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*CISE Community Research Infrastructure Program*

*CCRI*

Webinar

Solicitation NSF 19-512  
Tuesday, November 27, 2018

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# Welcome

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- Ken Calvert, Division Director, Division of Computer and Network Systems (CNS)
- Jeremy Epstein, Deputy Division Director, CNS
- Harriet Taylor, Program Director, CNS

Directorate for  
Computer & Information Science & Engineering  
**CISE**



# The CCRI program

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- Develops innovative CISE-centric research infrastructures that support the research of a broad, diverse community of CISE researchers
- Recognizes the evolving, emerging nature of CISE research and disciplines and unique CISE infrastructure needs
- Seeks resources such as testbeds and data sets to validate and evaluate CISE research models and systems
- Views CCRI infrastructure as a suite of components: basic infrastructure, tools, user services, and community outreach



# Focused research agenda

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- CCRI projects center around enabling a focused, CISE-centric research agenda and involvement of a community of CISE researchers
- CISE researchers must lead the effort and have active roles in the development, testing, and management of the resource
- Projects should enable research not possible with currently available infrastructure
- CCRI does not support the actual research itself

A compelling research vision is essential



# Differences in CCRI and old CRI program

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- CCRI supports **Community Infrastructure** only; the CRI Institutional Infrastructure track is not part of CCRI
- The Institutional Infrastructure track is not part of CCRI
- CCRI supports more ambitious efforts with the **Grand Ensemble** project type
- CCRI award limits have been increased in dollars and duration
- CCRI projects must include significant user services, community involvement in development and operation, and community outreach
- CCRI provides a single track, **Enhance/Sustain**, for projects with prior CRI New or Enhancement funding
- CCRI requires **Letters of Intent** rather than Preliminary Proposals



# CCRI submission guidelines

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- Letters of Intent (LoI) due - January 8 , 2019
  - Only the lead of a collaborative group submits a LoI
  - LoI required to be eligible to submit a full proposal
  - Cannot change PI from LoI but can change other personnel
  - See solicitation for exact format of LoI
  - No feedback on LoI
- Full proposals due – February 19, 2019
- An individual may participate in only 1 CCRI proposal as PI, Co-PI, or senior personnel
- No proposals including collaborative pieces from for-profit industry; no funding for industry participants



# CCRI proposal tracks

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- **New community infrastructure**

- Grand Ensemble (**Grand**)
- Medium Ensemble (**Medium**)
- Planning (**Planning**)

This track is for the development of new CISE community infrastructures

- **Enhance/sustain (ENS) infrastructure**

**ENS** track is to develop enhancements to existing community infrastructures and to implement a sustainability plan

Infrastructures that have received **CRI Sustain** awards are not eligible for funding from either CCRI track



# Grand Ensemble type

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- A significant effort by a team to develop an infrastructure and the associated tools, user services, and a broad, diverse user community
- Includes new testbeds and platforms that could help move CISE research forward
- Five year awards with a maximum of \$5 million of funding
- Successful site visit during year 3 required for funding of final two years (years 4 and 5)
- Must include Community Outreach Director and an Advisory Board
- Significant portion of budget (around 25%) must be for community outreach





# Medium Ensemble type

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- Funding for up to 3 years to develop a new CISE research infrastructure and associated user services
- Maximum of \$1.5 Million total per project
- Should involve community in development, testing, and operation of infrastructure
- A bit more modest than Grand projects in scope, teams, work plan, and vision



# Planning type

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- Funding of up to \$100,000 for up to 1.5 years
- Purpose of a **Planning** project is to develop a full Grand or Medium CCRI proposal
- **Planning** proposals must have compelling research focus as a part of the vision
- **Planning** projects center on planning activities and perhaps a modest amount of prototype development and testing
- **Planning** projects usually include funding for community outreach to build community support and get community input into the design of the infrastructure



# Enhance/sustain type

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- Funding for up to \$2 Million for up to three years
- Supports significant enhancements to existing CISE community infrastructure to meet community needs
- Provides for outreach to broaden and diversity the research community
- Includes a credible plan for moving to sustainability during the funding period
- Should enhance user services and tools as well as basic infrastructure
- Proposals must demonstrate success of initial infrastructure and community support for enhancements and continued operation of the infrastructure
- Existing CISE community infrastructures, regardless of the source of initial funding, must submit to this track



