The Department of Statistics Fall 2023 Newsletter



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DEPARTMENT OF STATISTICS

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A Message from the Department Head



Welcome to the 26th issue of our Department Newsletter. The department continues to grow and to be active. Currently, we have 20 tenure and tenure-track faculty members, 2 Assistant Professor in Residence, two Lecturers, 5 adjunct faculty members, and 12 faculty members from Allied Health Science, Mathematics, Nursing Instruction and Research, UCHC, Computer Science & Engineering, Ecology and Evolutionary Biology, and Electrical & Computer Engineering, who have affiliated appointments with Statistics. In fall 2023, we have 88 graduate students enrolled in

our graduate program, of whom 60 have received financial support, 39 graduate students in MS in Data Science, 167 Stat major or double major undergraduate students, 6 BS in Statistical Data Science, 88 Math-Stat major or double undergraduate students, and 57 Stat minor undergraduate students. I am pleased to report that the department has opened up a tenure-track position at the rank of Assistant or Associate Professor, in statistical machine learning and a tenure-track position at the rank of Assistant Professor, in modern statistical computing (https://jobs.hr.uconn.edu/en-us/job/497888/). The department also seeks a tenure-track faculty at the rank of Assistant Professor to join a cluster hire in Artificial Intelligence (AI)/Machine Learning (ML): Understanding and Addressing Natural and Climate Change-Related Disasters (https://jobs.hr.uconn.edu/en-us/job/497982/).

UConn MS in Data Science Program (https://masters.datascience.uconn.edu/). This 30-credit on-campus data science career-focused master's degree program was successfully launched in fall 2022, with an integrated multidisciplinary core of seven courses (18 credits) that provide foundational data science knowledge and skills. The department has been integrally involved in this program. Thanks to Professors Nalini Ravishanker and Kun Chen for representing the Statistics Department and the College of Liberal Arts and Sciences on the MS in DS Steering Committee and on the Admissions Committee.

UConn CLAS UG Statistical Data Science and Applied Data Analysis Majors. Beginning in fall 2023, the College of Liberal Arts and Sciences will offer two new undergraduate degrees in data science: a Bachelor of Science (BS) in Statistical Data Science, offered through the Department of Statistics, and a Bachelor of Arts (BA) in Applied Data Analysis. The Department of Statistics continues to play a major and vital role in the development of the CLAS Undergraduate Statistical Data Science and Applied Data Analysis majors. Professor Elizabeth D. Schifano is the co-chair of

the CLAS Undergraduate Data Science Committee with Political Science Professor Lyle Scruggs, tasked with the creation of this Undergraduate Data Science Program.

Our newly hired Assistant Professor Mary Lai Salvana just joined the Department on December 15, 2023 while our other newly hired Assistant Professor Ying Zhou will join the Department in July 2024. Both Mary and Ying will be a great addition to the Department. During the past year (fall 2022-fall 2023), many of our faculty received prestigious awards. Our faculty members continue to be successful in obtaining external and internal research grants. A detailed list of our faculty's achievements can be found in the section entitled "Faculty Awards and Achievements" in this newsletter. In 2023, we have over 30 PhD students who graduated. I am also very happy to share that our graduate and undergraduate students have received many prestigious awards from various statistical associations and statistical conferences. A list of student awards and recognitions can be found in the section entitled "Student Awards and Achievements" in this newsletter. I am very proud of our students for their amazing achievements.

I would like to thank Professor Robert Aseltine, Chair, Division of Behavioral Science and Community Health and Director, Center for Public Health and Health Policy, for his continuous sponsor of research collaborations with our faculty and graduate students. I would also like to thank Professor James Grady, Director of Biostatistics, Connecticut Institute for Clinical and Translational Science, for providing financial support and research opportunities to many of our graduate students. We enjoy close research collaboration with the School of Nursing, UConn Facilities Operations, UConn Office of Vice President for Enrollment, Planning, and Management, and the School of Pharmacy. The Director of the Statistical Consulting Services (SCS), Timothy Moore, has done an amazing job to lead SCS for another successful and productive year.

During the period of fall 2022 to fall 2023, the department continues to be very active in organizing national and international conferences, including the 6th Stat4Onc Annual Symposium on May 10-12, 2023 (Ming-Hui Chen, Co-organizer) (https://stat4onc.org/events/stat4onc2023/), and the Dose Finding and Other Topics in Drug Development conference on June 7-9, 2023 (https://events.stat.uconn.edu/drug-development/index.html); Statistics in Pharmaceuticals (SIP 2023) on August 17-18, 2023 (https://events.stat.uconn.edu/drug-development/index.html); 2023 NextGen Data Science Day Conference (https://events.stat.uconn.edu/sIP2023/); 2023 NextGen Data Science Day Conference (https://statistics.uconn.edu/pfizer-colloquium/) on October 25, 2022. We also hosted a very successful UConn Alumni & Friends Luncheon in the 2023 JSM on Wednesday, August 10, 2023 at Toronto from 12 PM to 2 PM with 36 guests.

