Collaboration Across Institutions: MS-CC Community Use Cases

Jennifer Kim, CI Engineer (jkim@internet2.edu)
Jessica Johnson, CI Facilitator (jmjohnson@internet2.edu)

Learning Goals

- Envision opportunities for collaboration for your campus
- Understand the value of cross-institutional CI collaboration
- Explore MS-CC examples of collaboration
- Become familiar with MS-CC support pathways

5 minutes

Icebreaker: Community Connections

Design your ideal vision for CI on your campus (e.g., a program, course, internship, lab, model, etc.). Consider the vision's:

- ***Goal***
- ***Activities and projects***
- ***Resources needed***
- ***Who benefits?***

After the timer, 1-2 people will share what they designed.

3-5 minutes

Icebreaker: Community Connections

Design your ideal vision for CI on your campus (e.g., a program, course, internship, lab, model, etc.). Consider the vision's:

- ***Goal***
- ***Activities and projects***
- ***Resources needed***
- ***Who benefits?***

example

Icebreaker: Community Connections

- ***Goal:*** *Launch an introductory data science course for undergraduates*
- ***Activities and projects***
- ***Resources needed***
- ***Who benefits?***

example

Icebreaker: Community Connections

- ***Goal:*** *Launch an introductory data science course for undergraduates*
- ***Activities and projects***
  - *Students access real-world datasets from repositories*
  - *Students run code using Jupyter Notebook*
- ***Resources needed***
- ***Who benefits?***

example

Icebreaker: Community Connections

- ***Goal:*** *Launch an introductory data science course for undergraduates*
- ***Activities and projects***
  - *Students access real-world datasets from repositories*
  - *Students run code using Jupyter Notebook*
- ***Resources needed***
  - *Open access instance of Jupyter*
  - *Training in R/Python/MATLAB*
- ***Who benefits?***

example

Icebreaker: Community Connections

- ***Goal:*** *Launch an introductory data science course for undergraduates*
- ***Activities and projects***
  - *Students access real-world datasets from repositories*
  - *Students run code using Jupyter Notebook*
- ***Resources needed***
  - *Open access instance of Jupyter*
  - *Training in R/Python/MATLAB*
- ***Who benefits?***
  - *Undergraduate students*
  - *Faculty who are looking to incorporate computational tools in the classroom*

example

Icebreaker: Community Connections

- ***Goal:*** *Launch an introductory data science course for undergraduates*
- ***Activities and projects***
  - *Students access real-world datasets from repositories*
  - *Students run code using Jupyter Notebook*
- ***Resources needed (this includes people/organizations too)***
  - *Open access instance of Jupyter →* ***OSG/NRP***
  - *Training in R/Python/MATLAB →* ***The Carpentries***
- ***Who benefits?***
  - *Undergraduate students*
  - *Faculty who are looking to incorporate computational tools in the classroom*

Opportunity to learn best practices from other institutions that have executed similar CI goals.

Why Collaboration Matters

"Collaboration in science is essential these days because the knowledge base is so huge now […] Without collaboration, I feel many things would be much harder to accomplish.

We have a lot to learn from each other."

- Chen Weng, Whitehead Institute

Margaux Phares. Collaboration — a key part of scientific discovery. June 20, 2023.

Why Collaboration Matters in CI

- CI is an emerging, interdisciplinary field
- The CI workforce is still small and growing*
  - Thousands of professionals
  - No formal degree programs or certifications
- Collaborative models accelerate the adoption of best practices

*Virtual Residency Intro Workshop Overview. Virtual Residency Workshop 2024, Mon June 24

Collaboration Across MS-CC Institutions

- Nashville Collaborative (MS-CC POCG)

- Mississippi Research Consortium

- Salish Kootenai College and CHTC @ UW Madison

Collaboration Across MS-CC Institutions

- Nashville Collaborative (MS-CC POCG) shares:
  - CI Coordinator
  - CIO time (ABC & Meharry)
  - CI-focused training seminars

Dear VPs for Research, VPs for Academic Affairs, Deans, Faculty, Researchers, and Distinguished Guests:

Faculty research in higher education is continually evolving due to technological advancements, shifting faculty needs and expectations, emerging demands within disciplinary areas, and broader sociocultural influences. Effectively addressing faculty perspectives and requirements during these changes is essential to creating and maintaining a supportive research environment.
This seminar will present key findings from the recent faculty/researcher information technology assessment report. It will focus on critical factors influencing faculty research success, including access to campus cyberinfrastructure and satisfaction with information technology services. Additionally, we will offer actionable recommendations designed to enhance faculty research support in the context of an increasingly dynamic technological environment. To further enrich the seminar, we will also have several subject matter experts present, who will help the audience gain deeper insights into research and education information technology. Find attached the agenda for the seminar.

