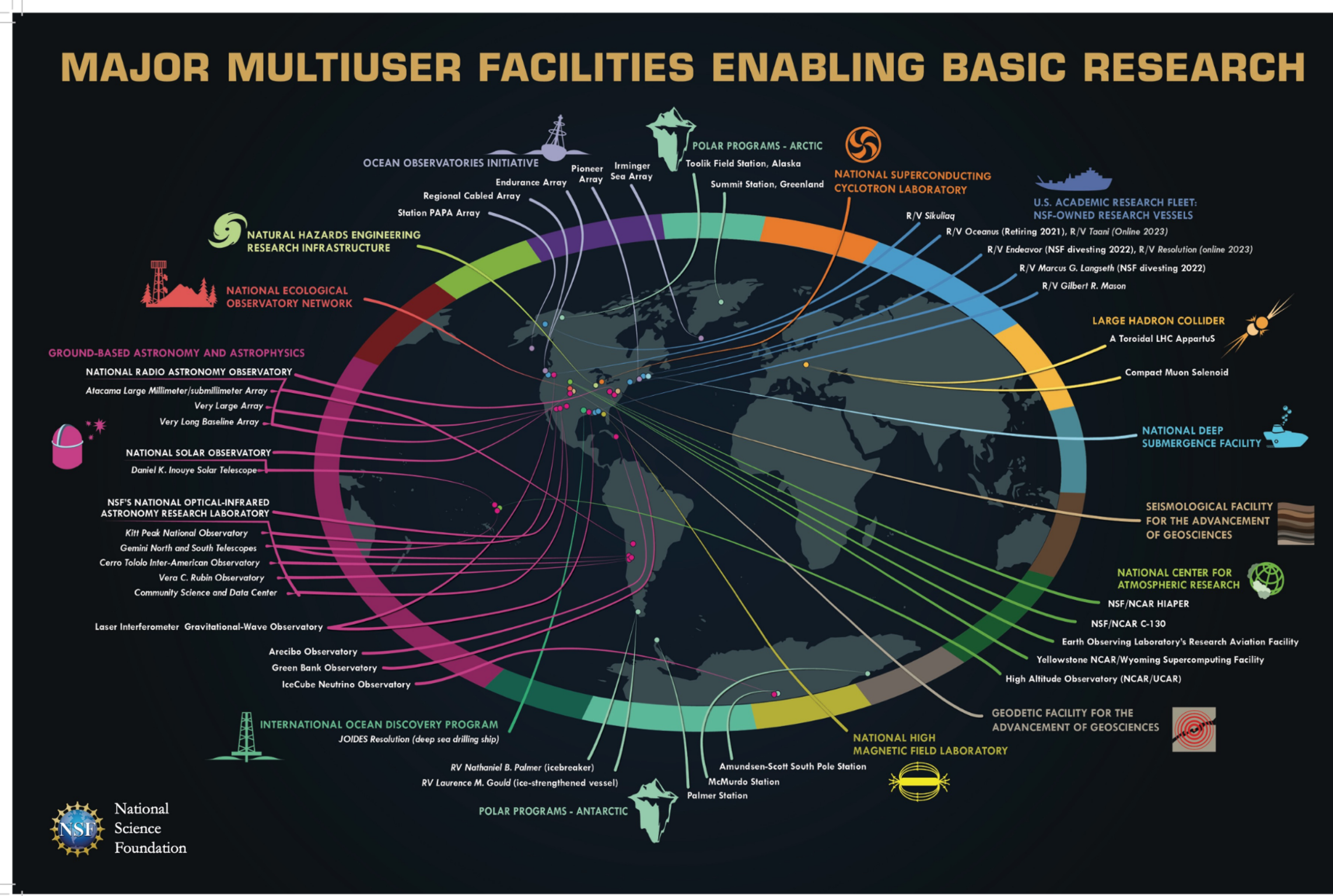
EWA DEELMAN[1], ANIRBAN MANDAL[2], JAREK NABRZYSKI[3], ANGELA P. MURILLO[4], VALERIO PASCUCCI[5], KERK KEE[6], MATS RYNGE[1], KARAN VAHI[1], LOÏC POTTIER[1], RAJIV MAYANI[1], NICOLE K. VIRDONE[1], CIJI DAVIS[1], ILYA BALDIN[2], LAURA CHRISTOPHERSON[2], ERIK SCOTT[2], CHARLES VARDEMAN[3], CHRISTINA CLARK[3], DON BROWER[3], MARY GOHSMAN[3], JOANNE FAHEY[3], STEVE PETRUZZA[5], GIORGIO SCORZELLI[5], ROB RICCI[5], CHAITRA KULKARNI[6]

