Funding opportunities:

For recent funding announcements first log in to the ASA web site then go to the ASA Community: Funding Opportunities. General information about funding sources is always available at http://www.amstat.org/careers/efs.cfm

- NSF Dear Colleague Letter: Opportunity for Breakthroughs in Fundamental and Basic Research and Education

Position Announcements:

- CALL FOR NOMINATIONS FOR A NEW CO-EDITOR: STATISTICS EDUCATION RESEARCH JOURNAL

Other Announcements:

- IBM and Big Data

Funding opportunities

NSF Dear Colleague Letter - Opportunity for Breakthroughs in Fundamental and Basic Research and Education

Date: August 12, 2013

The National Science Foundation (NSF) is interested in receiving proposals to existing programs in any directorate across the Foundation that address fundamental research questions which might simultaneously advance activities related to research and education in forensic sciences. Supplement requests to existing awards may also be submitted.

**Background:** In 2009 the National Academy of Sciences published "Strengthening Forensic Science in the United States: A Path Forward." While the report acknowledges that "the forensic science disciplines have produced valuable evidence that has contributed to the successful prosecution and conviction of criminals as well as to the exoneration of innocent people," it cites a need for systematic research to validate the various disciplines' underlying assumptions and methodologies, adding that the "forensic science... communities will be improved by opportunities to collaborate with the broader science and engineering communities. "NSF is the only Federal agency whose mission is to support basic research at the forefront of all fields of
fundamental science and engineering. It is therefore appropriate for the Foundation to support basic research that can inform research and education in forensic science.

**Details:** This Dear Colleague Letter is to alert all basic science and engineering communities, including education researchers, to the Foundation's interest in receiving proposals that, while investigating fundamental questions, seek to pose and test hypotheses that could inform research in forensic sciences. The interest spans both disciplinary and interdisciplinary research. Additionally, the wide public interest in forensics can provide an effective vehicle for basic research in science education. International partnerships, where appropriate, are encouraged, as are synergistic interactions with forensics and/or law enforcement agencies and organizations. Proposals for workshops to explore fundamental science drivers and their relevance to forensics are also welcome. Proposers may review reports of recent workshops that exemplify collaborative approaches:

Cognitive science: [http://www.law.northwestern.edu/faculty/conferences/workshops/cognitivebias/documents/NSF_WorkshopReportFinal.pdf](http://www.law.northwestern.edu/faculty/conferences/workshops/cognitivebias/documents/NSF_WORKSHOPREPORTFINAL.PDF) and

NSF also notes the importance of a well-educated forensics workforce and a science-literate public, and recognizes the potential benefits of outreach efforts, given the public interest in forensics. Research in forensics provides an opportunity for impact along lines emerging as priorities in STEM education at all levels through new approaches to effective integration of research with teaching. NSF seeks to contribute to future workforce preparation in this challenging and rapidly evolving technical area.

The Foundation would be particularly interested in proposals that engage forensic scientists and experts in a collaborative fashion with basic science researchers. Topics might include, but are by no means limited to, the following:

- The effect of cognitive bias on judgment and decision making within a forensic setting
- Discovery of new principles and approaches for remote and field-based chemical measurement and imaging, with enhanced reliability, resolution, and speed
- Acquisition of shared-use major instrumentation for researchers engaged in fundamental studies, including forensics-relevant research
- Conception and demonstration of improved methods for interpreting hyperdimensional spectroscopic data, including images
- New approaches to acquiring, storing, accessing, and interpreting large data sets, including biological data (as in genomics and proteomics)
- Pathways linking genotype to phenotype
- Factors influencing how jurors understand forensic evidence
- Generalizable algorithms and techniques for extracting legally binding evidence from computing systems
- Development of methods to determine provenance of forensic samples (e.g. sediments, human remains), including applications of geospatial analysis or measurement
- Design, implementation, and evaluation of the vertical integration of a forensic science conceptual approach throughout the sequence of courses within a traditional STEM discipline
Successful projects addressing foundational research on questions or issues in STEM learning related to forensics sciences, or specific challenges therein, will make clear contributions to synthesizing, expanding, or building the base of research knowledge and evidence needed to achieve excellence in forensics-related STEM education and/or workforce development. Also appropriate are interdisciplinary collaborations and partnerships for informal learning among academia, industry, and government that advance the development of a population and workforce well-informed about forensic science successes and challenges.

