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Contents

IISA 2018

From Data to Knowledge, Working for a Better World
May 17- 20, 2018 • The HPNP Complex at the University of Florida

Message from Somnath Datta, President of IISA

Dear Members of IISA:

As the current IISA president, I extend my greetings to the entire readership of this newsletter. I also take this opportunity to thank the IISA membership and the appropriate nominating committee for electing me to the IISA presidency. I am truly humbled by this honor and promise to serve my term trying to uphold the

IISA mission. IISA, as we know today, has come a long way since its inception during a 1991 conference in Montreal. I happened to be present there as a young researcher. When asked, many of us contributed $20 each toward creation of this then new organization. Certainly, the mission of IISA has become more refined and broad since then and over all I feel lucky to be part of the founding membership of IISA. Certainly, that was the best $20 I have ever spent! Currently, the IISA membership has grown truly international and also includes a sizable population in India.

Clearly, IISA is presenting tangible benefits to its members through annual conference and workshop organizations where our members get the opportunity to present their research. We are undertaking a substantial number of activities for the student and young researcher members at these conferences. In addition, our participation at the Joint Statistical Meetings has been very important for the credibility of our organization. IISA news letters have been excellent resources for our memberships in various ways.

Lately, we have been fortunate enough to financially help many regional workshops both in India and USA using our revenue from membership and conferences. You can read about some of the past meetings co-sponsored by IISA in our newsletters. Therefore, I urge you to become a member of IISA if you are not already a member and become a lifetime member if you have been a member on a yearly renewal basis.

There are a number of additional projects that are currently being considered by the IISA executive board such as a partnership with the ASA Biopharmaceutical Section, a new book series with Springer, a new society journal and so on. I feel each of these activities will be of value to our members.

It is important to remember that IISA runs its operation only through volunteer members. I take this opportunity to thank everyone who has contributed his/her time to IISA related activities. Please contact me or the current IISA secretary, Soutir, if you are interested in volunteering your time for future IISA activities.

This newsletter is an excellent vehicle for sharing the success stories of our members and this issue is no exception. Feel free to send our newsletter editor, Jyotishka, success stories about you or some other member(s) that you know of. This newsletter and the bi-weekly emails are also medium of sharing our

grief and sad stories. In particular, this year, we have lost Prof. P. K. Bhattacharya of Davis; see this newsletter for an obituary about Prof. Bhattacharya.

Finally, the 2018 annual meeting is just around the corner. As the president and local host, I welcome all of you to attend the conference which is due to take place at the University of Florida, Gainesville, from May 17 through 20. The scientific program committee has prepared an exciting program, the details of which can be obtained from the conference web-site http://iisa2018.biostat.ufl.edu/. I end this write-up by asking you to seek me out to say "hello" during the conference. I look forward to seeing many of you in person very soon.

Somnath Datta
2018 IISA President

IISA-2017 Annual conference in Hyderabad, India

In 2017, the **International Indian Statistical Association (IISA)** celebrated its 25th anniversary, and its annual conference took place in Hyderabad, India at the *Hyderabad International Convention Center* (HICC) on December 27-30, 2017. The theme of the conference was **Statistics and Data Science for Better Life, Society and Science**: https://www.intindstat.org/iisaconference2017/.

This conference attracted about 450 participants from multiple countries and disciplines. It included six plenary and keynote lectures, including the inaugural keynote address by Professor Donna Spiegelman of Harvard University, the R. R. Bahadur Lecture by Professor J. Sethuraman and plenary lectures by Professors Sanghamitra Bandyopadhyay, Irene Gijbels, Malay Ghosh and Ian McKeague. The conference also included fourteen special invited lectures by eminent statisticians, probabilisits and data science experts, and a special invited session with the recipients of the IISA Young Researcher Awards of 2016. A special invited session was dedicated to the memory of Prof. Jayanta K. Ghosh, who had passed away a few weeks before the conference. In that session Prof. Sanjib Basu presented a talk on a topic of his and Prof. J. K. Ghosh's recent research interest, and several members of the audience spoke in reminiscence of Professor Ghosh. Apart from these, there were 75 invited sessions, several contributed talks and posters, and multiple panel discussions. The first day of the conference had several short courses.