[1]Information Sciences Institute – University of Southern California, [2]RENCI – University of North Carolina at Chapel Hill, [3]University of Notre Dame, [4]Indiana University-Indianapolis School of Informatics and Computing, [5]University of Utah, [6]Texas Tech University
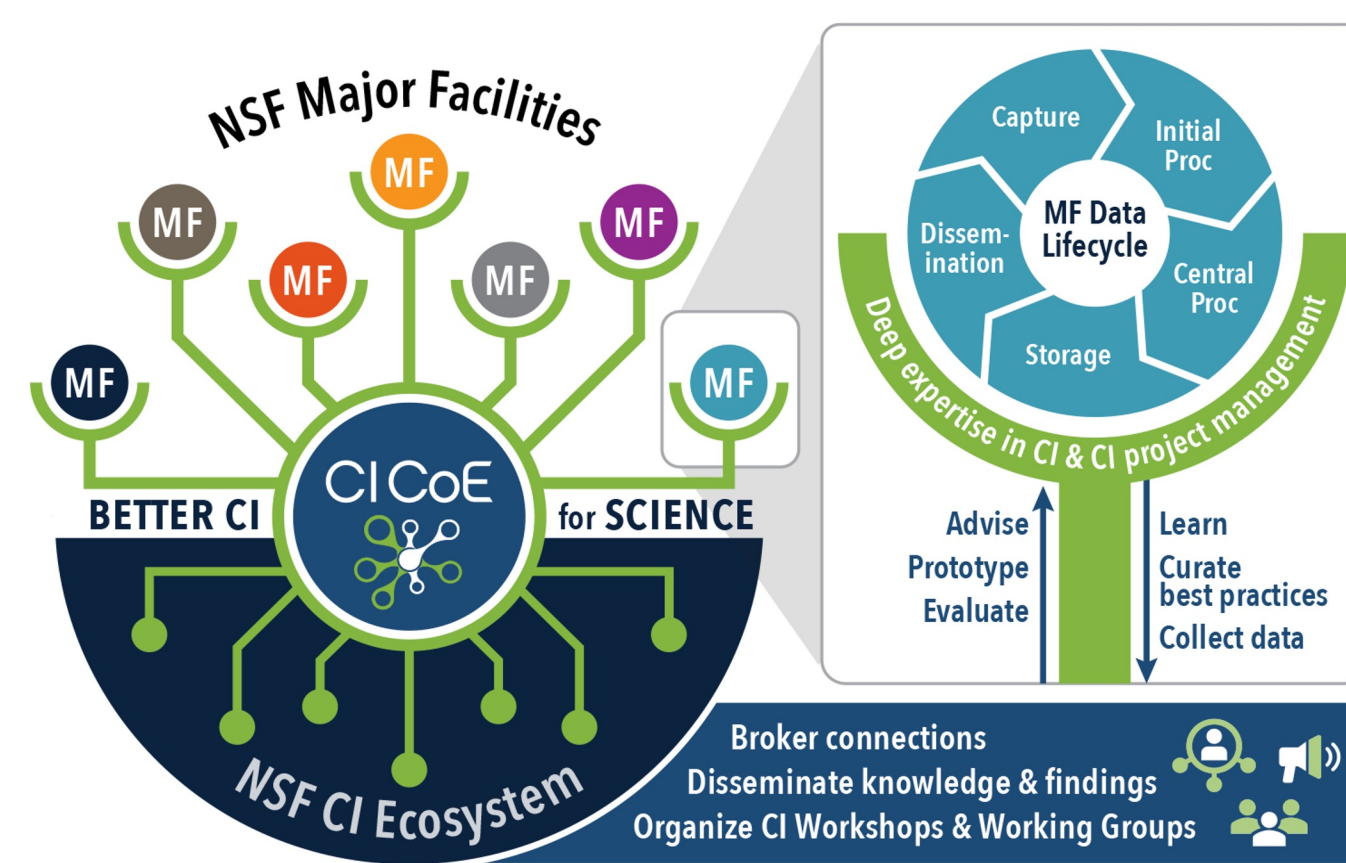
NSF Major Facilities and CI