NSF recognizes the importance of enabling U.S. researchers and educators to advance their work through international partnerships, where the proposed collaboration can provide unique advantages of scope, scale, flexibility, or facilities, enabling advances that would not readily occur otherwise. In view of this, U.S. investigators may include international components in new forensics proposals submitted to relevant NSF programs, or request supplemental funding for projects already supported by NSF. Furthermore, strong, well-defined international collaborations may incorporate opportunities for U.S. students and early career researchers to participate in substantive international research experiences abroad.

As always, searching the NSF awards database (http://www.nsf.gov/awardsearch/) can provide illustrative examples of current projects. In all cases, interested prospective Principal Investigators (PIs) are urged to consult with relevant disciplinary program officers in advance of submission.

Position announcements

CALL FOR NOMINATIONS FOR A NEW CO-EDITOR: STATISTICS EDUCATION RESEARCH JOURNAL

Deadline for submission of nominations: 30 October 2013

The International Association for Statistical Education (IASE) is starting a search for the next co-editor of Statistics Education Research Journal (SERJ), its peer-reviewed electronic journal. The new editor will serve a four-year term starting 1 January 2014, replacing Bob delMas (U. of Minnesota, USA), who will end his four-year tenure at that time, and ending 31 December 2017. The new editor will join Peter Petocz (Macquarie U., Australia), the continuing co-editor until December 2015.

About SERJ

SERJ was established in 2002 by IASE to advance research-based knowledge that can help to improve the teaching, learning, and understanding of statistics and probability at all educational levels and in
both formal and informal contexts. SERJ presently publishes two issues per year but could move up to three issues per year in coming years, including a special issue of changing themes. The scope of submitted manuscripts represents the growing interest in research and in new knowledge that can inform practice in statistics education.

The SERJ organization includes two co-editors who serve for four years (one is replaced every two years), an Assistant Editor in charge of copy-editing and production, and an Editorial Board presently comprised of 13 Associate Editors from 8 countries. SERJ issues and materials are published on the IASE website. The journal maintains autonomy regarding content and process, although some activities are coordinated with IASE and its parent organization and SERJ co-publisher, the International Statistical Institute (ISI). All journal activities are conducted electronically. Board members meet during key international conferences such as ICOTS or ISI Biennial Sessions. SERJ is a virtual organization and it operates on the basis of voluntary work by all board members and editors.

The co-editors role and expected qualifications

The co-editors are responsible for overall management of all journal operations. They manage peer-review and editorial processes, determine the composition of the Editorial Board and the reviewer pool, and initiate and conduct communication with prospective authors, reviewers, associate editors, and external stakeholders. The co-editors are expected to establish editorial policies, set scholarly and quality expectations, and uphold acceptance criteria regarding manuscripts. The co-editors should have a forward-looking vision and initiate new features and structures, if needed in consultation with Board members and others, to enable SERJ to respond to the evolving knowledge needs in the dynamic area of statistics education. Overall, the co-editors should lead the journal to make an important contribution to research and practice in statistics education.

The qualified individual will have a strong research background in areas that are part of statistics education, and be familiar with educational practice in this area. He or she should possess the skills necessary to work with prospective contributors in a supportive yet critical spirit, be able to maintain and strengthen international professional networks of authors and reviewers, and enhance the Journal's reputation and impact through promotion in relevant scientific databases and indexes. Preference will be given to individuals who are familiar with the editorial processes required.

The search process and how to make nominations

Review of nominations will begin on 30 October 2013, but nominations should be submitted as soon as possible. IASE encourages both nominations of suitable candidates and self-nominations from interested individuals. All nominations and self-nominations will be considered by the Search Committee, which can also propose additional nominees. Candidates or self-nominees are asked to send an academic vita or professional resumé, together with a brief statement describing their vision for continuing the growth and development of the Journal, and their qualifications for the position. Candidates might also be asked to respond to additional questions from the Search Committee.
Please send nominations (with all supporting materials listed above) or questions to the Chair of the Search Committee, Chris Reading, (University of New England, Australia), at: <creading@une.edu.au>. Questions about the practicalities of the editorship can also be sent either to the continuing co-editor, Peter Petocz <ppetocz@efs.mq.edu.au> or to the departing co-editor, Bob delMas <delma001@umn.edu>.