Outcomes:

- Gain insights from the faculty/researcher information technology assessment report.
- Understand faculty experiences and satisfaction with current information technology services.
- Identify challenges faculty face due to limited information technology support or inadequate cyberinfrastructure.
- Discuss effective strategies and opportunities for enhancing faculty research productivity.

Collaboration Across MS-CC Institutions

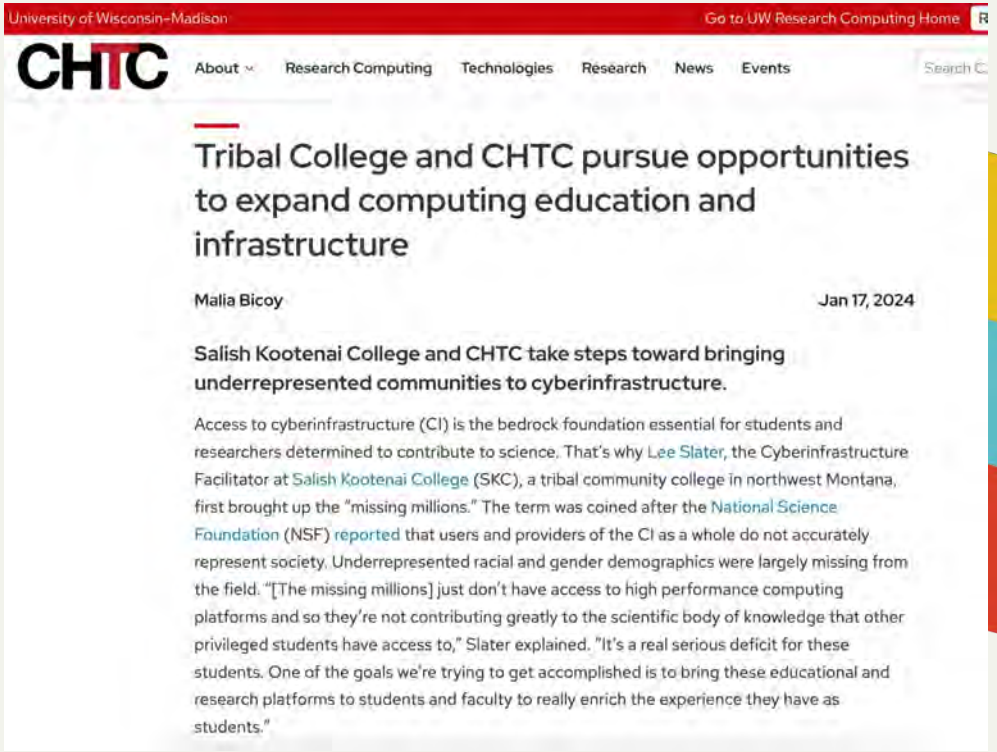
- Mississippi Research Consortium (MRC)
  - Mississippi High Performance Computing Conference
  - Shared connectivity via MissiON

Collaboration Across MS-CC Institutions

- Salish Kootenai College and CHTC @ UW Madison
  - Access and training for a web platform for JupyterHub for students and faculty

SALISH KOOTENAI COLLEGE

CHTC



University of Wisconsin–Madison Go to UW Research Computing Home

CHTC About Research Computing Technologies Research News Events

Tribal College and CHTC pursue opportunities to expand computing education and infrastructure

Malia Bicoy Jan 17, 2024

Salish Kootenai College and CHTC take steps toward bringing underrepresented communities to cyberinfrastructure.

Access to cyberinfrastructure (CI) is the bedrock foundation essential for students and researchers determined to contribute to science. That's why Lee Slater, the Cyberinfrastructure Facilitator at Salish Kootenai College (SKC), a tribal community college in northwest Montana, first brought up the "missing millions." The term was coined after the National Science Foundation (NSF) reported that users and providers of the CI as a whole do not accurately represent society. Underrepresented racial and gender demographics were largely missing from the field. "[The missing millions] just don't have access to high performance computing platforms and so they're not contributing greatly to the scientific body of knowledge that other privileged students have access to," Slater explained. "It's a real serious deficit for these students. One of the goals we're trying to get accomplished is to bring these educational and research platforms to students and faculty to really enrich the experience they have as students."