Around 75 invited sessions covered a wide range of topics including time series, high dimensional data, regularization techniques, machine learning, artificial intelligence, multiple testing, Bayesian inference, sampling, quality and reliability, finance, biostatistics, clinical trials, neurosciences, climate sciences, environmental studies, probability theory, and various other disciplines. About 75 young researchers and PhD students got an opportunity to present their work as oral or poster presentation. Several prizes for student paper presentations and student poster presentations were (see the conference website for a list). We are also planning on a set of conference proceedings volumes. The participants from India and abroad represent many universities and research institutes, government bodies and diverse industries. We also aim for cultural, societal, national, and disciplinary diversity, and hope to showcase the best of Statistics and Data Science research, irrespective of the race, gender, nationality, ethnicity, orientation, beliefs and persuasions or lack thereof of the researchers themselves.

IISA 2017 Hyderabad, Saonli Basu, Sudipto Banerjee, Mahesh Iyer, Subrata Kundu, Sujit Ghosh and Singdhansu Chatterjee.

IISA 2017, Hyderabad, Snigdhansu Chatterjee, Sujit Ghosh and Malay Ghosh

Based on the feedback we received from the conference participants, the short courses and panel discussions were extremely popular, and many students and junior researchers expressed the opinion that such pedagogical and career development resources ought to be available in India more frequently. Several others expressed appreciation that IISA is extending the scope of statistical research and education by active inclusion of sessions on machine learning and artificial intelligence theory and methodology, and numerous inter-disciplinary sessions including those on bioinformatics and genetics, astro-statistics, climate statistics, neuro-statistics, business statistics and finance, to name a few. In this IISA-2017 conference, some of the participants were experts in topics other than traditional statistics, like climate sciences, geosciences, astrophysics, economics, computer science. The feedback from such domain scientists was very positive, and several expressed interests in returning to IISA conference for potential interdisciplinary collaborations.

Here's what Barry Nussbaum (ASA President, 2017) said after attending the IISA conference in Hyderabad, India:

"I had a wonderful time at the IISA conference in Hyderabad. It was very encouraging to see the number of young people enthusiastically pursuing statistical research, methodology and applications. Frankly, I was surprised and impressed by the sheer volume of excellent presentations that required an unusually large number of concurrent sessions. The meals and social events also proved conducive to meeting new people and exchanging ideas. I also thought the venue was a wonderful green and quiet spot for enjoying the conference."

One of the panel discussions was on Women in Statistics and Data Science, which is one the first of its kind in the Indian subcontinent. This panel discussion attracted a very large audience, and panelists and participants from several countries, cultures, expertise and experiences. One important lesson from this panel discussion as that while the challenges female and minority scientists encounter during their career have some common features across nations, cultures and disciplines, there are significant additional leadings from these factors also.

Such panel discussions will help IISA and other professional organizations formulate their plans to be more inclusive and involve a diverse body of data scientists and statisticians. Please see below for a report prepared by co-chair Dr. Isha Dewan.

The discipline of Statistics has expanded its scope and evolved over the years. There is a need to deliberate on the changing demands, expectations and challenges for statisticians, who are now also data scientists. We not only vigorously pursue our classical charge to collect data, lay down scientific procedures for gathering data, devise probabilistic models to explain properties of data, develop methodologies to fit such models to data and conduct scientific inference from data, these days we also engage in software and algorithm development, computer models and human-computer interactions to elicit the full benefit and power of modern computational and technological advances, including those in machine learning and artificial intelligence. We simultaneously engage with researchers in different natural and social sciences and adopt principles and methodologies that tap into the knowledge base of the various scientific domains where Statistics and Data Science is applied.

On behalf of the Scientific Program Committee for this meeting, we thank the entire Scientific Program Committee, Local Organization Committee, various committees set up by IISA to handle specialized tasks, and numerous individuals who have helped in invaluable ways in putting together this meeting. We also take this opportunity to thank all participants who have taken such an active interest in our discipline and have travelled from far and wide to present their research and studies in this meeting.

The conference participants also witnessed a superb cultural event arranged by chair of the local organizing committee, Mahesh Iyer, without whom this conference wouldn't have run so smoothly. So, thanks to Mahesh and we look forward to your active participation in IISA's future events. The IISA conference in India will be held on **December 26-30, 2019** in the beautiful campus of **Indian Institute of Technology (IIT) in the business capital of India, Mumbai** and we look forward to seeing many of you there and have even a bigger celebration with many exciting research and cultural activities.

Contributed by: Ansu Chatterjee, Isha Dewan (Co-Chairs of SPC, IISA Conference, 2017), and Sujit Ghosh (IISA President, 2017).

