Computer & Information Science & Engineering (CISE)

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Computer and Information Science and Engineering

http://www.nsf.gov/CISE
Where does bio research take place in CISE

CCF – CCF Core **NSF 18-568**
- Biology related research
  - CIF: Signal processing, information theory, communication network
  - SHF: Hardware, Software
  - AF: Algorithms, theory
  - **FET: A new cluster**

IIS
- Biology related research

**Small Projects: Nov 15, 2018**
**Medium Projects: October 2, 2018**
FET Cluster:

Biological Systems, Science & Engineering: Topics of interest include, but are not limited to: understanding the complexity of biological systems via algorithmic, mathematical, and/or stochastic modeling techniques for simulation and analysis of biological systems and biochemical networks at multiple scales; and using the computing power of bio-molecules in designing systems that complement and extend the capability of silicon-based computing systems.

Neuromorphic Computing and Architecture: explores opportunities in hardware architectures inspired by the human brain, particularly those enabling synergistic use of materials and device technologies, along with their efficient implementations.
Where does bio research take place outside CISE

**BIO Directorate**
- Biology related research
  - MCB Division – *Systems and Synthetic Biology*
  - *Advances in Biological Informatics*

**ENG Directorate**
- Biology related research
  - *Engineering Biology & Health Cluster*

**MPS Directorate**
- Biology related research
  - *Mathematical Biology*
“AI is the universal connector that interweaves all of our Big Ideas; data science is changing the very nature of scientific inquiry, and AI’s use of data has the potential to revolutionize everything we do in science.”

F. Cordova, Director, NSF, 9/11/17
Understanding Rules of Life (Multiple Directorates including CISE)

**NSF 18-031** Dear Colleague Letter: Rules of Life (RoL): Forecasting and Emergence in Living Systems (FELS) – supported EAGERS and RAISES

**NSF 17-557** Semiconductor Synthetic Biology for Information Processing and Storage Technologies (SemiSynBio)

Watch this Space!
Growing Convergence Research (Multiple Directorates including CISE)

Convergence
- blends scientific disciplines in a coordinated, reciprocal way and fosters the robust collaborations needed for successful inquiry.
- builds and supports creative partnerships and the creative thinking needed to address complex problems.

Watch this Space!
CISE is committed to supporting early-career faculty

Faculty Early Career Development (CAREER) Program

Integrating research and education efforts

One of NSF’s most prestigious awards for faculty beginning their independent careers who exemplify the role of teacher-scholars.

CISE Research Initiation Initiative (CRII)

Jumpstarting research independence

Open to faculty in first two years of an independent academic position to recruit and mentor undergraduate and graduate students, enabling a subsequent stream of discoveries and innovations. First awards in FY15.

Proposal Writing Workshops, Aspiring PI Meetings, and Early-career Workshops

Strengthening research and education activities through community

Introduces early-career faculty to NSF, merit review process, and peers and senior researchers in their field.
• Subscribe to get NSF updates by email at www.nsf.gov.

• Subscribe to receive special CISE announcements:
  • Send a message to: join-cise-announce@lists.nsf.gov with no text in the subject or message body.

• Visit the CISE website: http://www.nsf.gov/CISE

• Talk to Program Directors: http://www.nsf.gov/staff/staff_list.jsp?org=CI SE&from_org=CISE.

• Follow CISE on Twitter @NSF_CISE.

• Volunteer to serve as a reviewer

• If you have an NSF award
  ✓ maintain a website
  ✓ Submit annual report on time

• Keep the PD in the loop for events happening in your funded project
Suggestions about Proposal preparation

• Problem with motivation
• Expertise
• Technical Approach
• Collaboration
• Data and Technology
• Software interoperability
• Validation
• Sharing
• Education and Outreach
Still more suggestions ... (What not to do)

- Writing the proposal in the last minute
- Using lots of acronyms only known to domain experts
- Not mentioning relevant work or citing unrelated papers
- Not comparing your approach
- Recycling an old proposal without revising
- Not paying attention to typos, formatting ...
- Never discussing co-PIs role
- Not discussing a viable alternative approach
- Lackluster Education Plan
Questions or Comments

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