

# National Science Foundation (NSF) Advisory Committee for Cyberinfrastructure (ACCI)

Spring (HYBRID) Meeting, April 17-18, 2023

Meeting Minutes

Day 1 (April 17, 2023)

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## ACCI Welcome, Committee Introductions, and Review of Agenda

Dr. Hakizumwami Birali Runesha, ACCI Co-chair

Birali Runesha, ACCI Co-chair, began the Spring 2023 ACCI meeting by greeting everyone on behalf of the co-chairs and ACCI members. Birali Runesha had ACCI members introduce themselves, reviewed meeting logistics, and concluded the session with a review of the agenda.

Members in attendance are listed in the minutes in the Appendix.

## Updates from the Office of Advanced Cyberinfrastructure (OAC)

Dr. Manish Parashar, Office Director, OAC

Manish Parashar provided updates about OAC's strategic directions and recent investments, including investments such as in leveraging regional/local infrastructure, strengthening and democratizing access to NSF-funded cyberinfrastructure (CI), federating data and compute, the Advanced Cyberinfrastructure Coordination Ecosystem (ACCESS) program, and the Minority Serving Cyberinfrastructure Consortium (MS-CC) pilot Center of Excellence, new programs such as Strengthening the CI Professionals Workforce, and strategic leadership in the National Discover Cloud for Climate, National Artificial Intelligence Research Resource (NAIRR), and Public Access and Open Science.

## Updates from the Computer & Information Sharing & Engineering (CISE) Directorate

Dr. Margaret Martonosi, Assistant Director, CISE

Margaret Martonosi began her talk with a few words for appreciation for Dr. Parashar's leadership at OAC. Margaret Martonosi continued with updates on CISE strategic directions, fundings opportunities, key investments, and impacts. These includes the Flight of the RoboBees project as sample of longitudinal impact, CISE's leaderships to advance national and societal priorities through programmatic and policy efforts, the role of CISE and its strategy in a post-Moore's law world, the transcendence of artificial intelligence, designing beneficial sociotechnical systems. She also gave an overview of the budget and

summarized NSF and CISE Infrastructure, Mid-Scale Research Infrastructure 2, and the CSGrad4US Fellowship programs.

## Open Discussion with OAC and CISE Management

ACCI Members

The open discussion began with Birali Runesha thanking OAC leadership for their presentations. Next, Birali Runesha moderated the discussion between NSF staff and the ACCI members. Discussion points included engagement levels of institutions (specifically academic institutions) regarding the CI workforce, progress of the NAIRR, public versus secure reports, CI professionals' awareness of United States Research Software Engineer Association (US-RSE) movement, OAC's role in supporting AI productivity tools, raising expectations across the scientific community regarding Open Access, various dimensions of leadership class computing and the Leadership-Class Computing Facility (LCCF), interagency coordination, [SaTC listening tours](#), opportunities to broaden awareness of best practices across campus communities, and opportunities associated with the Office of Science and Technology Policy (OSTP) memo and its impact on a national level.

## Workforce Development Working Group Report

Dr. Deborah Dent

Deborah Dent introduced the Working Group members and thanking them for their contributions to the working group. Deborah Dent continued by reviewing the Working Group charter, a summary of the report, recommendations, and next possible steps. Valerie Taylor and Birali Runesha commented on the value of the report for OAC. Manish Parashar commented on how the report has already been useful for conversations regarding next steps. David Lassner motioned to endorse the report, Valerie Taylor second the motion. ACCI members voted unanimously in favor of endorsing the report.

## Session with the NSF Director and Dr. Marrongelle

ACCI Members

The Director introduced himself and made opening remarks regarding the value of the ACCI.

Tiziana DiMatteo asked the first question: artificial intelligence (AI) and machine learning (ML), and the required computing and data infrastructure, play increasingly important roles in research and all aspects of our lives. The recent development and use of generative AI has highlighted ethical implications of AI/ML research outputs, which also may extend to research cyberinfrastructure practices. What is NSF current thinking on the ethical aspects and any associated need for new policies and regulations?

The Director responded that sociobehavioural science should be considered and valued during innovation. The SBE and CISE directorates collaborate to discuss these issues and

identify opportunities for lessons learned. There is also value in ensuring AI institutes develop a systemic ethics plan before institutions are launched. The Director continued, saying that NSF has dedicated activities and projects in this space that the foundation is focused on, and that all agencies need to collaborate to discuss these topics. The Director concluded by commenting on the involvement of the National Science and Technology Council in AI/ML.

Juliana Freire asked the second question: federal agencies and the OSTP are releasing guidance to make the outcomes of federally funded research freely available and support open science. At the same time, academic institutions are facing increased cybersecurity threats and the need to strengthen guidelines for security compliance and export controls (NSPM-33). What are your thoughts concerning how the research community balances these requirements in tension between openness and security? And how should we as the ACCI consider this balance in the context of research cyberinfrastructure and large scale NSF research infrastructure?

The Director responded that science is global, and that we need to interact globally because the core features of science include openness, transparency, reciprocity, and research integrity. He continued that the rules of engagement have not changed but there has been a shift in thinking of countries, protecting what they think needs protection. NSF is trying to clarify guidelines and focus on education and awareness, with institutions utilizing training modules so researchers know how to collaborate. The Director continued, emphasizing the value in educating people and disclosing Conflicts of Interest (COIs) to help in the process. NSF is also partnering with various agencies and institutions to ensure that we are doing right by researchers.