MAJOR MULTIUSER FACILITIES ENABLING BASIC RESEARCH

Major Facilities (MFs) rely on complex **cyberinfrastructure (CI)** to transform raw data into more interoperable and integration-ready data products

CI Compass: Strategy and Expertise

1. Recognize the expertise, experience, and mission-focus of MFs
2. Contribute knowledge and expertise to the MF Data Lifecycle (DLC) CI and enhance the overall NSF CI ecosystem
3. Build expertise, not software - Leverage existing knowledge, tools, and community efforts
4. Build partnerships to leverage community expertise
5. Broker connections and share knowledge, lessons learned, best practices with MFs, Partners, CI community
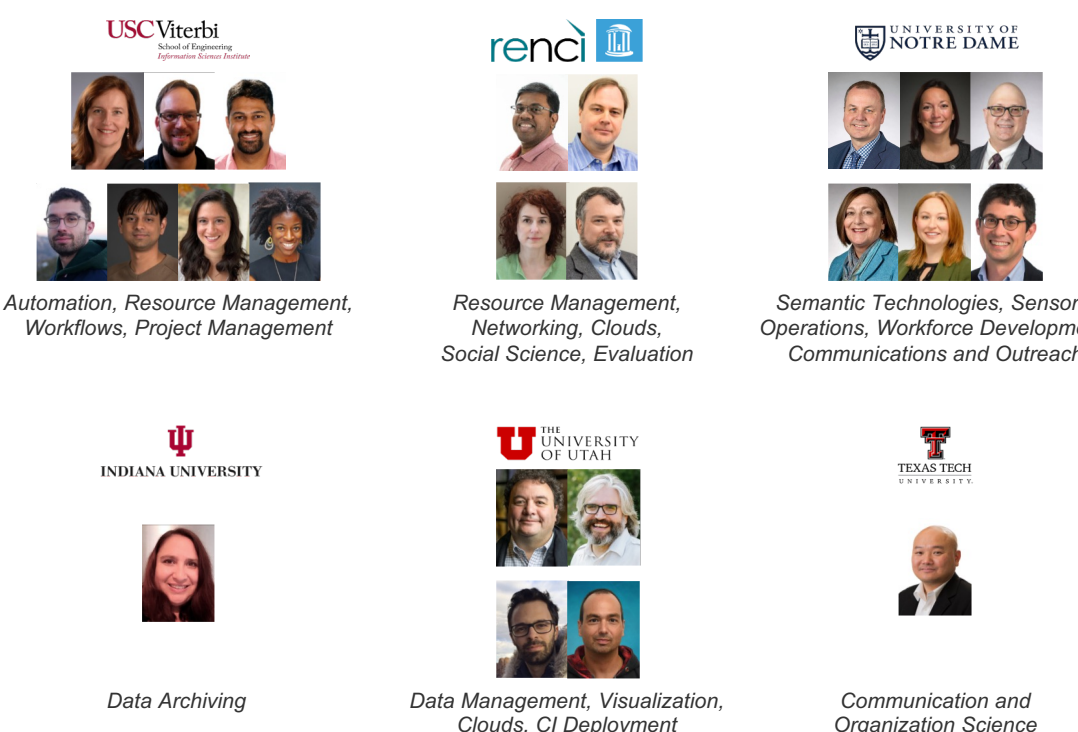
- Deep expertise in several CI areas critical to the MFs
- Highly collaborative, strong experience in the management of CI projects
- History of working together
- Dedicated to the advancement of CI for science, engineering, and education
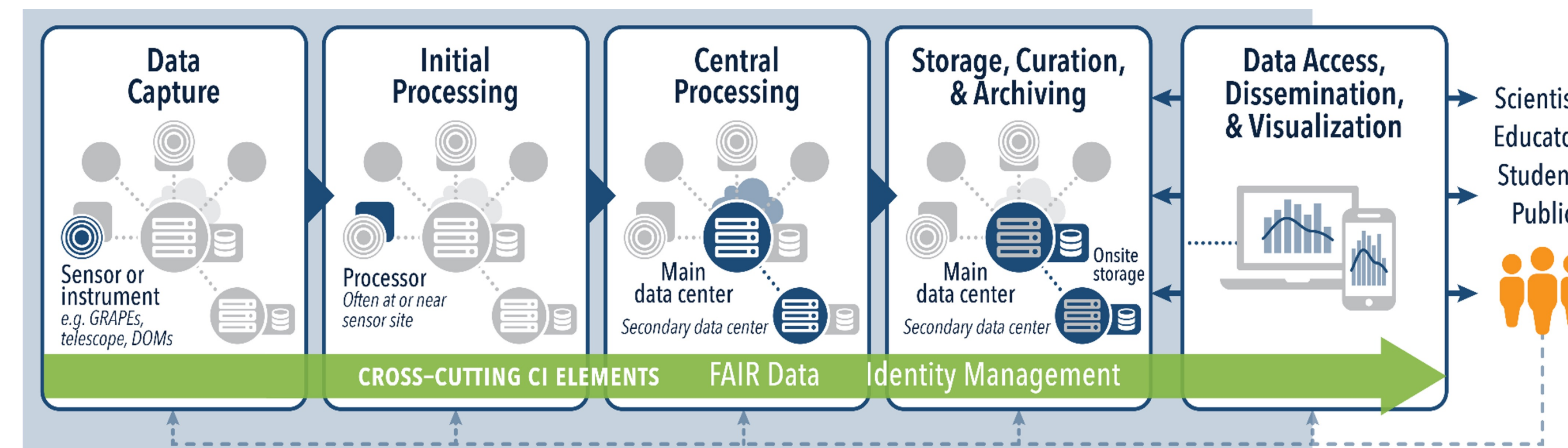
What is CI Compass?

