

Midwest Big Data Innovation Hub

Collaboration Cafe

September 2023



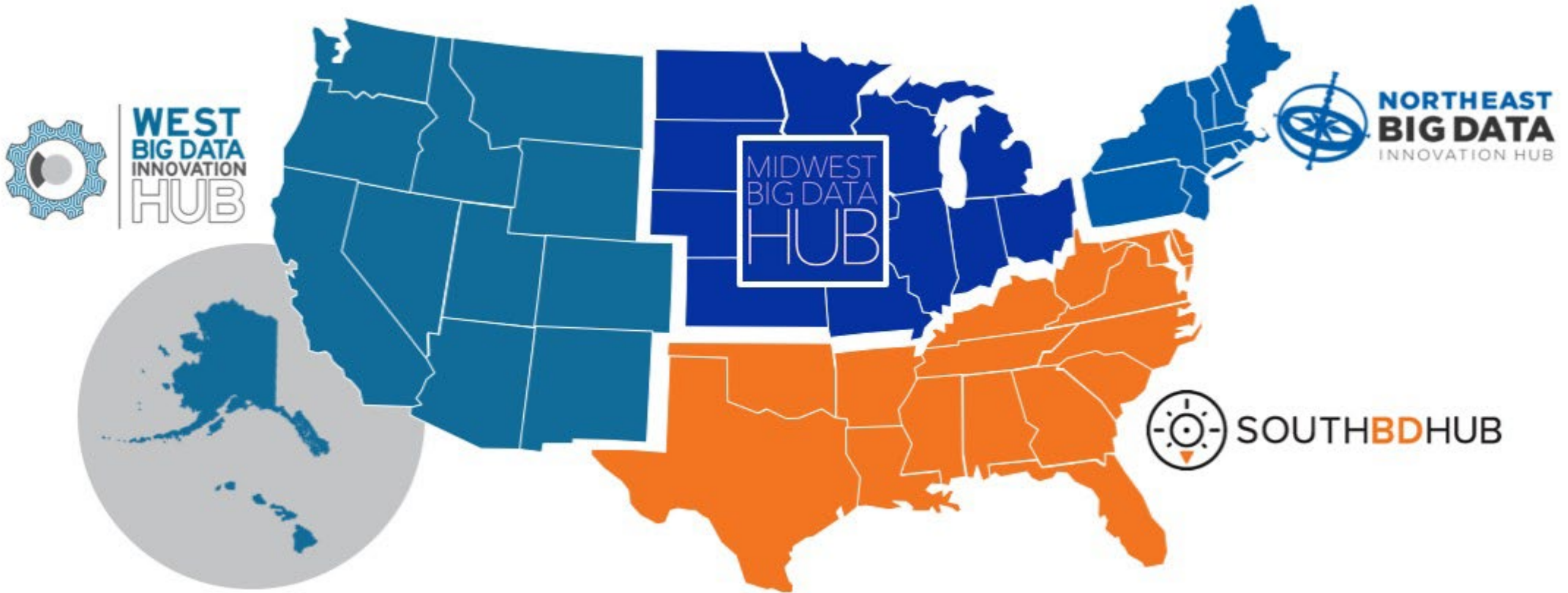
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Four Regional Hubs, One National Mission



What We Do

Engage communities, share resources, and build partnerships that harness data science to address societal and scientific challenges.



Priority Areas and Cross-cutting Themes

- Advanced Materials and Manufacturing
- Big Data in Health
- Digital Agriculture
- Smart & Resilient Communities
- Water Quality
- Data Science Education and Workforce Development
- Cyberinfrastructure and Data Sharing

Collaboration Cafe webinar series

Goals:

- Building regional capacity for large-scale proposal response
- Growing a cross-disciplinary network of data science collaborators
- Elevating early career researchers
- Creating a more diverse data science community by actively engaging with non-R1 institutions, including minority-serving institutions (MSIs), tribal colleges and universities (TCUs), and predominantly undergraduate institutions (PUIs)
- Partnering with industry, government, nonprofits, and civic organizations to support translational research and transition-to-practice activities

Regular segments:

- Funding opportunity walkthroughs
- Researcher lightning talks
- Lessons learned from prior awardees
- Speed networking
- Small group discussions

Collaboration Cafe resources

- MBDH website
 - Web page with upcoming sessions
 - Short form for engagement
- Slack community
 - Networking
 - Input on future sessions
 - New solicitations
- Shared Google Drive
 - Running notes doc
 - Relevant prior awards to Midwest institutions
- YouTube playlist of webinar recordings

