Building Resilience to Climate Driven Extreme Events with Computing Innovations: A Convergence Accelerator Workshop

October 27-28, 2022
Welcome Remarks

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Organizers

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The mission of Computing Research Association’s Computing Community Consortium (CCC) is to enable the pursuit of innovative, high-impact computing research that aligns with pressing national and global challenges.

Who
- Council - 23 members
- CCC/CRA Staff
- Chair, VC, & Director

Inputs: Bottom-up, Internal, & Top-Down

What:
- Workshops & Conf. Blue Sky Tracks
- Whitepapers & Social Media
- Reports Out (esp. to government)
- Symposium for DC’ers

Human Development
- Early Career Workshops & Participation
- Council Membership
- Leadership w/ Gov’t (LISPI)
CCC VISIONING WORKSHOPS…

• Engage the community, together with relevant stakeholders, rapidly capturing and synthesizing the important ideas
• Facilitate broad thinking with compelling examples
• Create new avenues for (interdisciplinary) collaboration
• Frame future opportunities in a manner that energizes the community and engages potential funders
• Align with national and computing research priorities
• Articulate needs and barriers to research impact
CCC IMPACT: ARTIFICIAL INTELLIGENCE

- White House Announces Interest in AI, Asks CCC to Lead AI 4 Social Good
  Winter, 2016

- AI 4 Social Good Report Released
  Spring, 2017

- Draft Roadmap Released, Soliciting Community Input
  Spring, 2019

- CCC Holds Several DC Meetings
  Summer - Winter, 2019

- AI Community Roadmap Presented at AAAS
  February, 2020

- CCC AI 4 Social Good Symposium for 400 People
  June, 2016

- CCC Launches AI Roadmap with 3 Community Workshops
  Fall, 2018

- AI Community Research Roadmap
  August, 2019

- Federal National Artificial Intelligence Research Institutes Launched by NSF
  October, 2019
Goals & Expected Outcomes

- Develop and frame ideas to incorporate convergence research and encourage collaboration among stakeholders across disciplines/experiences
- Identify research tracks to include in next year’s program solicitation
  - Research Focus: Building Resilience to Climate Driven Extreme Events with Computing Innovations
- This workshop: draft an outline for this focus and its tracks
  - Evolve/Improve with wider community at virtual meetup on Nov 10
- Identify key computing research building blocks that span impact areas
  - Energy, agriculture, transportation, environmental justice, infrastructure, and more…
  - To expedite innovation and near term demonstrable impact
Workshop Structure

• Four 1-hour breakouts
  – Area framed briefly by expert in the field
    • Today: Energy, Agriculture, Transportation
    • Tomorrow: Environmental Justice
  – Brainstorm computing advances (existing and new) that might be brought to bear on these impact areas
    • Use inspired solutions vs technologies
    • End-to-end, solutions themselves must be climate resilient
  – One person reports out to full group - **pick your scribe/reporter**

• Active participation in breakouts outside of your area of expertise
  – Get outside of your comfort zone
  – Change group membership for different breakouts
Questions for Breakout Sessions

• What use inspired research can be brought to bear on this impact area wrt climate resilience?
  – Perhaps one per person, going around the group
• What do possible solutions (not technologies) for this impact area look like?
• What are the near term climate resilience metrics for success for this area?
• What are the key building blocks in computing research that are needed to expedite innovation in this impact area?
  – Existing versus new
• How do we predict the degree to which these building blocks and/or technologies compose in a climate resilient way?