Student Poster Competition at IISA 2017. (L-R) Farha Sultana, Thenmojhi Mani, Noirrit K. Chandra and Trambak Banerjee.

IISA 2017 Award Ceremony, Samiran Ghosh receiving Young Researcher award in the Application Category from Sanjib Basu.

Panel Discussion: "Women in Statistics"
Contributed by: Isha Dewan, Indian Statistical Institute, Delhi.

Participants: Lindsay Renfro, Mayo Clinic; Akansha Kashikar, University of Pune; Deborah Schneider, Imperial College; Meenakshi Mahanta, Cytel; Sanghamitra Bandyopadhyay, Indian Statistical Institute; Sastry Pantula, Oregon State University; J.V. Deshpande, University of Pune and Isha Dewan, Indian Statistical Institute (Moderator).

There was an appreciation of the fact that women had been very well represented at IISA 2017- three of the plenary speakers, and eleven of the members in the program committee were women.

Each of the women members in the panel and several in the audience reiterated that they could reach where they are because of privileged circumstances. The panel looked at the admission statistics vis-a-vis gender in research institutes and Universities in India and abroad. It was felt that the percentage of girls getting admission into institutes like IITs, ISIs was very less compared to the boys. The panel felt that this may be due to differences in the awareness levels as well as the opportunities (like lack of proper training). Hence, some short-term programs for female high school students might be useful for making girls aware about the available options and guiding them on the right track.

Deborah and Lindsay mentioned about the unofficial dress codes imposed on women. The two men on the panel, who have a very vast experience in academic institutions, pointed out that they realize and appreciate the family responsibilities on women. Once you discount for this fact, they found female colleagues equally efficient and motivated.

Academic institutes in India, by rule are required to have a sexual harassment cell. The students may not be aware of it. Conscious efforts should be made to convey this information to newly admitted students every year. Similar policy may be required at the corporate level. New employees need to receive this information during their formal orientation (if any) or during the first couple of weeks of joining.

Sexual Harassment is also an issue at Conferences in India and abroad. The panel recommends that a point of contact for such issues should be decided early and should be part of Conference Announcements. This would encourage active participation from female participants.

Panel Discussion: "Biostatistics"
Contributed by: Bhaswati Ganguli, University of Calcutta.

A panel discussion on Biostatiistics education was convened by Prof Bhaswati Ganguli with Prof Donna Spiegelman, Prof Sudipto Bannerjee, Dr. Eric Vance, Prof Asha Gopalakrishnan, Dr. Vishwanath Iyer and Dr. Arpita Ghosh as panelists. The following issues were discussed:

1. Current resources available for biostatistics education in India and elsewhere, both for graduate students of statistics as well as for practicing researchers.
2. Impediments to the spread of biostatistics education in India
3. Essential components of a graduate curriculum in biostatistics,
4. The importance of statistical consulting
5. The role of industry academia collaboration

The panel felt that there was a general lack in availability of resources for biostatistics researchers in India and felt that development of e learning could be one possible means of bridging the gap. The panel acknowledged that the theory vs practice debate could deter young statisticians from opting for a career in biostatistics. While the panel also acknowledged the rapid advances in computational capability in recent times, the general recommendation was that it was not necessary to keep revamping the core components of graduate education in biostatistics and that importance should be given to fostering interdisciplinary learning via statistical consulting and industry academia partnerships. LISA, a network of practicing statistics laboratories across the world could serve as a means for promoting literacy in biostatistics in the developing world.

Panel Discussion: "Challenges of Data Scientist & Research opportunities for Academia"
Contributed by: Sayaji Hande.

Session Chair, Dr. Hande initiated planned panel discussion. The participants were mix of industry Data Scientists & researchers in academia. Following are a few points that were concluded. Panel Included: *Dr. Anantharaman Narayana (Consultant), Professor Anil Gore (Cytel), Aniruddha Deshmukh (Cytel), Professor Isha Dewan (ISI), Kalyan Teja (Knolscape), Saurabh Banerjee (Newgen)*. The following points emerged from the panel discussion:

Data Scientist: The panel started out by providing more clarity on what a Data Scientist means. As it turned out, there is a range of people which are termed as Data Scientists, but the broad classification is between people working in industry vs those working in academia.

Quick Tangibles: Industry expects instant gratification. The Data Scientists do not get enough time and space for doing their work effectively. They are over-burdened and pressured to meet strict deadlines.

Broad versus In-depth Knowledge Base: DS in industry usually have a shallow but broad knowledge base, whereas DS in academia are more likely to have deep knowledge in a comparatively narrow set of topics.