CI Compass provides **expertise and active support to CI practitioners at NSF Major Facilities in order to accelerate the data lifecycle** and ensure the integrity and effectiveness of the cyberinfrastructure upon which research and discovery depend.
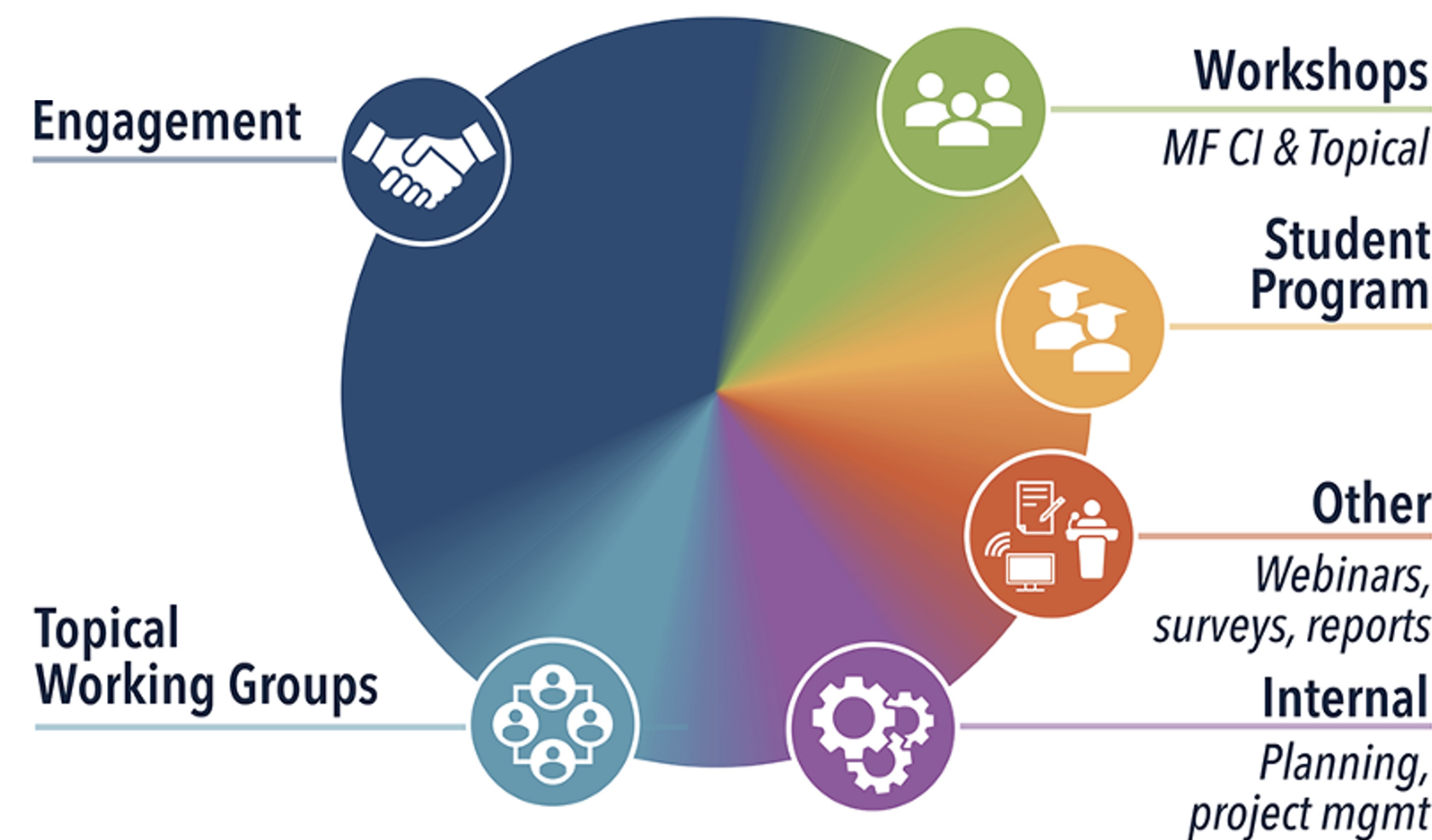
The NSF Cyberinfrastructure (CI) Center of Excellence for Navigating the Major Facilities Data Lifecycle
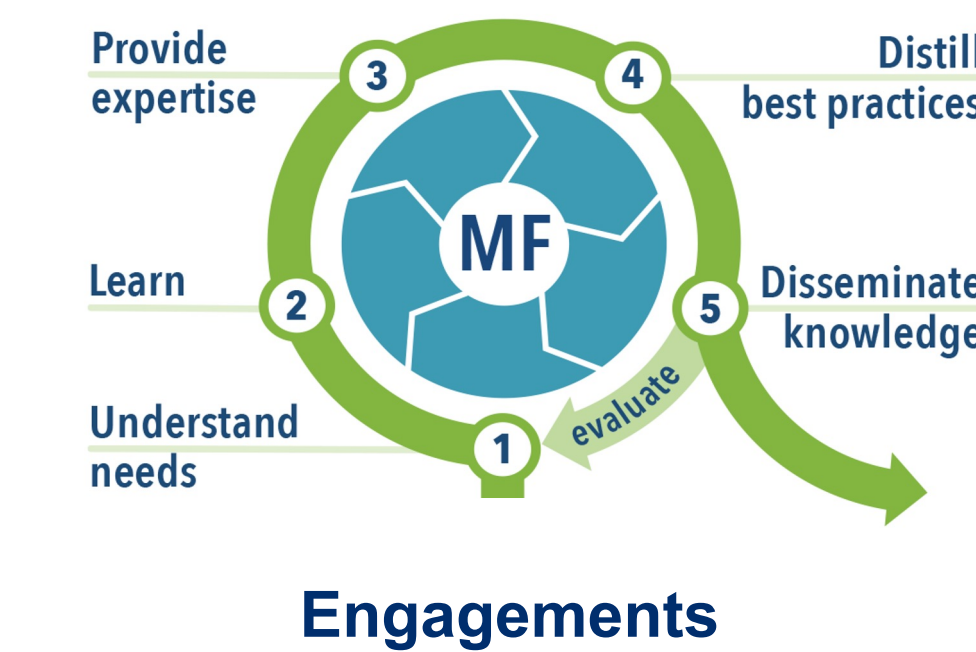
Major Facilities' Data Lifecycle

