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National Academies Sponsoring Reproducibility Workshop

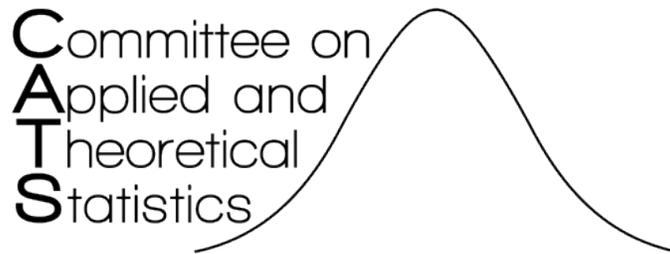
The Committee on Applied and Theoretical Statistics of the National Research Council of the National Academies will hold a special workshop Thursday and Friday of this week focused on scientific reproducibility and statistics.

The workshop is titled “Statistical Challenges in Assessing and Fostering the Reproducibility of Scientific Results.” During the event, presenters will address statistical challenges in assessing and fostering the reproducibility of scientific results by examining three issues from a statistical perspective: the extent of reproducibility, the causes of reproducibility failures, and potential remedies in a series of presentations and discussions.

Specifically:

- What are appropriate metrics and study designs that can be used to quantify reproducibility of scientific results?

Variability across studies is a well-known phenomenon and has given rise to the field of research synthesis and meta-analysis. How should this variability be assessed? What degree of variability would lead to concerns about lack of reproducibility?



- How can the choice of statistical methods for study design and analysis affect the reproducibility of a scientific result?

How does routine statistical hypothesis testing with widely used thresholds for test significance affect the reproducibility of results? How do standard methods for study design and choice of sample size affect reproducibility?

- Are there analytical and infrastructural approaches that can enhance reproducibility, within disciplines and overall?

Do we need new conceptual/theoretical frameworks for assessing the strength of evidence from a study? Do we need broad adoption of practices for making study protocols and study data available to the scientific community? How can this be achieved?

Notable presenters include Victoria Stodden, University of Illinois at Urbana-Champaign; Yoav Benjamini, Tel Aviv University; Courtney Soderberg, Center for Open Science; John Ioannidis, Stanford University; Marcia McNutt, editor of *Science*; and Xiaoming Huo, National Science Foundation.

[Click here for more information and the updated seminar agenda.](#)

U.S. CONFERENCE ON TEACHING STATISTICS COMING IN MAY

[Online registration](#) for the 2015 U.S. Conference on Teaching Statistics (USCOTS) is open. The conference will take place May 28-30 in State College, Pennsylvania. Pre-USCOTS workshops will start May 26. Limited registration grants are available.

Helping students to make connections is one of the most challenging yet important aspects of effective teaching. Teachers of statistics strive to help their students to make connections with each other, to make connections among concepts in the course, and to make connections between statistics and other

disciplines. Making professional connections can also help to enhance a statistics teacher's effectiveness, for example by making connections with other statistics teachers and with scholars in fields that use statistics. The challenge and usefulness of making connections will be the unifying theme of USCOTS '15. Hence, the event's theme is "Making Connections."



The conference is designed to model good teaching in its sessions, social activities, and hallways. As with previous USCOTS, it will consist of plenary sessions, breakout sessions, and "Posters and Beyond" sessions. Each session will address how to make change happen in four main areas: curriculum, pedagogy, resources and educational research.

Among the special features of USCOTS 2015 are the following:

- Plenary sessions by national leaders in undergraduate statistics education on current and emerging trends in research, curriculum, pedagogy and resources
- Hands-on breakout sessions to incorporate new ideas into your courses
- Posters & Beyond sessions exchanging your ideas on teaching and learning statistics
- Conference banquet
- Opportunities to meet other statistics teachers from a wide range of institutions and disciplines
- Preconference workshops to delve deeply into a specific statistics education innovation
- A fun, active atmosphere where everyone can be involved!