Collaboration Across MS-CC Institutions: Networking

- Nashville Collaborative and GA Tech (SoX)
- Facilitating engagement with institutional REN for specific support or service exploration

Collaboration Across MS-CC Institutions: Compute

- Jackson State University and UW Madison
- Claflin and Clemson

Honorable Mention
Swarthmore College and Lafayette College *(non-MSI)*

How MS-CC works to encourage collaboration:

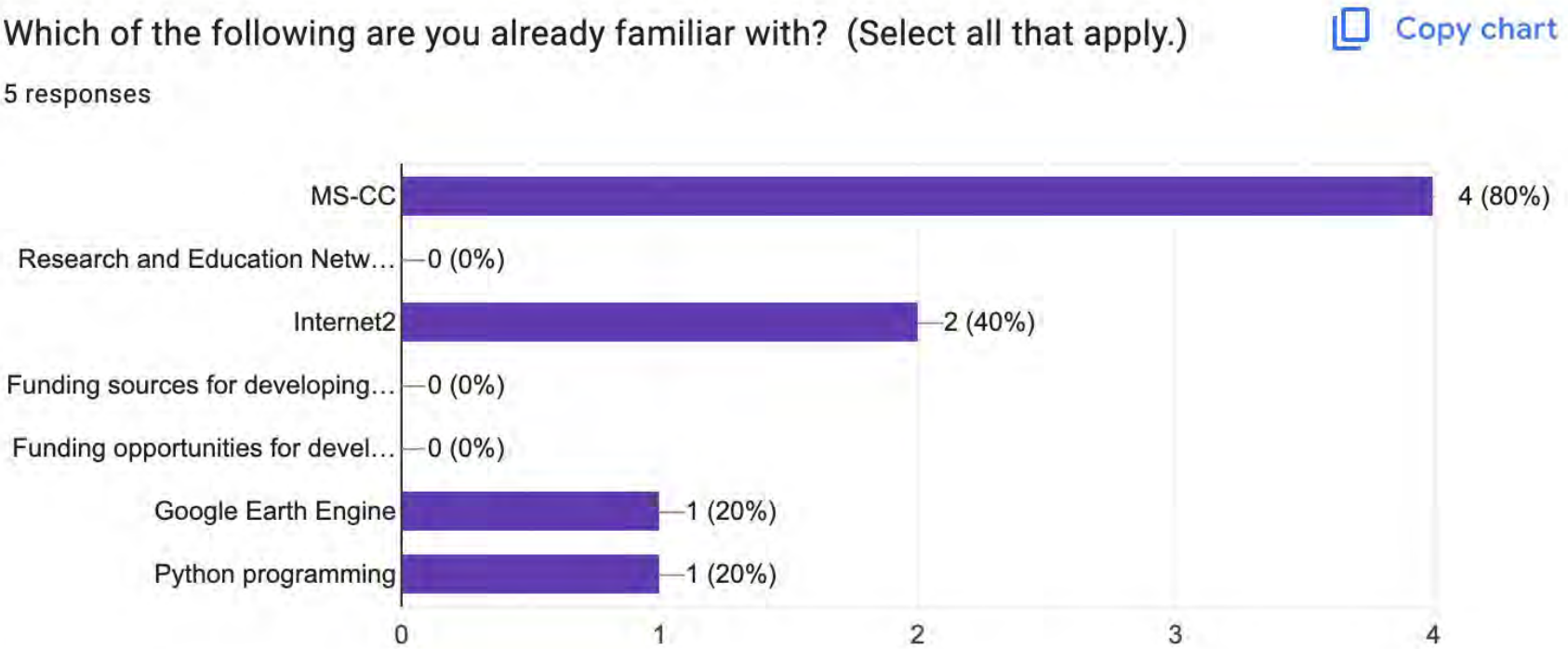
- Communities of Practice: CI Planning, Cybersecurity, and IT Leaders
- Student Internship - cross-institutional mentors
- All Hands Meetings
- Annual Meetings
- Campus Workshops
- Facilitated introductions