Academia and Research Interactions: - Why we don't have interaction between Academia and Research? rom research perspective, it is believed that people in corporate/industry don't have patience and trust, lack of which makes collaboration quite difficult.

Panel Discussion: "Are Statisticians Prepared for the Data Science Challenge?"

This discussion was well attended and appreciated. All scheduled speakers participated. Each speaker gave an opening statement and then the discussion followed the list of questions suggested by Amarjot Kaur, the convener. IISA President made opening remarks. An opportunistic sampling of audience reaction suggested that the two presidents (past and present) of ASA namely Barry Nusbaum and Sastri Pantula made great impression on the listeners.

There was agreement about the need for basic skills including mathematics, statistics and computing. In addition, other skills necessary for a successful collaboration with users and potential users of statistics were spelt out by speakers. Barry Nusbaum appealed to the audience to learn the language and customs of the users, to play as members of an interdisciplinary team and always to think of the other persons viewpoint. To him effective communication is perhaps the key to success as a statistician.

Sastry Pantula pointed out that one of the top jobs in US even today is that of a statistician. He mentioned retail, sports, health and climate as examples of big data. He pointed out that data availability is so high that the only factor limiting its use is our ability to analyze and interpret the data. Main problems with big data are: lack of structure, heterogeneity and volume that defies downloading. He argued that statisticians must ensure that analysis is timely, adding value, incorporating effective visualization and integrative. Eric Vance suggested that the third world needs lots of help in statistics capacity building to benefit from the super-abundant data. He felt that societies with developed statistical communities can play a useful role given the right attitude and communication.

Thank you to all who attended and made the excellent event possible

Reports from IISA co-sponsored events

Statistical Methods in Finance 2017, December 16-19, 2017.

Overview: The third workshop and conference on Statistical Methods in Finance, 2017. The conference exposed the participants to new and active areas of research and engaged researchers into active working groups. Chennai Mathematical Institute (CMI) and Indian Statistical Institute (ISI) jointly hosted the third workshop-conference on "**Statistical Methods in Finance**" and we will continue to do so in future. The event was sponsored by MCX-IPF Trust, Indian Statistical Institute, International Society for Business, and Industrial Statistics (ISBIS), and International Indian Statistical Association.

Rajeeva L. Karandikar conducted a workshop on "Introduction to Stochastic Calculus". The plenary speakers were Dipak K Dey, University of Connecticut, USA, Ronnie Sircar, Princeton University, USA and Tomasz Bielecki, Illinoi Institute of Technology, USA (via video conference). The list of invited speakers is given below:
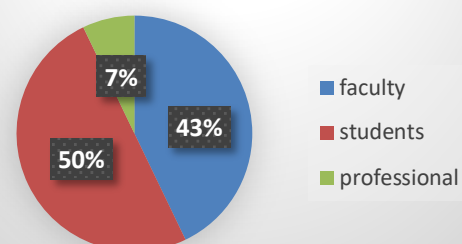
Invited Speakers
- Anirban Chakraborti, Jawaharlal Nehru University, New Delhi
- Gopal Basak, Indian Statistical Institute, Kolkata
- Indranil Sen Gupta, North Dakota State University, USA
- Pritam Ranjan, Indian Institute of Management, Indore
- Ravindra Khattree, Oakland University, USA
- Santanu Dutta, Tezpur University, Tezpur, Assam
- Sudheesh Kumar Kattumannil, Indian Statistical Institute, Chennai
- Sujit K Ghosh, North Carolina State University, USA
- T.V.Ramanathan, Savitribai Phule Pune University, Pune
- Yue Kuen Kwok, Hong Kong University of Science and Technology,Hong Kong, China

Participants by Country

Country	Participant
Hong Kong, China	1
Chech Republic	2
USA	6
India	46

Participants Status

- faculty 43%
- students 50%
- professional 7%

9

Contributed by: Sourish Das, Chennai Mathematical Institute, Rituparna Sen, Indian Statistical Institute, Chennai.

Workshop on Times-to-Events and Time Series Data Analysis using R (December 15-18, 2017).

The Department of Statistics, Cochin University of Science and Technology (CUSAT) in collaboration with International Society for Business and Industrial Statistics (ISBIS) and the University Grants Commission (UGC) of India has conducted a *Workshop on Times-to-Events and Time Series Data Analysis using R* during 15 - 18, December 2017. The workshop was also financially supported by the **International Indian Statistical Association (IISA)** and Department of Science and Technology, Government of India.