Organizers are accepting proposals for the "Posters and Beyond" sessions. These sessions provide an opportunity for conference participants to display a poster of their ideas or provide a small demonstration of their favorite examples, activities and teaching methods. Space is limited in this refereed session. Abstracts for posters or demonstrations must be submitted by April 1. [Proposals can be submitted online here.](#)

Before the main event, a program of 11 free workshops will be offered starting May 26. These workshops will disseminate the great work of National Science Foundation-funded projects in statistics education as well as the innovations of USCOTS exhibitors. [Click here for the list of workshops and](#)

[details](#). You can sign up for two workshops if they don't overlap in time, but space is limited and registration will be on a first-registered, first-served basis.

THE WORLD OF STATISTICS 2015 ACTIVITIES CALENDAR

Following are The World of Statistics participating organization-sponsored events and activities around the world that are scheduled for March. [Click here](#) to see the complete 2015 calendar. Submit your organization's events for the 2015 calendar; [use this convenient form to do so](#).

MARCH 2015

- **March 1-3, 2015** — [Infinite Possibilities Conference](#), Oregon State University and Building Diversity in Science, Corvallis, Oregon, USA
- **March 3-6, 2015** — [Regression Modeling Strategies 4-Day Short Course](#); Department of Biostatistics, Vanderbilt University School of Medicine; Nashville, Tennessee, USA
- **March 5-6, 2015** — [Nitra Statistical Days](#), Slovak Statistical and Demographical Society and the Faculty of Natural Sciences at Constantine the Philosopher University, Nitra, Slovak Republic
- **March 7, 2015** — [Radical Statistics 2015 Conference and AGM](#), Radical Statistics, London, United Kingdom
- **March 10-13, 2015** — **11th International Workshop on Operations Research** (*For info & registration, email: sira@matcom.uh.cu or marie.cottrell@univ-paris1.fr*); University of Havana and University Paris 1 Panthéon-Sorbonne; Havana, Cuba
- **March 10-13, 2015** — **Colloquium on Teaching Effectiveness** (*For info & registration, email: sira@matcom.uh.cu or marie.cottrell@univ-paris1.fr*); University of Havana and University Paris 1 Panthéon-Sorbonne; Havana, Cuba
- **March 11-13, 2015** — [Complex Survey Data Analysis with SUDAAN and the SAS Survey Procedures](#), Emory University, Atlanta, Georgia, USA
- **March 16, 2015** — [The International Workshop on Graph Analytics](#); Drs. Collin Lynch, Tiffany Barnes and Jennifer Albert, Poughkeepsie, New York, USA (held in conjunction with the [5th International Learning Analytics and Knowledge Conference](#), March 16-20, 2015)
- **March 16-18, 2015** — [13th International Conference On Statistical Sciences "Statistics: Future Risks, Challenges and Developments"](#); Islamia College Peshawar, Islamic Countries Society of Statistical Sciences, and Statistical, Economic and Social Research and Training Centre for Islamic Countries; Peshawar, Pakistan
- **March 16-18, 2015** — [Bioinformatics: Discovering Patterns in Human Microbiome Data Workshop](#), Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, North Carolina, USA
- **March 19-20, 2015** — [3rd Royal Statistical Society Special Conference on Statistical Challenges in Lifecourse Research](#), Royal Statistical Society, Leeds, United Kingdom
- **March 23-25, 2015** — [Discovery Summit Europe](#), SAS Institute, Brussels, Belgium

PARTICIPATING ORGANIZATION NEWS & EVENTS

Following is the latest news and information from statistical organizations participating in The World of Statistics:

Europe—The [European Network for Business and Industrial Statistics \(ENBIS\)](#) 2015 Spring Meeting, themed “Predictive Analytics with Big and Complex Data,” will take place June 4-5 in Barcelona, Spain. The event is being organized by Polytechnic University of Catalonia, commonly called BarcelonaTECH, and the Societat Catalana d'Estadística (Catalan Statistical Society).



The Cathedral of the Holy Cross and Saint Eulalia, also known as Barcelona Cathedral. Barcelona, Spain is the site of the ENBIS 2015 Spring Meeting.