Overall, serving as a neutral bridge for institution-to-institution partnership

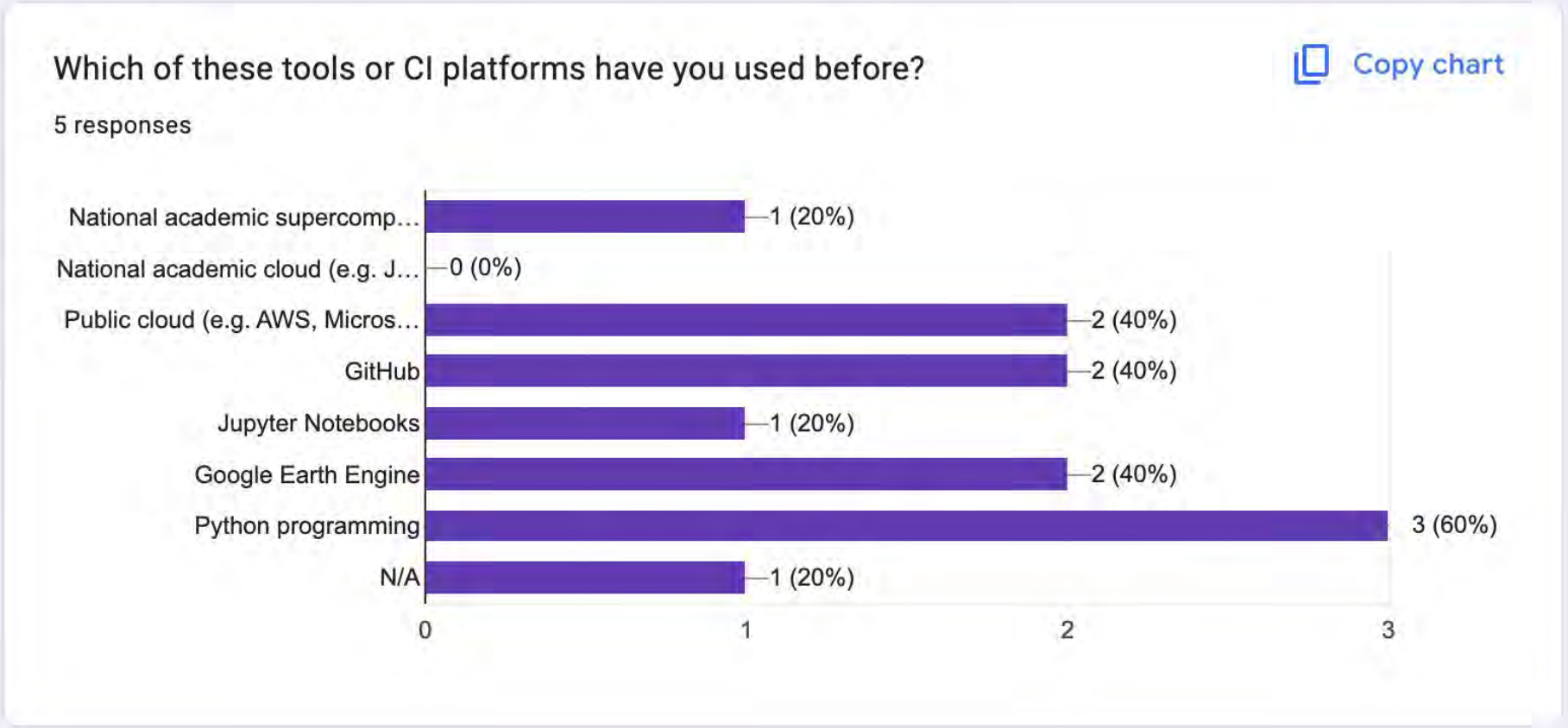
Other Opportunities for CI Collaboration Across Institutions

- NSF ACCESS-CI platform
- University of South Carolina's 'Train-the-trainer' model through their *Cyberinfrastructure Training Lab*
- Campus Champions
- Campus Research Computing Consortium (CaRCC)
- Ask.CI

Pre-Workshop Survey:



Pre-Workshop Survey:



Break

CI Quick Poll:

https://bit.ly/CAUCIQuick

Workshop Resources:

https://bit.ly/CAUMaterials

MS-CC
ms-cc.org