BIG DATA
Funding Opportunities

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NSF Big Data Initiatives

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Core Techniques and Technologies for Advancing Big Data Science & Engineering (Big Data) NSF-12-499

- new joint solicitation between NSF and NIH that 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
- specifically, it will support the development and evaluation of technologies and tools for data collection and management, data analytics, and/or e-science collaborations, which will enable breakthrough discoveries and innovation in science, engineering, and medicine--laying the foundations for U.S. competitiveness for many decades to come. Suzanne Iacono

What has been funded:
http://www.nsf.gov/awardsearch/advancedSearchResult?ProgEleCode=8083&BooleanElement=ANY&BooleanRef=ANY&ActiveAwards=true&

Big Data webcast http://www.nsf.gov/news/news_videos.jsp?cntn_id=123607&media_id=72174&org=NSF

Digging into Data Challenge

February 5, 2013: Welcome to Round Three—Due May 15
http://www.diggingintodata.org/Default.aspx

- 10 research funders representing Canada, the Netherlands, the United Kingdom, and the United States **(NSF)**

- projects that explore how computationally intensive research methods can be used to ask new questions about and gain new insights into our world, funding organizations that are working together to focus the attention of the social sciences, humanities, library, archival, information, computer, mathematical, and statistical science communities on large-scale data analysis and its potential applications.

- we have massive databases of materials available for research in the humanities and the social sciences--ranging from digitized books, newspapers, and music to information generated by Internet-based activities and mobile communications, administrative data from public agencies, and customer databases from private sector organizations-—what new, computationally-based research methods might we apply? As the world becomes increasingly digital, new techniques will be needed to search, analyze, and understand these materials.

- Digging into Data challenges the research community to help create the new research infrastructure for 21st-century scholarship.

- Applicants will form international teams from at least two of the participating countries. Winning teams will receive grants from two or more of the funding agencies and, two years later, will be invited to show off their work at a special conference sponsored by the ten funders.

NSF Ideas Lab-Data Intensive Education-Related Research

❖**Building Community and Capacity for Data-Intensive Research in the Social, Behavioral, and Economic Sciences and in Education and Human Resources (BCC-SBE/HER)** (NSF 12-538)

- enable research communities to develop visions, teams, and capabilities dedicated to creating new, large-scale, next-generation data resources and relevant analytic techniques to advance fundamental research for the SBE and EHR areas of research.

- proposals will outline activities that will have significant impacts across multiple fields by enabling new types of data-intensive research. Investigators should think broadly and create a vision that extends intellectually across multiple disciplines and that includes--but is not limited to--the SBE or EHR areas of research. http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504747

❖ **Cyberlearning: Transforming Education** (NSF 11-587)

- NSF seeks to integrate advances in technology with advances in what is known about how people learn to better understand how people learn with technology and how technology can be used productively to help people learn, through individual use and/or through collaborations mediated by technology;

- better use technology for collecting, analyzing, sharing, and managing data to shed light on learning, promoting learning, and designing learning environments; and

- design new technologies for these purposes, and advance understanding of how to use those technologies and integrate them into learning environments so that their potential is fulfilled.

NSF Computational and Data-Enabled Science and Engineering in Mathematical and Statistical Sciences (CDS&E-MSS) (PD 11-8069)

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504687&org=NSF

- supported by the CDS&E-MSS program will aim to advance mathematics or statistics in a significant way and will address computational or big-data challenges. Proposals of interest to the program will include a Principal Investigator or co-Principal Investigator who is a researcher in the mathematical or statistical sciences in an area supported by the Division of Mathematical Sciences.

- encourages submission of proposals that include multidisciplinary collaborations or the training of mathematicians and statisticians in CDS&E.

  In fiscal year 2012, this program will be co-funded by the NSF Office of Cyberinfrastructure (OCI).

NSF Metadata for Long-standing Large-Scale Social Science Surveys (META-SSS) (NSF11-583)

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504705&org=NSF

- proposals that will develop tools to bridge data collection and dissemination by first, collecting and coding metadata associated with future waves of the ANES, GSS, and PSID surveys as collection and processing techniques evolve; and second, migrating (or "retrofitting") metadata associated with earlier (i.e., legacy) waves of these surveys into formats and schema that are compatible with current and future collection efforts.