**Other announcements**

**IBM and Big Data  August 14, 2013**

IBM (NYSE: IBM) today announced that it has added nine new academic collaborations to its more than 1,000 partnerships with universities across the globe, focusing on Big Data and analytics -- all of which are designed to prepare students for the 4.4 million jobs that will be created worldwide to support Big Data by 2015. The company also announced more than $100,000 in awards for Big Data curricula.

As part of IBM's Academic Initiative, the company is launching new curricula focusing on Big Data and analytics with Georgetown University, George Washington University, Rensselaer Polytechnic Institute and the University of Missouri, as well as a new addition to IBM's partnership with Northwestern University. Internationally, IBM is partnering with Dublin City University, Mother Teresa Women’s University in India, the National University of Singapore, and the Philippines' Commission on Higher Education to offer data-driven degree programs, coursework and specialization tracks.

As part of today's news, IBM is also announcing the winners of its 2013 Big Data and Analytics Faculty Awards in which 14 university professors from around the world will receive $10,000 each for top rated curricula designed to develop the business and technical skills required for data-crunching jobs. The winning proposals include programs focused on computer science/electrical engineering, business administration, economics, strategic management, and math and statistics.

“Leaders in business, education and government must take action to foster a new generation of talent with the technical expertise and unique ideas to make the most of this tsunami of Big Data,” said Richard Rodts, Manager of Global Academic Programs, IBM. “To narrow this skills gap, IBM is committed to partnering with universities around the world to provide students with Big Data and analytics curriculum to make an impact in today's data-driven marketplace.”

The U.S. Bureau of Labor predicts a 24 percent increase in demand for professionals with data analytics skills during the next eight years. The need for this specialized talent is fueled by the explosion of Big Data -- or the 2.5 quintillion bytes of information generated daily from such sources as sensors, RFID networks, mobile devices and social media. As a result, employers in every industry are seeking job candidates who can uncover insights from data to solve problems, act on findings, enter new markets, and gain a competitive advantage.
To narrow this gap, IBM is collaborating with more than 1,000 academic partners to develop curriculum that reflects the mix of technical and problem-solving skills that is necessary to prepare students for Big Data and analytics careers, across all industries. These collaborations span a variety of majors -- including business, marketing, mathematics and health services -- providing schools with access to IBM Big Data and analytics software, curriculum materials, case study projects, and IBM data scientists who visit classes as guest lecturers.

Announced today, the following academic institutions are joining forces with IBM:

**Dublin City University (DCU)** is teaming with IBM to create a new Masters Degree in Computer Science with Big Data, Business Analytics and Smarter Cities. The Masters in Computing (Data Analytics) course content has been developed jointly by IBM and DCU to equip students with deep analytical skills to support the changing face of business today and will help graduate students to develop critical IT skills for urban analysis, consumer behavior, social networks, sentiment analysis, healthcare, and network security. The new program will provide a variety of exclusive resources including access to real-world IBM case studies from cities and organizations around the world. It will be delivered by experts from DCU and IBM and will facilitate collaborative research projects between the two organizations.

**The George Washington University School of Business** is partnering with IBM to launch a Master of Science degree in Business Analytics this fall. The program is offered full-time for students and part-time for working professionals seeking to enhance their careers. On the technical side, the degree features courses ranging from how to build predictive models to hands-on software training. On the experiential side, the program offers workshops on project management and communications. To help students fine-tune their Big Data skills for specific industries, GWU's degree also features career track electives, such as healthcare, supply chain, marketing and sports analytics.