The workshop was formally inaugurated by Dr. J. Letha, the Vice-Chancellor of CUSAT on 15th December at the Department of Statistics. There were 65 registered participants; 32 attended the *Times-to-Events* part, and 33 attended the *Time Series* part.

The modules on different aspects of Times-to-Events were run by Prof. Debasis Kundu (IIT Kanpur), Prof. Asha Gopalakrishnan (CUSAT) and Prof. P. G. Sankaran (CUSAT) in a large classroom. The Department Computer Lab was used for the data analysis portion using R. They covered topics such as modelling and analysis of reliability, survival analysis, and competing risks.

The hands-on Time Series Analysis modules were all held in the Department Computer Lab. The sessions on Time Series were engaged by Prof. Nalini Ravishanker (University of Connecticut) and Prof. N. Balakrishna (CUSAT). Topics such as classical decomposition models, Box-Jenkins approach, heteroskedastic models, state-space models, frequency domain analysis, and clustering of time series were covered.

A few photos taken during the CUSAT 2017 Workshop. Courtesy: N. Balakrishna, Convener of the Workshop. Department of Statistics, CUSAT., Cochin, India.

Report: IRSA Annual Conference of 2017
Contributed by: N. Balakrishna, Department of Statistics, CUSAT., Cochin, India

The inaugural 2017 annual conference of the Institute for Research in Statistics and its Applications *(IRSA,* http://irsa.stat.umn.edu/) was organized on May 5-6, 2017. The theme of this meeting was: Neuro-Statistics: The interface between Neuroscience and Statistics. We had planned this event to be centered exclusively around the annual theme, with no parallel sessions, and only plenary lectures, invited talks and poster presentations.

This was a very successful program, with 111 registered participants from all over USA. The first item on the program was a 4- hour short course by Martin Lindquist, which was greatly appreciated by the participants, many of whom were statisticians wanting to learn more about the data and the statistical challenges that arise in various studies relating to Neuroscience. This short course was followed by three plenary lectures and four invited talks.

The plenary speakers were the prominent neuroscientists Vince Clark of University of New Mexico and Professor David Essen of Washington University in St. Louis, and the prominent statistician working in this topic Martin Lindquist of Johns Hopkins University.

The focus of the workshop was on methodology, applications, and data analysis using R packages. The four-day event went on very well with very positive feedback from the participants. I take this opportunity to thank all the resource persons, the funding agencies, the sponsors, and the participants for helping me to organize this successful academic event.

The culmination of the program was an enthusiastically participated poster session. The poster session was open to all participants; however, the competition section of the poster session was for students (including post-doctoral students) only.

The International Indian Statistical Association (IISA) had kindly provided a grant of $500, for the best student poster award in this conference. Professors Clark, Essen and Lindquist acted as judges for this award, and selected the poster by Dr. P. Pesharady of the Department of Radiology and Center for Magnetic Resonance Research at the University of Minnesota. We extend our congratulations to Dr. Pesharady and thank the IISA for their generous sponsorship of this award.

The 2018 annual IRSA meeting will be held on May 3-5, 2018, with the theme Statistics and Data Science for Earth Systems, and Professors Douglas Nychka, Richard Smith, Timothy DelSole and Jessica Hellmann as plenary speakers, and several distinguished invited speakers. We plan to follow a layout like the 2017 conference: namely, short courses to familiarize statisticians interested in working on this inter-disciplinary topic, followed by plenary lectures, invited talks and poster presentations centered exclusively around the annual theme, with no parallel sessions. We welcome everybody to register and participate.

Congratulate Our Award Winners!

We are happy to announce the winners of the 2018 IISA Young Statistical Scientist Awards (YSSA). The award in the Theory and Methods category is given to **Natesh Pillai** from *Harvard University* and **Sanjay Chaudhuri** from *National University of Singapore*. **Debashis Ghosh** from *Colorado School of Public Health* and **Sujata Patil** from *Memorial Sloan Kettering Cancer Center* are both recipients of the award in the Applications category. Finally, the award in the newly constituted Statistical Practice category is conferred to **Sandeep Menon** from *Pfizer Inc.*

The YSSA selection committee is chaired by Ananda Sen, (University of Michigan). The other members of the committee are Rahul Mukherjee (IIM Calcutta), Amarjot Kaur (Merck & Co. Inc.), Aloka Chakravarty (FDA), Isha Dewan (ISI Delhi), and Sudipto Banerjee (UCLA). More details about the award can be found at the following link: https://www.intindstat.org/YSSA The awards will be presented at the IISA Conference in Florida on May 18th during the banquet dinner.