Cafe Ground Rules

- Multi-disciplinary team science is a core focus here - all proposal ideas are welcome for discussion
- Research proposals are competitive; some people may not be willing to discuss the details of their projects in this venue
- Private conversations in breakout rooms or Slack private messages are private
- Participating in Collaboration Cafe activities falls under our [NSF Code of Conduct](#)

MBDH engagement on proposals

There are multiple opportunities to have MBDH participate on proposals for CyberTraining, or other projects:

- Engagement partner: Communications, outreach, community assessments, participation in Hub events and activities
 - Non-exclusive Letter of Collaboration
 - Minimal to no funding
- Collaborative partner: Engagement roles + involvement in developing and managing project activities
 - Non-exclusive Letter of Collaboration, subaward, co-PI roles, etc.
 - Funding to recover costs of staff time and other expenses
- **Note:** The MBDH is a neutral party and often provides non-exclusive Letters of Collaboration to multiple proposers to a solicitation

Prior webinars on CI training & workforce development

- September 2021: NSF CSSI and CCRI
- October 2021: NSF CyberTraining
- June 2022: NSF CRII
 - Jenny Li, NSF
- July 2022: NSF SaTC
- August 2022: NSF POSE
 - Peter Atherton and Deep Medhi, NSF
- October 2022: NSF CyberTraining / Regional showcase of new NSF CI awards
- April 2023: NSF CISE Community Research Infrastructure (CCRI)
- May 2023: NSF Campus Cyberinfrastructure (CC*)
 - Kevin Thompson, NSF
- Prior Midwest awards lists ([available via MBDH](#))

Collaboration Café
[YouTube playlist](#)

CI Workforce Development series



- **September 20:** NSF Training-based Workforce Development for Advanced Cyberinfrastructure (CyberTraining) ([23-520](#))
 - NSF guest: Ashok Srinivasan, CISE/OAC
 - Focused on developing training for the “scientific research workforce” around specific uses and broad adoption of CI
 - Includes undergrad and graduate level curricula
- **October 18:** NSF Strengthening the Cyberinfrastructure Professionals Ecosystem (SCIPE) ([23-521](#))
 - NSF guest: Thomas Gulbransen, CISE/OAC
 - Focused on supporting and developing sustainable career pathways for research CI professionals



October Solicitation: NSF CyberTraining



	NSF 23-520	Due January 18, 2024
Tracks	Pilot and Implementation (Small or Medium)	
Size and duration (max)	Pilot: \$300k/2y; Implementation (Small: \$500k/4y; Medium: \$1m/4y)	
Estimated # of awards	18 (max 6 Pilot, 9 Small, 3 Medium)	
Directorate	Multiple; interdisciplinary proposals encouraged (led by CISE/OAC) “The intent of the CyberTraining program is to encourage collaboration between CI and S&E domain disciplines.” [i.e. between OAC and other directorates]	
LOI	No, but proposers are “strongly encouraged” to contact POs at least 1 month before due date to assess focus and budget suitability	
Eligibility limits & guidance	PI/co-PI on only 1 Pilot or Implementation proposal per cycle “Proposals of interest to one or more domain divisions must include at least one PI/co-PI with expertise relevant to the targeted research discipline. All proposals shall include at least one PI/co-PI with expertise relevant to OAC.”	



CyberTraining Communities of Interest

Community	NSF Definition
CI Professionals	This is the community of research CI and professional staff who deploy, manage, and collaboratively support the effective use of research CI. A CI Professionals -related project can address technical and research CI professional skills of current and future <i>CI Professionals</i> , including undergraduate and graduate students, postdoctoral fellows, and research scientists.
CI Contributors	This is the community of computational, data, and domain scientists and engineers who research and develop new CI capabilities, approaches, and methods. A CI Contributors -related project is for discipline-appropriate contributor-level CI skills and advanced domain skills development; the target population spans graduate and undergraduate students, postdoctoral fellows, and researchers who are current and future <i>CI Contributors</i> .
CI Users	This is the community of domain scientists and engineers who effectively exploit advanced CI capabilities and methods for research. A CI Users -related project is for user-level core literacy in discipline-appropriate advanced CI as well as computational and data-driven S&E skills; the target population spans undergraduate and graduate students, postdoctoral fellows, and researchers who are current and future <i>CI Users</i> .