**The Georgetown University McDonough School of Business** recently offered a one-week intensive course during the week of July 22, 2013 providing MBA students with a hands-on introduction to Big Data. Students used emerging technologies including IBM InfoSphere BigInsights to dive deeper into sales data, for example, to answer questions about consumer trends, including spending and buying patterns. The course introduced students to the language and methods associated with Big Data, enabling students to learn how to improve business decision-making. The university will continue to teach Big Data methodology in select courses moving forward.

**The University of Missouri College of Engineering’s Department of Computer Science** will offer a new undergraduate course titled “Big Data Analytics” in the fall 2013 semester to provide students with experience using advanced analytics technologies and techniques that enable businesses to extract insights from Big Data with sophistication, speed and accuracy. Using IBM InfoSphere BigInsights and IBM InfoSphere Streams software, students will process and explore data to extract insight to make informed decisions, whether that data is in-place, in motion or at rest, in large volumes, or structured or unstructured.
**Mother Teresa Women’s University in India** is using IBM analytics to promote academic success, by training their management students on predictive analysis and reporting solutions. The recent three-month long course, designed by IBM for the university, has enabled educators to teach more effectively, helping management students to gain critical analytical skills, and support more accurate and insightful institutional research and decision-making.

**The National University of Singapore (NUS) and IBM**, in partnership with the Singapore Economic Development Board, will establish the NUS Center for Business Analytics to develop capabilities in Big Data and analytics. The Center will offer an IBM-supported Master of Science in Business Analytics (MSBA) degree and IBM will provide faculty and students with industry expertise, as well as access to the company's analytics solutions. The MSBA program will be conducted by full-time leading experts and faculty members from the business and computing schools of NUS.

**Northwestern University School of Continuing Studies**, which launched two analytics graduate degrees last year with IBM, is expanding Big Data curricula in two of its continuing education programs. Northwestern's Master of Science degrees in Information Systems and in Predictive Analytics will both include a new "Analytics and Business Intelligence" track, designed to give students experience solving real-world business challenges through use of Big Data technologies. Students will learn about current and emerging Big Data solutions in a project-based environment that provides a foundational knowledge around Big Data -- while also inspiring students to exploit Big Data by studying business applications and trends.

**The Philippines’ Commission on Higher Education (CHED)** is cooperating with IBM to develop specialization tracks on Business Analytics, as a supplement to existing business administration and information technology programs offered by colleges and universities across the country. The special tracks, to be rolled out this 2013-2014 school year will feature an interdisciplinary approach, taking into consideration the relationships among different stakeholders who deal with data, within businesses and organizations. The new 'electives' will include an internship and cover a range of core Big Data and analytics skill-sets, including business analytics, enterprise data management and modeling.

**Rensselaer Polytechnic Institute** is combining forces with IBM to offer a new graduate program in fall 2013, to prepare students for Big Data and analytics careers. Offered through the Lally School of Management and Technology, Rensselaer's new Master of Science in Business Analytics degree will be a one year, 30 credit program for which IBM will provide curriculum materials, case study projects, software solutions and guest lecturers. IBM recently donated a Watson system to Rensselaer, to help faculty and students explore new uses for cognitive computing and expand their understanding of Big Data and analytics.

**IBM Awards Universities for Big Data and Analytics Curricula Development**
As part of today's news, IBM also announced the winners of its 2013 Big Data and Analytics Faculty Awards in which 14 university professors will receive $10,000 each for top rated curricula and research that mix business and technical skills. The fourteen winning proposals include programs and research focused on computer science/electrical engineering, business administration, economics, strategic management, and math and statistics.
The winners include:

- Nitesh Chawla, Frank Freimann Collegiate, Associate Professor, University of Notre Dame: Develop novel data science program that requires immersion of an individual in a domain to innovate by conducting data exploration, feature engineering, machine learning, inform system design and database design, and conduct what-if analysis.

- David Dischiave, Assistant Professor, Syracuse University, School of Information Studies: Assess computing best practices for industry professionals to select the computing for appropriate use (fit for purpose) where the solution can be deployed for best results. Findings will guide the development of course materials for the data analytics, database management systems, database security, data warehousing and data mining courses.

- David Douglas, Professor, University of Arkansas: Development of course modules designed for teaching customer insights and discovery using a number of datasets hosted by the University of Arkansas including demographic data provided by major corporations with a focus on data mining and visualization of Big Data.

