Midwest Big Data Innovation Hub

Collaboration Cafe

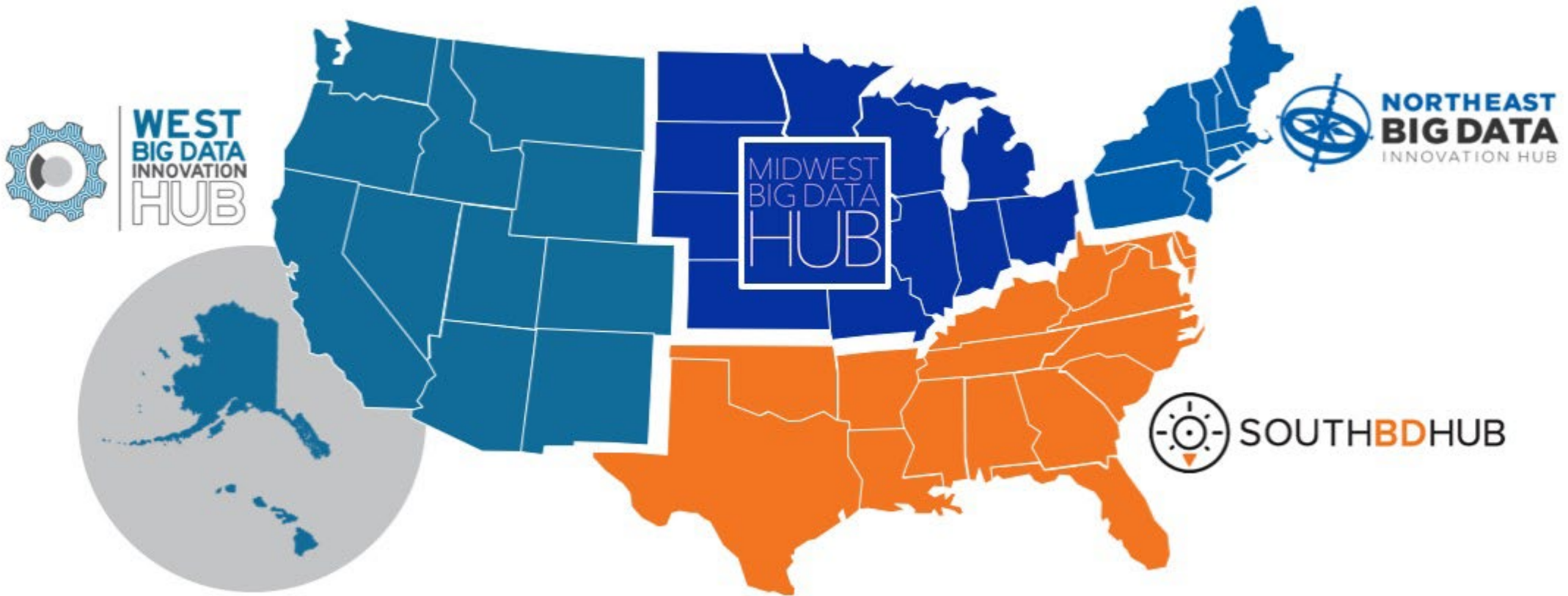**January 2022**

Four Hubs, One Mission

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

BigDataHubs.org

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

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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 this program, or other projects:

- Engagement partner: Communications, outreach, community assessments, participation in Hub events and activities
  - Non-exclusive Letter of Collaboration
  - Minimal to no funding to MBDH

- 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 MBDH 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

IOWA STATE UNIVERSITY

UNIVERSITY OF MICHIGAN

UNIVERSITY OF NORTH DAKOTA

NSF

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January Solicitation: NIH Research Experience in Genomic Research for Data Scientists

R25 PAR-21-075	due May 25, 2022
Program goals	1. Enhance the training of a workforce to meet the nation's biomedical, behavioral and clinical research needs; 2. Encourage individuals from diverse backgrounds, including those from groups underrepresented in the biomedical and behavioral sciences, to pursue further studies or careers in research; 3. Help recruit individuals with specific specialty or disciplinary backgrounds to research careers in biomedical, behavioral and clinical sciences; and 4. Foster a better understanding of biomedical, behavioral and clinical research and its implications
Size and duration (max)	$250k/yr up to 5 years ($1.25m max budget)
LOI/preproposal	LOIs not required, but are encouraged 30 days prior to submission for review planning purposes
Eligibility limits & guidance	"The PD/PI must be an established investigator with significant research funding from NIH (e.g. multiple research grants, a large center grant, or cooperative agreement, etc.) in genomics data science" All PIs must have an NIH eRA Commons account (set up via your institution's sponsored research office; can take 2 weeks)