Evaluate CI plans. Help architect new solutions. Develop proofs of concept. Assess applicability/performance of existing solutions. Help leverage existing technologies.

CI Compass Activities: What We Do

- Engagement
- Workshops — *MF CI & Topical*
- Student Program
- Topical Working Groups
- Other — *Webinars, surveys, reports*
- Internal — *Planning, project mgmt*

CI Compass: Engagements

1. Identify a topic or topics that are important and not-yet fully solved by the MF
2. Form working groups/embed in existing ones
3. Conduct focused discussions and work together on specific challenges
4. Work products: documents/papers, proofs of concept, schema implementations, demos, tech reports
5. Document and evaluate the collaboration and outcomes

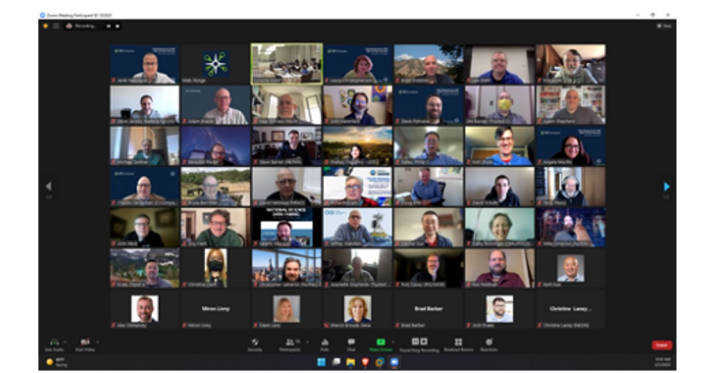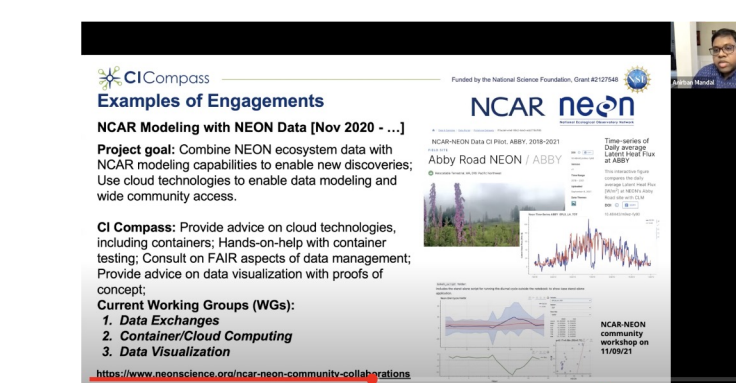**Email engage@ci-compass.org to explore potential engagements with CI Compass**

CI Compass: Topical Working Groups

1. Identify a topic that is important to several MFs and form a topical working group (WG)
2. Facilitate discussions, organize sessions at conferences, collect and share experiences, and distill best practices