Data storage and processing have grown tremendously over the last decades. The current Big Data environment involves high-volume amounts of data coming from different unstructured sources at high frequencies. These characteristics pose challenges to classic statistical data analysis methods. In fact, many analytical techniques to deal with big and complex data have been developed by researchers with backgrounds in computer science and information technology.

Statistics must play an important role in the process of turning data into useful information. There are many issues such as dealing with spurious associations, time-series dependencies, and difficulties to develop explicatory models and not just descriptive analysis that can and should be dealt with by statisticians

The goal of the ENBIS Spring Meeting is to illuminate the role of statistics in predictive analytics with big and complex data and elaborate on how research from different fields can synergistically contribute to better exploitation of data for analytical purposes.

The preliminary meeting programme is as follows:

- **June 4—morning:** Two keynote speakers followed by an open discussion
- **June 4—afternoon:** Oral presentations
- **June 5—morning:** Two keynote speakers followed by an open discussion
- **June 5—afternoon:** Predictive Analytics Workshop with JMP

You can submit an abstract of 200 to 400 words before March 16. Both the event registration and abstract submission will be handled through [the ENBIS website](#). An *ENBIS Alert* will inform you about the start date of abstract submission and registration.

Regular updates also will be available at www.upcq.net/springmeeting. For further details, contact the meeting organizers [Xavier Tort-Martorell](#) and [Lluís Marco-Almagro](#).

Europe—Save these dates! The European Network for Business and Industrial Statistics (ENBIS) also announces that its 15th Annual Conference (ENBIS-15) will take place in the historic city of Prague in the Czech Republic. The conference sessions are scheduled for September 7-9 while preconference administrative meetings, courses and workshops will be conducted September 6 and similar post-conference sessions will be held September 9-10. More information about ENBIS-15 will be published on [the ENBIS website](#).



Prior to the ENBIS annual conference, the XXI IMEKO World Congress 2015 will be held in Prague from August 30 to September 4. Visit <http://imeko2015.org/> for more details or contact [Franco Pavese](#), IMEKO 21 chair, via email. Representatives of the IMEKO TC21 Committee and ENBIS are working to providing economic benefits to attendees of both events.

United States—The Mathematical Biosciences Institute (MBI) in Columbus, Ohio, will be sponsoring a workshop for doctoral and post-doctoral students July 6-10 called “[Spatially-varying Stochastic Differential Equations with Application to the Biological Sciences](#).”

In biology, ecology and public health, there has been growth in the use of stochastic differential equations (SDEs) to model scientific phenomena over time. SDEs have the ability to simultaneously capture the known deterministic dynamics of the variable of interest (e.g., chemical levels within a cell, the chemical or physical characteristics of a river or the presence, absence and spread of a disease), while enabling a modeler to capture the unknown dynamics or measurement processes in a stochastic setting.

During this four-day workshop, participants will learn about the use of SDEs to model physical phenomena in the biological sciences. They will learn how to define and manipulate SDEs and will understand the difficulties in performing statistical inference on the parameters of SDEs using data. They will relate the modeling of SDEs to the theory of spatial and temporal data analysis and will carry out a small-group project to discover and investigate how to model data from various disciplines within the biological sciences.

The lectures will be led by a selection of speakers, each of whom have diverse experience in different aspects of modeling using SDEs as well as in spatial and temporal data analysis. Students will learn the material through practical exercises.

[See the workshop website](#) for participant requisites and requirements. Partial support is available for students to attend this workshop.

Apply at <https://visitor.mbi.ohio-state.edu/events.html?id=904> by March 20 for full consideration. Include your CV, a research statement and a recommendation letter in your application.

Switzerland—The 6th BAYES2015 Workshop will be held May 19-22 on the Novartis Campus in Basel.

The practical implementation of Bayesian thinking into pharmaceutical research has been slow due to either important computational challenge, lack of Bayesian education in the biostatistical community or reluctance of regulatory authorities on the usefulness of the Bayesian approach.



However, recent developments in clinical trials such as adaptive designs in non-clinical, model-based drug development and health economics paradigms indicate the rising interest, added-value and business impact of Bayesian applications.