NIH Research Experience in Genomic Research for Data Scientists

- Important Elements
  - Trainees must be master's degree data science students, who may have limited previous genomics research exposure
  - This is not an institutional training grant (R32), so full-time support for trainees is not allowable; 10-15 hours/wk during academic year, possibly full-time in summer
  - Tuition remission is an allowable cost
  - Some participant costs are allowable (see conditions and restrictions, especially for those already supported under other NIH training mechanisms)

  - Personnel costs may not exceed 25% of the total direct costs in any year of the project
  - Indirect costs are limited to 8% MTDC, not the normal rate

  - Recruitment Plan to Enhance Diversity: Applications lacking a diversity recruitment plan will not be reviewed.
  - An evaluation plan with specific outcomes metrics is also required

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NIH Research Experience in Genomic Research for Data Scientists

The Research Experience plan must include:

- Description of the phases of the research experience with special attention to outcomes (e.g., transition to next career stage, presentation/publication);

- Identification of qualified research mentoring faculty;

- Detailed process for determining the best research experience for each mentee;

- Justification of the selected research areas relative to the goals of this FOA; and

- Milestone plan for participants.

- Program Participants: Applications must describe the intended participants, and the eligibility criteria and/or specific educational background characteristics that are essential for participation in the proposed research education program.

Review Criteria

Scored Review Criteria

1. Significance
2. Investigator(s)
3. Innovation
4. Approach
5. Environment

Outcomes assessment measures:
- Aggregate number and demographic characteristics of participants
- Subsequent educational/career progress of participants, including:
  - Successful completion of a genomic data science Master's program
  - Subsequent employment in a research or research-related field
  - Subsequent participation in a formal research training or career development program in a genomic data science field
  - Subsequent participation in research
  - Subsequent authorship of scientific publications in a genomic data science field
  - Subsequent independent research grant support from NIH or another source

Additional Criteria

1. Protections for Human Subjects (if applicable)
2. Inclusion of Women, Minorities, and Individuals Across the Lifespan
3. Vertebrate Animals protections (if applicable)
4. Biohazards protections (if applicable)
5. Recruitment Plan to Enhance Diversity

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Relevant R25 awards in the region

- Ripan Malhi, Anthropology, Genetics, American Indian Studies, UIUC
  - "Expanding the impact of the Summer internship for INdigenous peoples in Genomics (SING) short course"
  - Train Indigenous students in next-generation genomic and bioinformatics analyses and to build capacity for scientific research of Native American communities. Additionally, the SING program builds a support network for Indigenous scholars in the STEM fields.
  - NIH FOA: Initiative to Maximize Research Education in Genomics: Courses for Skills Development

- Ormond MacDougald, SOM, University of Michigan
  - "Interfacing computation and engineering with digestive and metabolic physiology"
  - Attract and encourage undergraduate students who are majoring in engineering, quantitative and computational disciplines to consider careers in digestive health and metabolism and their related diseases
  - NIH FOA: National Institute of Diabetes and Digestive and Kidney Diseases education program

- Jessica Faul, Institute for Social Research, University of Michigan
  - "Genomic Analysis for Social-Behavioral Scientists"
  - A week-long hands-on summer workshop and series of online modules to build the capacity of social and behavioral scientists to understand and conduct genomic research using NIH-funded resources, such as the Health and Retirement Study (HRS)
  - NIH FOA: Short Courses in High Priority Domains of Behavioral and Social Research on Aging

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Discussion

- Prior experiences with NIH training programs?
  - What would you do differently (or the same)?

- Regional needs and opportunities
  - Where are the gaps?
  - Are there specific disciplinary drivers?
    - Genomics + informatics (bioinformatics, AI, data science, etc)
    - Data science + discipline X
  - What are some of the roles or trends that are driving the need for training?
    - Interdisciplinary research preparation (PhD)
    - Academic staff roles, scientific software, research computing, etc.
    - Training for industry or government roles that combine genomics + data science

- Other topics

Get involved

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

February 17, 2022

3:00–4:00 p.m. CT / 4:00–5:00 p.m. ET :

- Topic: Data in Food and Agriculture
- Solicitation: USDA NIFA Agriculture and Food Research Initiative (AFRI)

March 17, 2022

3:00–4:00 p.m. CT / 4:00–5:00 p.m. ET

- Topic: Funding for Early-Career Researchers
- Solicitation: NSF CAREER program

Get Involved ⌄

MBDH Collaboration Cafe

Community Development and Engagement Program

Community Advisory Panel

Midwest Carpentries Community

Data Science Student Community

Regional Activities

Event in a Box Tool Kit

Explore Funding Opportunities

Join a Working Group

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