National Science Foundation

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Some issues, some opportunities:

- The STEM faculty pipeline
- Some things old, some things new

The faculty pipeline:

- the STEM workforce problem
- Mentoring young faculty
- CAREER mentoring
- Career-Life Balance
- International supplements (stay tuned)

Building your infrastructure:

- MRI Program (Major research infrastructure)
- CRI Program (Computing Research Infrastructure)
- Office of Cyber Infrastructure

Some cross-cutting and other programs

•**Science, Engineering, and Education for Sustainability (SEES)** is a portfolio of activities that highlights NSF's unique role in helping society address the challenge(s) of achieving sustainability.

• **Smart Health and Wellbeing (SHB) Program** seeks to address fundamental technical and scientific issues that would support much needed transformation of healthcare from reactive and hospital-centered to preventive, proactive, evidence-based, person-centered and focused on wellbeing rather than disease.

The issues to be addressed include, but are not limited to, sensor technology, networking, information and machine learning technology, modeling cognitive processes, system and process modeling, and social and economic issues.

Some cross-cutting and other programs

Cyber-physical systems Program (CPS) -- CPSs are engineered systems that are built from and depend upon the synergy of computational and physical components. Emerging CPS will be coordinated, distributed, and connected, and must be robust and responsive.

The CPS of tomorrow will need to far exceed the systems of today in capability, adaptability, resiliency, safety, security, and usability.

Examples of the many CPS application areas include the smart electric grid, smart transportation, smart buildings, smart medical technologies, next-generation air traffic management, and advanced manufacturing.

Some cross-cutting and other programs

The Core Techniques and Technologies for Advancing Big Data Science & Engineering (BIGDATA) solicitation aims to advance the core scientific and technological means of managing, analyzing, visualizing, and extracting useful information from large, diverse, distributed and heterogeneous data sets so as to: accelerate the progress of scientific discovery and innovation; lead to new fields of inquiry that would not otherwise be possible; encourage the development of new data analytic tools and algorithms; facilitate scalable, accessible, and sustainable data infrastructure; increase understanding of human and social processes and interactions; and promote economic growth and improved health and quality of life.

The new knowledge, tools, practices, and infrastructures produced will enable breakthrough discoveries and innovation in science, engineering, medicine, commerce, education, and national security -- laying the foundations for US competitiveness for many decades to come.

Some cross-cutting and other programs

- REU Sites
- RETs
- REU Supplements
- OISE Opportunities (Catalyzing International Collaborations, Partnerships for International Research and Education (PIRE-SEES), etc.)
- DUE Curriculum Programs
- Cyber Learning Transforming Education
- Cyber Infrastructure for the 21st Century

Questions?