# Characteristics of successful CCRI projects

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- Feature a compelling, focused, CISE-centric research agenda
- Have leadership and participation by CISE disciplinary researchers; incorporate teams of researchers with synergistic expertise to develop all aspects of the project
- Include a well-designed and integrated suite of ancillary tools and resources and user services
- Give the research community a voice in the development, management, and future directions of the infrastructure
- Devote significant efforts and funds to community outreach
- Enables CISE research not possible without the infrastructure; has potential to advance CISE research frontiers



# Projects involving datasets

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- Many scientific disciplines rely on the development of validated data sets that can be used to test research models
- CCRI supports creation and curation of data sets needed to support CISE research including benchmark datasets for CISE systems research
- Researchers from other disciplines wanting to develop datasets for their communities should consider one of the many other NSF programs that support data acquisition and development or research focusing on Big Data related to the specific discipline
- Big Data is not sufficient focus for a competitive CCRI project without an underlying CISE-centric research focus

# Who should be PI and Co-PIs

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- People with direct roles in the CCRI project
- People with clear involvement with the underlying research community who can provide overall community leadership and confidence
- Researchers with research expertise relative to the proposed infrastructure
- Not individuals who will simply use the infrastructure for their research
- Typically not dean, department head, or director of computer center



# Letter of Intent Preparation

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- An individual can be listed on only one Lol
- Submit the Lol to the CISE division most closely related to the research focus of the project
- Title
  - Start with project type (Grand, Medium, Planning, ENS)
  - Title should reflect the nature of the research that is enabled
- Synopsis Section (limit 2500 characters)
  - Infrastructure description
  - CISE research focus
  - Estimated project budget (total of all collaborative pieces)
- Other Comments Section
  - Indicate prior CRI funding the infrastructure has received
- Organizational Attribute Section
- Participating Organizations Section
- Additional Information Section
  - Keywords, Other PIs and Senior Personnel, Collaborating Organizations



# Full Proposal Preparation

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- Title – same guidelines as Lol
  - Collaborative pieces all use same title, submit to same division
- The CCRI solicitation has specific guidelines for each CCRI proposal type. Follow the guidelines carefully.
- Required Supplementary Documents
  - Project roles and responsibilities
  - Documentation of collaborative arrangements
  - Year by year community outreach activities table
  - Data management plan (max 2 pages!)
  - Post doc mentoring plan

Do not any other include additional documents and details in the Supplementary Documents section! This can cause Return without Review.





# Budget Preparation

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- Funding salaries
  - Guidelines for faculty, grad students, operations, and technical support
- Equipment cost quotes
- Outreach expenses
- Funds for PI and Outreach Director to attend CCRI community meetings
- Budget justification – align with NSF budget expense categories



# Items CCRI will not fund

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- Institutional infrastructure
- Building/structural renovations
- Infrastructure for use by a single researcher or a closed group of researchers
- Industry collaborators
- Projects to develop general purpose tools not specific to CISE researchers
- Infrastructure focused mainly on educational benefits
- Research enabled by the CCRI project
- Travel to present research results
- Projects that have a non-CISE centric research focus or that do not include leadership and involvement of CISE researchers



# CCRI programmatic review criteria

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- Solicitation contains additional programmatic review criteria for each project type
- Be sure that your proposal clearly addresses the criteria for the type of proposal you are preparing
- Elements that are common to all types:
  - CISE-centric research focus, research vision, community need and involvement, project team with relevant expertise, community outreach plans, project management plan and timeline



# Some other considerations

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- Planned CCRI Community Virtual Organization will provide leadership to the CCRI community
  - All projects must provide information to the CCRI–CVO for prospective users of the infrastructure
- Grand and ENS projects must have Advisory Boards
  - Member of the Advisory Board must be drawn from the broader research community targeted by the project
  - Members cannot be from organizations receiving the CCRI award or the collaborators of the PIs
- Evaluation and tracking essential



# Concluding Remarks

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- CCRI resources will support and enable existing and new research communities and lead CISE discoveries
- Talk with the CCRI team member in the division or disciplinary area related to your CCRI project if you have additional questions or need information
  - Harriet Taylor or Mimi McClure (CNS)
  - Sankar Basu (CCF)
  - Wendy Nilsen (IIS)



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# Questions from the audience