Congratulations to our winners!

Donate to the Bahadur Lecture Series

Hira Koul appeals to you on behalf of the IISA Fundraising Committee to donate for establishing a series of Bahadur Lectures at every IISA meeting, in the spirit of the Wald Lectures at IMS conferences. The invited person would give 1-3 lectures on a current topic.

On December 28, 2017, Prof. Jayaram Sethuraman delivered the inaugural R. R. Bahadur Lecture entitled 'The origins of the stick breaking representation for Dirichlet priors' at the IISA 2017 conference in Hyderabad. This year, Alexandre Belloni will deliver the 2nd Bahadur Lecture during IISA 2018 in Florida.

We appeal to you to help the IISA to keep this series running by donating to the cause. Any amount helps!

Donations to IISA are U.S. federal tax deductible. You can make an online donation by going to https://www.intindstat.org and clicking on the link on the left in the "Donate" box.
Alternately, you can send your check made out to IISA (please mention the purpose) to

Prof. Subrata Kundu, Treasurer, IISA
Department of Statistics
George Washington University
Washington, DC 20052

Member News

Anirban Bhattacharya

Anirban Bhattacharya, Assistant Professor at Texas A & M University has been selected to receive the American Statistical Association's 2018 Gottfried E. Noether Young Scholar Award recognizing significant early-career contributions in nonparametric statistics. The Noether Young Scholar Award is given each year to an young researcher under the age of 35 who has made significant contributions to the area of nonparametric statistics in research or teaching.

Prem Narain

Prem Narain, formerly Director of Indian Agricultural Statistics Research Institute, New Delhi, has recently been associated with *Journal of Agronomy Research* (JAR) as Editor-in-Chief. This is a journal in a series of open access peer reviewed journals in different fields of science, technology and medicine including big data analytics of Open Access Pub. His Editorial to the first issue of JAR entitled 'The Changing Scenario of Agriculture' has been published on December 26, 2017. It can be viewed at the web site of JAR (https://openaccesspub.org/jar/article/656).

Soutir Bandopadhyay

Soutir Bandyopadhyay was promoted to the rank of Associate Professor in the Department of Applied Mathematics and Statistics at Colorado School of Mines.

Kiranmoy Chatterjee

Kiranmoy Chatterjee, Assistant Professor of Statistics, Bidhannagar College, has been awarded the "Raja Rao Memorial Prize: 2017-18" by Indian Statistical Institute on January 2018 for outstanding research contribution. This award is given for the best research work done in India in Survey Methodology, Econometrics, Demography and related topics.

J.N.K. Rao

M.P. Rajan, Professor and Dean, Indian Institute of Science Education and Research Thiruvananthapuram has been awarded Dr. APJ Abdul Kalam Life Time Achievement National Award (2018) for distinguished contribution in the development of the nation and achieving outstanding excellence in the field of Teaching, Research and Publications. The award is instituted by International Institute for Social and Economic Reforms, Bangalore.

V. Srinivasa Rao

V. Srinivasa Rao, Professor of Statistics and University Head at the Agricultural College in Acharya N.G. Ranga Agricultural University in Bapatla, was elected to be the Editor of *The Andhra Agricultural Journal* for 2017-2019.

NEW IISA LIFETIME MEMBERS

a. **Hon-Yiu So, Department of Statistics and Acturial Science, University of Waterloo.**
b. **William Volterman, Department of Mathematics, Syracuse University.**
c. **Mohd Khalid, Department of Applied Mathematics, IIT (ISM) Dhanbad.**
d. **Navdeep Singh, Assistant Director, Labour Bureau, Chandigarh.**
e. **Samprit Banerjee, Weill Medical College, Cornell University.**
f. **Suhasini Subba Rao, Texas A & M University**
g. **Yuwen Gu, University of Connecticut.**
h. **Pranab Ghosh, Cytel Inc.**
i. **Your name here…**

To become a lifetime member, please go to http://www.intindstat.org/membership

Obituary for Pradyot Kumar Bhattacharya (1930-2018)

By Prabir K. Burman and Debashis Paul, University of California Davis

Prodyot K. Bhattacharya was born on September 30, 1930, in Calcutta (Kolkata now), India. He came from a rather humble background and grew up in Calcutta with his father and four siblings after the untimely death of his mother at a young age. He passed away on March 9, 2018, at his residence in Davis, California. He is survived by his wife Srilekha Bhattacharya, daughters Suparna Jain and Aparna Anderson, and grandchildren, Arjun and Anjali Jain, and Anil and Mira Anderson.