Willie Pearson asked the third question: data is still thought of as the 'missing middle,' with investigators increasingly generating all manner of types, sizes, kinds of data, on resources big and small, at different federal and private locations. AI/ML will drive even more data generation at scale. Cyberinfrastructure is central to this but the opportunities and challenges are complex. What is your view on how NSF should address the evolving landscape of research data and support researchers to navigate this (e.g., via support for data services to manage and make data available and reusable, and other kinds of activities)?

The Director responded that NSF wants to be an exemplar in equity, diversity, and inclusion. He continued by commenting that NSF is developing its own approaches to making sure that data that is becoming available is harnessed, harvested, analyzed, and that decisions are more data-driven. The Director added that investing in the campus level and providing equitable access to data provides a foundation to achieve this goal.

The Director also commented on NSF programs, from basic research to infrastructure as well as translational activities, that relate to quantum computing. He highlighted NSF role in the coordination between the NAIRR Task Force, Open Knowledge Network, and other federal agencies.

## Final Thoughts and Adjourn for the Day

ACCI Members

Birali Runesha reflected on hearing more about open access and security.

Valerie Taylor commented on the Director's thoughts on data, and following what happens with NAIRR and the ACCI.

Juliana Freire commented on the benefit of clarity and knowing what is required so we are not overburdened.

Manish Parashar commented on maintaining the balance between research CI and broader IT infrastructure and keeping open access while maintaining cybersecurity. Education and outreach in this area is very important.

Margaret Martonosi commented on the NSF PAPPG that is available for public comment until June 12.

Susan Gregurick commented on the relationship between the Directorate for Technology, Innovation and Partnerships (TIP) and CISE, particularly related to NAIRR and the Open Knowledge Network. Margaret Martonosi confirmed that there is close collaboration.

## Close Day 1 of Spring ACCI Meeting

Dr. Hakizumwami Birali Runesha, ACCI Co-chair

Birali Runesha concluded the day reviewing the start time for Day 2.

Day 2 (April 18, 2023)

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## ACCI Welcome, Committee Introductions, and Review of Agenda

Dr. Hakizumwami Birali Runesha, ACCI Co-chair

Birali Runesha began Day 2 with a review of the agenda and other administrative items.

## Updates from New Working Group

Dr. Rommie Amaro, ACCI Co-chair

Rommie Amaro presented the ACCI Working Group on Data brief.

There was excitement amongst the ACCI members regarding the timeliness of the working group and the value it can bring to the community.

There was an active discussion among the ACCI members about the scope and activities of this working group. The ACCI was supportive and discussed possible next steps in preparation for the Fall ACCI Meeting.

After the break, the discussion resumed focusing on a draft charge for the Working Group on Data Cyberinfrastructure. Valerie Taylor motioned to accept the charge, Claire Porter second the motion. The ACCI members voted unanimously to adopt the Working Group on Data Cyberinfrastructure charge.

## OAC Response to the Committee of Visitors (COV) Report

Dr. Amy Walton, Deputy Office Director, OAC

Birali Runesha introduced Amy Walton, who introduced Carl Anderson. Amy Walton and Carl Anderson reviewed the charge for the COV, the process by the members to review the COV material, the list of COV members, COV timeline, the major recommendations from the report, and the OAC management response to the report.

ACCI members concluded the session with a discussion regarding the issues related to tracking broader impacts, broadening participation in panels, as well as the tools developed to support the COV.

## Reflect on Meeting and Plan ACCI Engagements for the Fall

ACCI Members

Birali Runesha solicited dates for the Fall ACCI Meeting. It was agreed that a Google Doodle poll is the best way to determine members' availability and identify dates for the Fall meeting.

Claire Porter asked for an update regarding the selection of the new OAC Director. Amy Walton provided a status update.

Valerie Taylor noted an update on the progression of NAIRR during the Fall meeting would be appreciated.

Manish Parashar provided a status update on the next steps for the NAIRR Task Force.

ACCI members thanked Manish Parashar for his contributions and collaborative opportunities during his tenure as the OAC Office Director.

Manish Parashar provided comments reflecting on his time as the OAC Office Director.

Birali Runesha thanked everyone for attending the ACCI meeting.

The meeting concluded at 2:17PM EDT.

## APPENDIX 1: Members in attendance

Anita Nikolich
Claire Porter
David Lassner
Deborah Dent
Hakizumwami Runesha
Juliana Freire
Michael Heroux
Padma Raghavan
Patrick Heimbach
Rommie Amaro
Ruth Marinshaw
Susan Gregurick
Valerie Taylor
Tiziana DiMatteo
Willie Pearson

## APPENDIX 2: NSF ADs/Office Heads and OAC Staff

### NSF ADs/Office Heads

<b>NSF Staff</b>	<b>Title</b>
Margaret Martonosi	Assistant Director / CISE
Manish Parashar	Office Head / OAC

### OAC Staff

Gabriel Bishop
Christine Christy
Amy Apon
Juan Jenny Li
Plato Smith
Bill Miller
Amy Walton
Carl Anderson
Alejandro Suarez
Sharmistha Bagchi-Sen
Sharon Broude Geva