The objectives of BAYES2015 are multifold:

- Present some applied case studies in the clinical, non-clinical and Chemistry and Manufacturing Controls settings
- Highlight to participants success stories and impact of the Bayesian thinking
- Promote Bayesian thinking and practices within the pharmaceutical industry
- Underline the advantages of Bayesian modeling for science and business
- Offer opportunities for statisticians for reorientation within the changing environment of the (bio)pharmaceutical world
- Show and update participants on the new numerical solutions making Bayesian statistics an easy journey

There are 11 confirmed speakers for the event. They are Beat Neuenschwander, Novartis Pharma AG; Simon Wandel, Novartis Pharma AG; Fang Chen, SAS Institute; Marc Lavielle, INRIA Saclay; Sebastian Weber, Novartis Pharma AG; Michael Betancourt, University of Warwick; Martyn Plummer, World Health Organization; Adrien Todeschini, INRIA; Tony O'Hagan, University of Sheffield; Stuart Bailey, Novartis Pharma AG; and Didier Poirault, BioMérieux.

The call for abstract is open. Send your abstract (title + authors + max 300 words) to info@bayes-pharma.org before March 31. You will be notified about the acceptance of your abstract by April 15.

[Go to the BAYES2015 website for more information and to register.](#)

Indonesia—The 13th Islamic Countries Conference on Statistical Sciences (ICCS-13) was held in Bogor December 18-21 last year. The conference, themed “Statistics for Better Life,” was jointly organised by Bogor Agricultural University and Islamic Countries Society of Statistical Sciences (ISOSS).

Professor Haryono Suyono, a former Minister of Population for Indonesia, presented the first keynote address focusing on the history of developing an appropriate index to measure the fertility of Indonesian citizens and how the program was successful in managing the country's population growth. Professor M. Ashraf Memon of the University of Queensland led a panel session on medical meta-analysis covering different issues related to current methods in the context of three different meta-analyses on surgical data.



الجمعية الإحصائية لدول العالم الإسلامي
Islamic Countries Society of Statistical Sciences

(ISOSS is a non-profit research organization established in 1988)

Two workshops also were offered during the event. The first on “Big Data Analysis” was presented by Professor S. Ejaz Ahmed of Canada. The second on “Essentials of 21st Century Undergraduate Statistics Curriculum” was presented by Professor Shahjahan Khan of the University of Southern Queensland. Its focus was to use educational technologies and adopt appropriate changes in teaching statistics through data analysis and to ensure graduates know all aspects of statistical computing, including database management, multivariable calculus and statistical methods with the ability to communicate technical knowledge in the global context.

During the ICCS business meeting, Professor Abdul Ghapor Hussin, National Defence University of Malaysia, was elected the fourth ISOSS president. He currently is serving a two-year term. It also was announced the next Islamic Countries Conference on Statistical Sciences (ICCS-14) will be held December 17-20, 2016 at Sultan Qaboos University in the Sultanate of Oman.

The proposal of Professor Shahjahan Khan of the University of Southern Queensland to establish a Statistics Centre of Excellence in Kuala Lumpur, Malaysia was unanimously adopted by the delegates. The delegates also agreed to work together with other international statistical organisations for joint

activities and cooperation. Professor Munir Ahmad's motion to launch of a new *Journal of ISOSS* also was approved.

ISOSS Gold Medals were awarded to Professor Asep Saefuddin for his outstanding contribution in the development and promotion of statistics in Indonesia and beyond, and Professor M. Hanif Mian for his contributions to the promotion of ISOSS and development of numerous sample survey techniques.

United States—The Department of Statistics and Data Sciences at The University of Texas (UT) at Austin will host its [8th annual UT Summer Statistics Institute \(SSI\)](#) May 26-29.

Previous SSIs attracted participants from academia, health professions and marketing firms. SSI provides an exciting venue to build statistical knowledge alongside a diverse and dynamic audience. Participants of SSI acquire new statistical knowledge and skills through hands-on data analysis.

SSI offers intensive four-day workshops on diverse topics from introductory data sciences to advanced statistics. Whether you are new to data analysis or a seasoned statistician, SSI provides a unique opportunity to acquire valuable analytic skills directly from experts in the field. This year's SSI is limited to 700 participants.