Identity Management Topical WG (in Collaboration with Trusted CI) | Cloud Infrastructure Topical WG | FAIR Data Topical WG
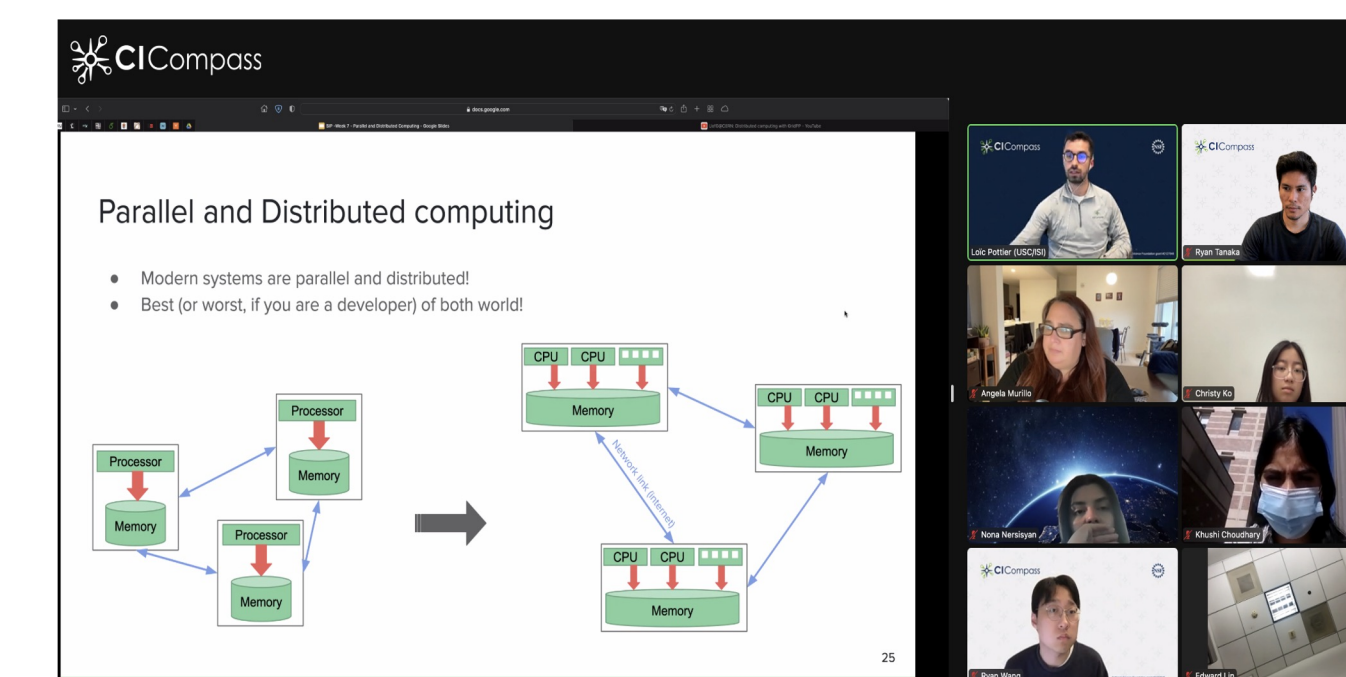
CI Compass: Community Building

1. Share knowledge, build connections
2. Host community activities: workshops, training
3. Identify related efforts
4. Help connect people, projects, and communities
5. Collect information and disseminate information about the broad community activities and training opportunities

2022 Cyberinfrastructure for Major Facilities Workshop
Report: https://tinyurl.com/ci4mf-report-2022

CI Compass Student Fellowship Program

1. Broaden student participation in CI research, development, deployment, and operations
2. Provide student fellows the opportunity to: (a) Learn about CI development and MFs; (b) Develop CI-related skill sets important to the work of MFs, and (c) Engage with CI Compass and MF personnel through a virtual training and research program

2022 Student Fellows Learning about Parallel and Distributed Computing

CONTACT US

- For more information about CI Compass, contact us at contact@ci-compass.org
- To learn more about the CI Compass visit, https://ci-compass.org/