

High-End Computing University Research Activity HECURA National Science Foundation



Almadena Chtchelkanova
Program Director

**Directorate for Computer and Information Science
and Engineering (NSF/CISE)
Computing and Communication Foundations**



High-End Computing University Research Activity (HECURA)

- ◆ **FY 2006 Budget \$14.5M**
- ◆ **NSF/DARPA/DOE/EPSCoR activity focused on**
 - **Input/Output capabilities**
 - **File Systems**
 - **Storage Systems**

- ◆ **19 projects awarded**
 - **I/O, file and storage systems design for efficient, high throughput data storage, retrieval and management in the HEC environment.**
 - **hardware and software tools for design, simulation, benchmarking, performance measurement and tuning of file and storage systems.**



High-End Computing University Research Activity (HECURA)

- ◆ **FY 2008 Budget \$10.5M**
- ◆ **NSF/EPSCoR activity focused on
HEC Programming Models, Languages and
Compilers
18 projects awarded**

***HECURA BOF Kick-off meeting
Tuesday 5:30 – 7 pm 12A/12B***



High-End Computing University Research Activity (HECURA)

- ◆ **FY 2009 Budget \$10M (proposed, subject to availability of funds)**
- ◆ **NSF activity focused on HEC**
 - **Input/Output capabilities**
 - **File Systems**
 - **Storage Systems**

Anticipated publication date – December 2008

Proposals due – April 2009



More Funding Opportunities at NSF

Expeditions in Computing

<http://www.nsf.gov/pubs/2008/nsf08568/nsf08568.htm>

- ◆ Created to inspire bold, transformational research that explores new scientific frontiers that promise disruptive innovations in computing

- ◆ **Program Goals:**
 - Catalyze far-reaching research in the computing and information fields motivated by hard, emerging problems and/or compelling applications
 - Inspire current & future generations to pursue CISE careers
 - Stimulate significant research and education outcomes that benefit society through effective knowledge transfer

- ◆ **Scope: Research that cuts vertically or horizontally across CISE**
- ◆ **Awards: 3 anticipated, w/ budgets of \$2,000,000/yr for five years**
- ◆ **Preliminary Proposal Submission Deadline September 10, 2009**
- ◆ **FY08 4 awards include**

Computational Sustainability: Computational Methods for a Sustainable Environment, Economy, and Society



More Funding Opportunities at NSF

Cyber-Enabled Discovery and Innovation (CDI)

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503163

Computational thinking for science and engineering

-computational concepts, methods, models, algorithms, and tools

Type I Preliminary Proposal Submission Deadline December 08, 2008

Type II Preliminary Proposal Submission Deadline December 09, 2008

FY09 Budget \$26M

- ◆ **CDI is a five-year initiative.**
- ◆ **All NSF directorates & programmatic offices involved in CDI.**
- ◆ **CDI goal is to make revolutionary, paradigm-changing research outcomes possible.**
- ◆ **Discovery and innovation are enabled by computational thinking.**
- ◆ **Requires bold, multidisciplinary activities.**

