CCC Presentation to NSF
November 18th, 2014
Discussion

- CCC-Does NSF have specific outreach to industry?
    - NSF- We fall short when it comes to industry. The only time we have interactions with industry is when we have a rotator or a visitor, but that is rare.
- CCC-At our workshops we try to get a good mix of people. We are opening up these conversations, but we are always thinking about what we can do next.
- NSF-Have Google and Amazon been at these discussions?
    - CCC-We are trying to get them more involved
- NSF- In CPS, we are trying to branch out to industry. We actually had a presenter from industry who gave a presentation on the "internet of safe things." As part of our last solicitation, one of the things we were concerned about is the transition into practice. When you talked about manufacturing, one of the things that is critical is manufacturing research. Who is on the manufacturing committee? Is it just CS people? Or does it extend to those people who really build things?
- CCC-The workshop we ran in October had a number of industry people.
- NSF- Manufacturing is an important part of CPS. The interdisciplinary perspective is important.
- CCC-What sorts of interactions occur between CISE and data industry?
    - NSF-The academic role with industry is so ingrained. Will industry hire our students? Will we get funding?
    - NSF- Lot of conferences have industry sessions. What problems can we work on that we are not beating the dead horse? How do we do relevant research? How do we position academic researchers so they can work?
- CCC-Academics can't do anything relevant because industry is way ahead.
- NSF- I have some PIs who leave academia to go into industry.
- NSF-How do you distinguish your workshops from the ones that NSF runs in terms of length and engagement. Is CCC doing anything different?
    - CCC-We do not have lengthy presentations from one person (maybe only a few keynotes). We do lightening talks or quick presentations. Sometimes we allow people to do 1-pagers. Give people the opportunity to do that, but get it over with.
- CCC- We put together a "how to guide" on how to write a proposal or how to run a workshop.
    - NSF- We would like to see that.

CRISP: Critical Resilient Infrastructure Systems and Processes, a cross-directorate program from CISE, ENG, SBE Presentation (http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504971)

- Looks to explore critical infrastructures interdependencies between national economy, security, and health
- How do we take research expand it and then broaden it?
- Look at infrastructures as systems and processes
    - Talk about communications across and within infrastructures
- Interdisciplinary paradigm integrating:
    - Cyber-physical
    - Engineering
    - Social, behavior and economic (SCB)
- Goals
    - Foster interdisciplinary research
    - Enhance understanding of ICI design and processes
- CCC- What extent are you looking at present day systems and older systems?
    - NSF-We are looking at both. You make it vague and broad as possible so that anyone with an idea can submit a proposal.
- All the participants can come from the same institution
    - Make the case that the team can do the work
- Awards have been made and are posted online
- CCC-Have you done any workshops to get the word out about this program?
    - NSF-No not any workshops. We did some socialization within the CPS program. We will have a webinar
- CCC could do a guest blog post

Big Data Presentation
New CISE Senior Advisor for Data Science Chaitanya Baru and others

- Chaitanya Baru- new CISE Senior Advisor for Data Science
- Big Data Solicitation
    - Connect big data needs and agenda to problems
    - Involve folks from different directorates
- NRTD strategic plan workshop at the end of Jan
    - Will have 40 or so participants from academia
- Also trying to do a number of workshops with NIH
    - Sustainability
    - Reproducibility
    - Big data
    - Data science education and training
- Wendy Nelson NSF/NIH
    - See people at NIH sitting on data sets, wants them to be accessible to computer scientists
    - Possibly have a series of workshops

- CCC- We are organizing a workshop on data sharing who should we talk to?
  - NSF- Talk to Chaitanya Baru
- Comments from Big Data Working Group program officers
  - How do we address obsolete software?
    - It is a big issue
  - Two types of data
    - Data collection
    - Offline analytics
  - With NEON it is unique, using algorithms and very structured data modeling
    - Remote sensing
    - Lots of opportunity for more advanced data simulation tools
  - One of the difficulties is working across disciplines
    - Instrumentation
    - Risk by trying something new
    - Once we get into this program getting some good success stories out there will be useful
  - SBE deals with senses data and multi year systems
    - Econ faculty members and students are getting more involved with data mining
- Statistics
  - How to deal with data
  - Understand the limit
  - Statistics is fundamental to big data
- What extent should we connect domain science with applied mathematics?
  - How do we do this?
  - Human behavior, academic culture, when you boil it down it is much more about that then it is about the technical issue