P. K. Bhttacharya, fondly known as PK among his colleagues, had his early schooling at the Scottish Church High School in Calcutta, and then joined the Presidency College in 1947. Statistics education was at its infancy then, and he was one among the second batch of students in Statistics at the Presidency College. He earned his B. Sc. in 1951, M. Sc. in 1953, and Ph.D. in 1960, all from Calcutta University. His Ph.D. supervisor was Professor H. K. Nandi, and his academic brothers include distinguished statisticians such as Professors J. K. Ghosh and P. K. Sen.

P. K. Bhattacharya's academic career spanned more than half a century. He retired from the Statistics faculty of the University of California, Davis, in 1994, but his contributions to statistical science continued until 2016. He was a research scholar at Calcutta University and Indian Statistical Institute, Calcutta, from 1954 to 1960. After working as a Research Associate with Professors S. N. Roy and Ingram Olkin at the University of North Carolina, Chapel Hill, and at Stanford University, in 1963 he joined the Indian Statistical Institute, Calcutta, as a reader. He was invited in 1965 to join and develop the statistics program at the University of Arizona, Tucson, and stayed in Arizona until he joined the University of California, Davis in 1980. Statistics at UC Davis was taking root as a program in its own right, and Professor Bhattacharya was instrumental in developing a well-balanced and rigorous graduate program in Statistics at UC Davis.

P.K.Bhattacharya

Professor Bhattacharya was an embodiment of the maxim ``gentleman and scholar''. Not only students, but many of his colleagues benefitted from his advice, mentoring and guidance over the years. His colleagues at Davis are grateful to him for the guidance and vision he provided in building the Statistics department at UC Davis. His encyclopedic knowledge of the statistics literature was a great resource for colleagues and students alike. His colleagues showed their affection and respect for his contributions by publishing a Festschrift in 2011 on the occasion of his 80th birthday. As a teacher, he was unusually gifted with his ability to convey even the most difficult concepts and topics by breaking them down in understandable, short and logically connected pieces. Though he retired in 1994, he continued to teach a Ph.D. level mathematical statistics course for many years at the request of the Statistics Department. His lecture notes in mathematical statistics, which have been used over the years by many colleagues at Davis, were published in the form of a graduate level textbook, coauthored by P. Burman, in 2016.
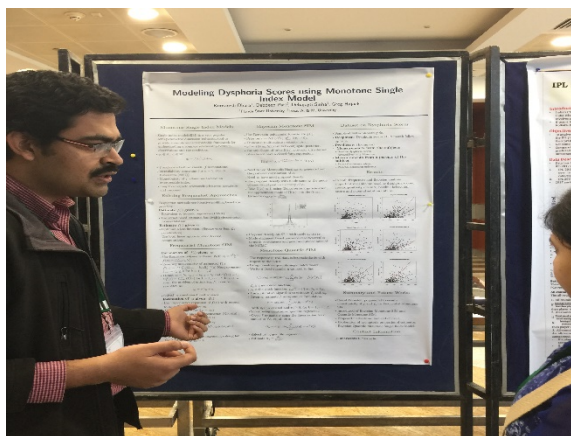
In his distinguished academic career, Professor Bhattacharya made highly significant contributions to many areas of Statistics with far-reaching impact outside of statistics. His research contributions are characterized by careful attention to details, and by deep, insightful, precise, and innovative thinking. His scholarly contributions included, but were not limited to, nonparametrics, function estimation, incomplete data, change-point analysis, sequential analysis, probability, and stochastic processes. We highlight a few selected pieces, even though it does not do justice to the totality of his contributions. P. K. Bhattacharya along with K. R. Parthasarathy (1961) made a significant early contribution to the understanding of Mahalanobis' innovative idea of fractile graphical analysis. Stein's shrinkage estimation for the mean of k populations has been part of folklore in statistics.