The 31 courses to be offered will span introductory statistics, statistical software, statistical methods and statistics applications. Each will meet for four half-days—mornings or afternoons—for a total of 12 hours instruction time.

Instructors will post lectures, datasets, exercises and course information on a website accessible by enrolled participants. There will be no examinations and participants will receive certificates upon completion. Academic credit will not be issued. Please carefully check the specified prerequisite knowledge before enrolling in a course.

[Go to the SSI website for more information and to register.](#)

Spain—The Catalan Statistical Society celebrated its 5th anniversary February 4. The society was created via a foundational assembly that took place on that date in 2010. It has two basic objectives: to work for statistics and the people who dedicate their lives to it. In all, 67 members gave their approval to the

organization's bylaws five years ago; the society now boasts 176 members. On behalf of all organizations participating in The World of Statistics, we say, "Feliz cumpleaños y larga vida a la Sociedad Catalán de Estadística."



United States—The 4th Workshop on Biostatistics and Bioinformatics will be held May 8-10 at Georgia State University in Atlanta, Georgia.

Biostatistics and bioinformatics have been playing key and important roles in statistics and other scientific research fields in recent years. This workshop's goal is to stimulate research and foster the interaction of researchers in biostatistics and bioinformatics research areas. The workshop will provide the opportunity for faculty and graduate students to meet the top researchers, identify important directions for future research and facilitate research collaboration.

The keynote speaker is Professor Xiao-Li Meng, dean of the Graduate School of Arts and Sciences and Whipple V. N. Jones Professor of Statistics at Harvard University. There will be invited talks by distinguished researchers and a poster session by young researchers and graduate students.

For more information, to register or submit an abstract, [go to the event website](#).

Canada—The Canadian Institutes of Health Research—Institute of Genetics (CIHR-IG) in collaboration with the Canadian Gene Cure Foundation (CGCF) is supporting the joint Canadian Human and Statistical Genetics Meeting. This event will be held April 18-21 in Vancouver, British Columbia. [Go to the meeting website for complete event information, including the list of speakers and program, and to register.](#)

United States—The University of Maryland, Baltimore County's (UMBC) Research Experiences for Undergraduates (REU) Site: Interdisciplinary Program in High Performance Computing is growing and has funded positions available this summer. The program has begun admitting candidates, however, there is still time to apply before the March 15 application deadline.



The 2015 edition will be conducted over eight weeks—from June 14 to August 7—and will include instruction, lectures and hands-on computer labs on C, MPI, Matlab/Octave, R, Linux and LaTeX using the state-of-art 240-node cluster in the UMBC [High Performance Computing Facility](#).

All activities will be conducted in teams, each supported by dedicated graduate assistants and faculty mentors. The research projects are posed by application researchers from local industry and government agencies. See the program webpage's extensive information from past years to learn about representative project topics.

For this summer's program, see the [Program Details](#) and [Detailed Schedule](#) for more information and apply using the [Online Application](#). For specific questions, please send an e-mail to hpcreu@umbc.edu.

NATIONAL STATISTICAL ORGANIZATION: NEWS & EVENTS

Following is the latest news and information from national statistical organizations participating in The World of Statistics and other national statistical agencies:

The Philippines—Several former government agencies that now make up the Philippine Statistics Authority (PSA) will transfer their offices to rented space in the Eton Centris complex in Quezon City as the unified statistical body streamlines its operations, announced Dr. Lisa Grace S. Bersales, the national statistician. Bersales expects all PSA agencies and employees will be in one location by July.

Long term, the PSA plans to build an 18-story building along East Avenue within the next three to five years. The building design process just started, said Bersales.



REPUBLIC OF THE PHILIPPINES
PHILIPPINE STATISTICS AUTHORITY

President Benigno S. C. Aquino III in 2013 signed Republic Act 10625 which created the PSA, assuming the functions of the National Statistical Coordination Board, National Statistics Office, Bureau of Agricultural Statistics, and the Bureau of Labor and Employment Statistics.