NSF CyberTraining



- New in this round:
 - The CIP track has been removed, and a separate program was created: “Strengthening Cyberinfrastructure Professionals Ecosystem ([SCIPE](#))” with the same due date
- Multi-directorate program – guidance in the solicitation for the interests of each directorate
- See also short-term and long-term impacts in the Program Description
- Pilot projects are for exploratory activities
- Small Implementation projects “make CI training and educational activities or curriculum/instructional materials broadly accessible to a significant portion of a community for one or more disciplines. These projects collaborate with other CyberTraining awards and with other appropriate NSF-funded projects”
- Medium Implementation projects “also foster a community to catalyze the adoption of advanced CI methods or incorporate training resources and materials into the curriculum”



NSF CyberTraining program goals

- “This program seeks to prepare, nurture, and grow the national scientific *research* workforce for *creating, utilizing, and supporting* advanced cyberinfrastructure (CI)”
- Goals:
 - “Ensure *broad adoption* of CI tools, methods, and resources by the research community in order to catalyze major research advances and to enhance researchers’ abilities to lead the development of new CI;”
 - “Integrate core literacy and *discipline-appropriate* advanced skills in advanced CI as well as computational and data-driven methods for advancing fundamental research, into the Nation’s undergraduate and graduate educational *curriculum/instructional materials*.”
 - “Projects should also aim to nurture a diverse and sustainable community of skilled researchers and CI professionals that broaden CI contributions and adoption by underrepresented groups.”
 - “projects should contribute to the larger goals of an educational and research ecosystem that enables computational and data-driven science for all scientists and engineers, with an understanding of computation as the third pillar and data-driven science as the fourth pillar of the scientific discovery process”

NSF CyberTraining proposal elements

- Project Summary (1-page limit)
- Project Description (15-page limit) – must address specific elements
- Budget – include costs for participating in annual CyberTraining PI meeting

Supplementary Documents

- Management and Coordination Plan (2 pages)
- CI Professional Mentoring and/or Professional Development Plan (1 page, if applicable)
- High-Throughput Computing Resources (if applicable)
- Cloud Computing Resources (if applicable)
- Letters of Collaboration (if applicable) (standard template)

NSF CyberTraining



Additional notes

- “Prospective principal investigators (PIs) are *strongly encouraged* to contact the Cognizant Program Officers in CISE/OAC *and* in the participating directorate/division relevant to the proposal to ascertain whether the focus and budget of their proposed activities are appropriate for this solicitation.”
- “each Implementation project must have a board of expert advisors or a network of funded/unfunded collaborators that is representative of the stakeholder communities”
- Projects must include plans for evaluation, including an external/independent evaluator
- Including cloud computing resources in a proposal requires a supplementary document, and budget for this resource is counted toward the budget maximum for the project class, *but is not included in the budget document*
- NSF webinar recording and slides from December 2022 [are available](#)



NSF CyberTraining review criteria

“Additional Solicitation Specific Review Criteria”

1. Rationale for challenges identified for research workforce development;
2. Strength of project’s plan to address one or more of the solicitation goals as stated in the Synopsis of Program above, namely to (a) broaden the use of CI methods and resources by the research community, and/or (b) integrate CI skills into institutional and disciplinary curriculum/instructional material fabric;
3. Potential for scalability and sustainability;
4. Soundness of recruitment and evaluation plan;
5. Effectiveness of proposed “collective impact” strategy to establish a coordination network and a backbone organization (or of an alternative strategy);
6. Soundness of plans to foster a suitable community.

- Pilots: 1 & 2
- Small Implementation: 1-5
- Medium Implementation: 1-6

Discussion

- What gaps and opportunities for CI training exist in the Midwest that collaborators could partner to address?
- What does collaboration look like to you?
- What projects are at the right level of readiness?



Get involved

- <https://midwestbigdatahub.org/cafe>
- info@midwestbigdatahub.org

October 18, 2023

3:00–4:00 p.m. CT / 4:00–5:00 p.m. ET

- Topic: CI Workforce Development
- Solicitation: NSF Strengthening the Cyberinfrastructure Professionals Ecosystem (SCIPE) ([23-521](#))

November 15, 2023

3:00–4:00 p.m. CT / 4:00–5:00 p.m. ET

- Topic: Workforce Development for Biomedical Big Data
- Solicitation: NIH Education Activities for Responsible Analyses of Complex, Large-Scale Data (R25) ([RFA-DA-24-027](#))



Call for Proposals

- Up to 35k Awarded
- Only 4-6 Awards Available
- Prioritizing Midwest Projects
- Focused on Community Building
- Ambitious, but able to be completed by May 2024
- Apply Today!

Learn More:
<https://midwestbigdatahub.org/cde>

Submit via email:
info@midwestbigdatahub.org

Community Development and Engagement Program

Health
Resilient Communities
Water Quality
Cyber Infrastructure
Digital Agriculture
Education