One of the seminal contributions of Professor Bhattacharya was to generalize Stein's idea to produce an estimator when the common variance was unknown (1966). Well before nonparametric function estimation became a popular research topic in statistics, he performed asymptotic analysis of nonparametric function estimation in his 1967 paper. His joint work with D. Frierson in 1981 produced a distribution-free and robust method for detecting changes in control chart problems. P. K. Bhattacharya along with H. Chernoff and S. Yang (1983) produced an elegant nonparametric method for truncated data, and this method had direct impact in the analysis of cosmological data. As one of his most significant contributions to change-point analysis, Bhattacharya (1987) studied the large sample behavior of the maximum likelihood estimator of an unknown change-point and described the limit through the maxima of a Brownian motion process with drift. He also made significant contributions in cytology in collaboration with biologists.
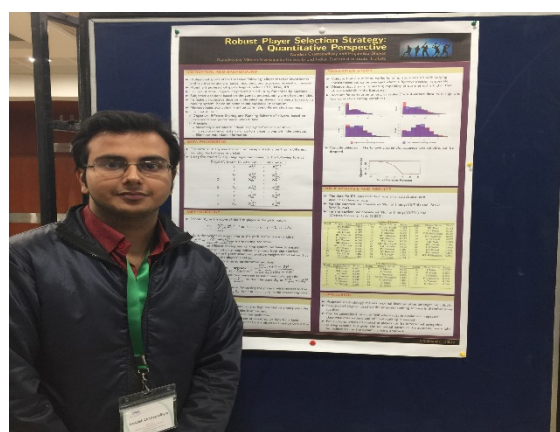
Professor Bhattacharya was a polymath in the true sense of the word. He had wide knowledge of literature, classical music, opera, arts, history, and even wine. Those who knew him were amazed by his photographic memory, exemplified by his recitation of Tagore's poems, and his knowledge of the context and time when they were written. His deep love for music began at an early age and he learnt Indian classical music on sitar for a while. He was possessed by wanderlust and traveled far and wide. He regaled his friends with stories about his travel experiences: the heights of Machu Picchu, the vastness of Angkor Wat, the grandeur of the Valley of the Kings, the wide expanse of the Serengeti, and much more. P. K. Bhattacharya will be missed as a great teacher, brilliant scholar, guide, mentor, and above all as a perfect gentleman.

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IISA 2017 Poster Session: Kumaresh Dhara

IISA 2017 Poster Session: Nandish Chattopadhyay

Upcoming Conferences and Workshops

Please click on the end of the link to connect to the conference websites.

IISA 2018: From Data to Knowledge, Working for a Better World

University of Florida at Gainesville, USA
May 17-20, 2018
http://iisa2018.biostat.ufl.edu

Midwest Machine Learning Symposium

Logan Center, Chicago, USA
June 6-7, 2018
http://midwest-ml.org

ISBIS 2018 Meeting on Statistics in Business and Industry

University of Piraeus, Greece
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Workshop on Mathematical Finance

Indian Institute of Science Education and Research
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July 12-17, 2018
https://sites.google.com/site/mathematicalfinance

ASA Biopharmaceutical Section Regulatory-Industry Statistics Workshop

Marriott Wardman Park, Washington DC, USA
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http://ww2.amstat.org/meetings/biopharmworksho p/2018/

Tenth International Triennial Calcutta Symposium on Probability and Statistics

Department of Statistics, University of Calcutta,
35 Ballygunge Circular Road, Kolkata 700019, India.
December 27-30, 2018
Web: triennial.calcuttastatisticalassociation.org

ICSA 2018 Applied Statistics Symposium
Hyatt Regency New Brunswick, New Jersey, USA
June 14-17, 2018
http://www.icsa.org/icsa/events/june-14-17-2018-icsa-2018-applied-statistics-symposium

ICSA 2018 ICSA China Conference

Shangri-La Hotel, Shandong, China
July 2-5, 2018
http://www.icsa.org/icsa/events/july-2-5-2018-2018-icsa-china-conference

ICSA 2019 Applied Statistics Symposium

Raleigh Convention Center, North Carolina, USA
June 9-12, 2019
http://www.icsa.org/icsa/events/june-9-12-2019-icsa-2019-applied-statistics-symposium

Emerging Innovations in Statistics & Operations Research (EISOR-2018).

Department of Statistics, M.D. University, Rohtak-124001 Haryana (India).
December 27-30, 2018.
In conjunction with 38th annual convention of Indian Society for Probability and Statistics (ISPS)" and 3rd convention of "Indian Association for Reliability and Statistics (IARS)".

(The conference to be held, is focused to disseminate knowledge as well as to share basic ideas about the use and applications of the subjects Statistics and Operations Research for solving real life day to day and management problems.)

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