The law aims to “rationalize and promote efficiency and effectiveness in the delivery of statistical services, maintain an integrated statistical system characterized by independence, objectivity and integrity so as to enhance responsiveness to the requirements of equitable national development.”

It likewise seeks to “promote the orderly development of a statistical system capable of providing timely, accurate and useful data for the government and the public, and support decentralization through the establishment of the statistical infrastructure necessary to service the statistical needs of local development planning.”

African Continent—In 2020, all 54 African countries will conduct national census projects.

Speaking at a media event in Yamoussoukro, Côte d'Ivoire, Pali Lehohla, the statistician-general of Statistics South Africa, told journalists at the 3rd Conference of Ministers Responsible for Civil Registration that the meeting is to make sure 'no one is left behind' and that everyone is counted.

He said the decision to count everyone predates the secretary-generals of the United Nations. In as early as 2009, African countries were focusing on vital statistics. It was Africa that focused on civil registration and vital statistics while the statistics communities in other parts of the world were concentrating on other areas. Asia and the rest of the world eventually followed Africa, added Lehohla.

He emphasized that Civil Registration and Vital Statistics (CRVS) is a crucial instrument for accountability. "Having CRVS is important in that it enables us to hold our governments to account," he said.

Namibia—An article published online, titled "[Dr. John Steytler and the Namibia Statistics Agency](#)" and penned by lipumbu Sakaria, the agency's deputy director for strategic communications, caught our eye. We believe you'll find it a good read. We applaud the Namibia Statistics Agency for its steadfast commitment to its mission following the departure of Dr. Steytler, its founder.

JOIN THE WORLD OF STATISTICS

If your organization or an organization you know of isn't yet part of The World of Statistics, encourage them to join. Joining is easy—just ask a representative of the group go to www.worldofstatistics.org and click on the "Join" icon on the top right-hand side of the homepage to become an official participating organization in The World of Statistics. Participation is valuable and is absolutely free!

THE WORLD OF STATISTICS NEEDS YOUR HELP

Now that the [new website for The World of Statistics](#) is up and running, we need your help. You can help move The World of Statistics website up in the list of Internet search results by linking to the new website address—www.worldofstatistics.org—from your organization's website and replacing the old Statistics2013 logo with the new logo for The World of Statistics and linking it to the new website. [You can download the new logo here.](#)

[See how the United States National Center for Education Statistics is displaying The World of Statistics logo on its website \(go to bottom of the homepage\).](#)

Some additional things your organization can do to help the cause include:

1. Update existing links to www.statistics2013.org on your website so that these point to www.worldofstatistics.org
2. Change all references to Statistics2013 on your website to The World of Statistics and link to the new website (www.worldofstatistics.org)
3. Change your Facebook page information, links and logos so that these reference The World of Statistics. Also, share information about and publicize The World of Statistics on your organization's social media accounts, including Facebook and Twitter

4. Post a version of The World of Statistics logo in your language on your organization’s website. [We currently have nine language versions available for download.](#) To request a language-customized logo, email the following information in a PDF document to Jeff Myers at jeffrey@amstat.org:
 - a. The interpretation in your language of: “The World of Statistics”
 - b. The interpretation in your language of: “Participating Organization”
5. If you have a linked Statistics2013 banner on your organization’s website, please remove it and replace it with a new banner for The World of Statistics and link the new banner to www.worldofstatistics.org. [You can download these new banners here.](#)
6. The World of Statistics Twitter account is @astatworld. Start following us today. Be sure to retweet our tweets and also mention The World of Statistics—hashtag #TWOS—in your tweets.
7. If your website has content about Statistics2013, please delete it and replace it with [copy about The World of Statistics](#).
8. As you did with Statistics2013, include mentions of The World of Statistics in all your organization’s online communications.

Working together, we’ll move up The World of Statistics in all search engine results.

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GUIDE TO CONTRIBUTING TO THE WORLD OF STATISTICS AVAILABLE

[Click here to access the “Guide to Contributing to The World of Statistics and Downloading Logos and Other Resources.”](#)