



# **Science and Technology Centers: Integrative Partnerships for Innovation**

*New Solicitation Anticipated  
with Spring 2011 preliminary proposal deadline*

**A Brief Overview  
for SBE Scientists**

# Social, Behavioral and Economic Sciences (SBE) and Science and Technology Centers (STCs)

- **Science and Technology Centers** are
  - *large-scale, long-term* (\$1.5 to \$5 million per year for 5 years with possible 5-year renewal ),
  - *multi-institutional* (typically 5-10 institutions involved),
  - dedicated to important, innovative science and/or technology undertakings.
- They involve large teams (approx. 15-70 researchers), are typically interdisciplinary, and they make large contributions to education (approx. 20-140 students).
- They contribute to society in general as well as to science and to the scientific workforce.
- They can focus on any kind of science and/or technology, including **social sciences**.

To succeed in an STC competition, teams will have to develop exciting, scientifically promising visions for collaborations that promise major important breakthroughs and that would not be possible without this sort of large-center mechanism. Bring together the very best scientists and institutions. Think Nationally and Globally.

Think BIG: If you could assemble all the key assets, what could be achieved?



# **A New Solicitation for STCs: Anticipated Dec 2010 or Jan 2011**

- Pre-Proposals, defining the vision and the full team, should be due some time in April or May.
- To compete successfully, PIs will need to begin team building early. Start planning NOW!
- Institutions will most likely not be allowed to submit more than 3 pre-proposals as lead institution. Be sure to consult your institution.



# Examples: NSF's newest STCs

## Center for Energy Efficient Electronic Science (E3S)

- Mission: To develop the device, science, and technology, that will reduce energy consumption in electronic systems by orders of magnitude—opening a new frontier in the information technology revolution. To inspire and train a diverse generation of scientists, engineers, and technicians who will build this new science to benefit society.

[http://berkeley.edu/news/media/releases/2010/02/23\\_nsf\\_award.shtml](http://berkeley.edu/news/media/releases/2010/02/23_nsf_award.shtml)

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## Center for Dark Energy Biosphere Investigations (C-DEBI)

- Mission: Explore life beneath the seafloor and make transformative discoveries that advance science, benefit society, and inspire people of all ages and origins.

<http://www.darkenergybiosphere.org/>

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## Center for the Study of Evolution in Action: BEACON

- Mission: Illuminating and harnessing the power of evolution in action to advance science and technology and benefit society.

<http://www.beacon-center.org/>

## Emergent Behavior of Integrated Cellular Systems (EBICS)

- Mission: To create a new scientific discipline for building living, multi-cellular machines that solve real world problems in health, security, and the environment.

<http://ebics.net/>

## Emerging Frontiers of Science of Information (EFSI)

- Mission: Advance science and technology through a new quantitative understanding of the representation, communication, and processing of information in biological, physical, social and engineered systems.

<http://www.insideindianabusiness.com/newsitem.asp?ID=40297>



# First Steps:

- Review the previous STC solicitation and FAQs. They should be significantly similar to any new one:  
[http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=nsf08059](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf08059)  
<http://www.nsf.gov/pubs/2008/nsf08059/nsf08059.jsp>
- Explore NSF's STC website to understand the scale and nature of these Centers:  
<http://www.nsf.gov/od/oia/programs/stc/>
- Develop your Vision and Team.
  - Think *Scientific Breakthroughs*: What specific scientific ideas/approaches could yield breakthroughs?
  - Think *Synergy*: Why is a large-scale, long-term center the only way to achieve these major breakthroughs? What is the value-added of a center rather than several separate grants.
  - Think *Education*: How can education be integrated in significant, exciting ways?
  - Think *Broadening Participation*: What exciting large-scale partnerships or activities might be undertaken?
  - Think *Wider Community*: What industry/institution partnerships or informal education might be involved so as to deploy the science and excite the public?
  - Think *Sustainable Management*: How can this be set up so that it is well managed and likely to survive its initial funding period?
- Contact your SBE Program Director or contact SBE's STC representatives with questions:
  - Jacqueline Meszaros ([jmeszaro@nsf.gov](mailto:jmeszaro@nsf.gov))
  - Kaye Reed ([kreed@nsf.gov](mailto:kreed@nsf.gov))