- goal is to fund projects that will help make the many years of legacy data available to researchers who seek to answer current scientific questions.

NSF Earth Cube

- ***EarthCube*** supports the development of community-guided cyberinfrastructure to integrate data into a framework that will expedite the delivery of geoscience knowledge.
- NSF's just announced, first round of EarthCube awards, made within the CIF21 framework, via the EArly Concept Grants for Exploratory Research (EAGER) mechanism, are the first step in laying the foundation to transform the conduct of research in geosciences. Clifford Jacobs

http://earthcube.ning.com

NIH Big Data Initiatives

Short Courses on Innovative Methodologies in the Behavioral and Social Sciences (R25)

http://grants.nih.gov/grants/guide/rfa-files/RFA-OD-13-009.html

- support the development of creative and innovative research education programs for the development of biomedical, behavioral, and clinical researchers, or for public education and outreach on health-related research to a variety of audiences.
- Target participants include those just starting their careers (e.g., graduate/medical students, medical residents, postdoctoral scholars, early-career investigators) as well as established investigators who are interested in learning new methods to apply them in their area of research (e.g., mid- and late-career researchers).
- **Scope**: applications for short courses in innovative methods for behavioral and social sciences research (BSSR) relevant to their missions.
- examples of topics appropriate for this FOA include but are not limited to the following:

- Systems science methodologies (e.g., agent-based modeling, system dynamics modeling, social network analysis, microsimulation, discrete event simulation).
- Mixed methods research (combining quantitative and qualitative methods).
- Mobile and wireless health (mHealth) methodologies for the conduct of BSSR.
- Innovations in dissemination and implementation research methodologies.
- **"Big data" mining, pattern recognition, integration, visualization and analysis which encourage hypothesis testing or analysis of BSSR research questions. The phrase "big data" in this FOA refers to large, diverse, complex, longitudinal, and/or distributed data sets generated from instruments, sensors, Internet transactions, email, video, click streams, and/or all other digital sources available today and in the future.**

NIH
Accelerating the Pace of Drug Abuse Research Using Existing Data (R01)

http://grants.nih.gov/grants/guide/pa-files/PAR-13-080.html

- invite applications proposing the innovative analysis of existing social science, behavioral, administrative, and neuroimaging data to study the etiology and epidemiology of drug using behaviors (defined as alcohol, tobacco, prescription and other drug) and related disorders, associated HIV risk behaviors, prevention of drug use and HIV, and health service utilization.
- to include other existing data modalities, such as neuroimaging data residing either at the collecting institution(s) or at a third-party image repository.
- **encourage the analyses of public use and other extant community-based or clinical datasets** to their full potential in order to increase our knowledge of etiology, trajectories of drug using behaviors and their consequences, risk and resilience in the development of psychopathology, strategies to guide the development, testing, implementation, and delivery of high quality, effective and efficient services for the prevention and treatment of drug abuse and HIV.

NIH seeking input through Big Data to Knowledge Initiative

http://grants.nih.gov/grants/guide/notice-files/NOT-HG-13-003.html

•Maximize the value of biomedical data through a new Big Data to Knowledge (BD2K) initiative that would create:

- improved data and software sharing policies, catalogs of research data, and data/metadata standards development to facilitate broader use of biomedical big data
- analysis methods and software development and dissemination
- enhanced training for biomedical big data
- proposed new centers of excellence

•Launch the NIH InfrastructurePlus adaptive environment to advance high-performance computing, agile hosting and storage approaches, and modernization of the network, among other approaches.

Working Group on Data and Informatics
Request for Information (RFI)
http://grants.nih.gov/grants/guide/notice-files/NOT-OD-12-032.html

http://acd.od.nih.gov/diwg.htm

Acknowledgments

This research was supported in part by grant R24-HD058484 from the Eunice Kennedy Shriver National Institute of Child Health & Human Development awarded to the Ohio State University Institute for Population Research.