- Michael Garrett, Professor, Universiteit Leiden (Netherlands), General & Scientific Director of the Netherlands Institute for Radio Astronomy (ASTRON): Develop a data intensive digital radio astronomy instrument to study time-variable radio phenomena, with a particular focus on SETI (Search for Extraterrestrial Intelligence). A range of novel algorithms will be developed for this system, including generic anomaly detection, statistical analysis and machine learning techniques that would be applicable to other fields outside of astronomy.

- Jose Incera, Professor, Instituto Tecnologico Autonomo de Mexico: Develop big data laboratory projects and courseware to enable students to become world-class Data Architects, Information Strategists, Big Data Developers, and Business Analysts.

- John Keane, Professor University of Manchester (UK): Develop technical case studies investigating design/implementation of big data problems for use in enhanced data engineering course.

- Svetlana Maltseva, Dean of Business Informatics, Higher School of Economics (Moscow): Develop a new master's program focused on development of appropriate skills of the students in Big Data.

- Jeff Pittges, Associate Professor, Radford University: Extend Database Instructional Games (DIG) online learning environment to include InfoSphere BigInsights for text analysis of customer feedback and add Cognos to replace Microsoft Access Reports and QlikView dashboards.

- Jeffrey Popyack, Associate Professor, Drexel University: Build curriculum to introduce frameworks such as Amazon S3, InfoSphere BigInsights, Hadoop, and MapReduce into the
Computer Architecture and Artificial Intelligence tracks of the Computer Science curriculum, with an emphasis on parallelism, scalability, big data and machine learning.

- W. “R.P.” Raghupathi, Professor, Fordham University: Develop new ‘big data analytics’ and ‘applied practicum course’ elective enabling students to understand strategic issues surrounding big data analytics such as governance, ethics, privacy and security, and data quality.

- Alexander Rasin, Assistant Professor, DePaul University: To provide graduating professionals with practical data mining skills Dr. Rasin will develop a graduate data mining course based on Apache Hadoop and Mahout that leverages IBM BigInsights and IBM SmartCloud.

- Dr. Praveen Rao, Assistant Professor, University of Missouri-Kansas City: Develop a new big data course that will cover the storage, retrieval, analysis, and visualization of large volumes of structured and unstructured data using IBM software and IBM SmartCloud.

- Dr. Jan Sedivy, Czech Technical University (Ceske vysoke uceni technicke v Praze - Prague): Extend current Mobile Development course to Big Data and Cloud, including lectures by IBM experts motivating students to study Map-Reduce programming to prepare them for the career of Big Data Developers and to build start-up businesses in this area.

- Janet Smart, GOTO Academic Project Manager, Said Business School Oxford University (UK): Create an innovative learning environment that will equip students with the skills and insight to understand the issues around the growth and use of Big Data.

The IBM Faculty Awards support basic research, curriculum innovation, and educational assistance in focus areas that are fundamental to innovation in the 21st Century and strategic to IBM’s core business. The focus areas of particular interest include: smarter planet and cities; healthcare and personalized education; mobile first and social technologies; big data and business analytics; cyber security and cloud computing; and multi-core and hybrid systems.

In most cases, completed course materials will be provided to the IBM academic initiative for use by other member schools.

**About IBM Big Data and Analytics**

Each day we create 2.5 quintillion bytes of data generated by a variety of sources — from climate information, to posts on social media sites, and from purchase transaction records to healthcare medical images. At IBM we believe that Big Data and analytics are a catalyst to help clients become more competitive and drive growth. IBM is helping clients harness this Big Data to uncover valuable insights, and transform their business. IBM has established the world's deepest and broadest portfolio of Big Data technologies and solutions, spanning services, software, research and hardware. For more information about IBM and Big Data and analytics, visit [www.ibmbigdatahub.com](http://www.ibmbigdatahub.com).

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For more information about the Lally School of Management and Technology, visit: http://lallyschool.rpi.edu/

For more story ideas, visit the Rensselaer research and discovery blog at: http://approach.rpi.edu

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