This year, we have two recipients of the UConn Statistics Department Distinguished Alumni Awards, Cristina Sison '95 Ph.D. and Sujit K. Ghosh '96 Ph.D. Cristina is currently Director of the Biostatistics Unit within the Office of Academic Affairs at Northwell Health, a nonprofit healthcare network based in Long Island, New York. Cristina delivered the Distinguished Alumni Lecture entitled "Perspectives from the Realm of Statistical Consulting" on September 20, 2023. Sujit is Professor in the Department of Statistics at the North Carolina State University. He served as the Program Director in the Division of Mathematical Sciences (DMS) at NSF in 2013-2014; the Deputy Director at the Statistical and Applied Mathematical Sciences Institute (SAMSI) in 2014-2017; and the interim Department Head of Statistics at NC State in 2022-2023. Sujit delivered his

Distinguished Alumni Lecture entitled "Nonparametric Estimation of Multivariate Copula using Empirical Bayes Method" on September 27, 2023.

The first 3 inaugural issues of the New England Journal of Statistics in Data Science (NEJSDS) have been published online at https://nejsds.nestat.org/journal/NEJSDS/issues/. NEJSDS is cosponsored by CLAS, University of Connecticut. Co-editors-in-chiefs are Min-Ge Xie (University of Rutgers) and myself (UConn). HaiYing Wang serves as the Managing Editor, Haim Bar serves Editor of Software Section, and Elizabeth Schifano serves as Associate of Biomedical Research Section. Also, Dipak K. Dey serves as a Guest Editor of NEJSDS special issue on "Modern Bayesian Methods with Applications in Data Science" and HaiYing Wang serves as Co Guest Editor of NEJSDS special on "Design and Analysis of Experiments for Data Science".

In fall 2021, Dipak K. Dey and his wife, Rita created the Dr. Dipak and Mrs. Rita Dey Doctoral Fellowship to support incoming or continuing doctoral level students pursuing a program of study in statistics or data sciences. I would invite you to honor Dipak's legacy by making a gift (https://www.foundation.uconn.edu/giving-details/). Your gift to the Dr. Dipak and Mrs. Rita Dey Doctoral Fellowship will make a difference in the lives of our perspective students.

Looking forward, I expect that the department will successfully recruit 3 new faculty members in the fields of statistical machine learning; modern statistical computing; and Artificial Intelligence (AI)/Machine Learning (ML). In 2024, the Department will also host 4 major conferences, including the 37th New England Statistics Symposium (https://symposium.nestat.org/) on May 20-24, 2024. I would also like to invite our alumni to come back to visit us in-person and to attend one of the conferences we will host on UConn Storrs campus in 2024. I wish all having safe, healthy, and happy Christmas and New Year.

Ming-Hui Chen (ming-hui.chen@uconn.edu)

A Message from The Undergraduate Program Director



Congratulations to all of our recent graduates and to all those graduating this year! I wish them well in their future careers, either as they continue their education in graduate school, or accept jobs in industry or government.

I am excited to announce that the Department of Statistics launched the new Statistical Data Science major this Fall, and are seeing great interest among both current and prospective students. We also continue to offer a major in Statistics and a major in Mathematics-Statistics (jointly with Mathematics),

as well as a minor in Statistics. As of the beginning of Fall 2023, there are over 260 students across the three majors and over 60 Statistics minors at the Storrs campus. We further remain committed to connecting students with undergraduate research opportunities, internships, career networking events, and other resources. Please visit the department website at www.statistics.uconn.edu for more information about our undergraduate program, and information for prospective majors and minors.

Elizabeth Schifano (<u>elizabeth.schifano@uconn.edu</u>)

A Message from The Graduate Program Director



In this age of big data, statistical knowledge, skills, and way of thinking are becoming increasingly important. Our department's vibrant graduate programs provide excellent learning and research experiences to prepare students for a successful career in statistics and beyond. In addition to the Ph.D. and M.S. programs in Statistics, we have the Professional M.S. program in Biostatistics. We also participate in UConn's M.S. in Data Science program. These programs offer a broad spectrum of modern courses on advanced statistical theories and methodologies, statistical computing, data science, consulting, and exciting "hot" topics in statistics. Through our Statistical

Consulting Services, students are engaged in research in many areas of science and technology and provide support to the research community of UConn. We have an extensive collaboration with faculty members in educational, medical, biological, health and environmental sciences, and our graduate students have the opportunity to be employed as research assistants on many of their funded research projects. Through our graduate programs, our graduate students are well equipped and are highly sought after by industries and academics.

I am glad that you visit our web pages and highly recommend that you learn more about our graduate programs. For more information, including course offerings, research and other academic activities, news updates, and admissions, please go to the department website: https://statistics.uconn.edu/.

Zhiyi Chi (Zhiyi.chi@uconn.edu)

Welcome to Our New Hires

Mary Lai Salvana, Assistant Professor <u>marylai.salvana@uconn.edu</u>



Mary Lai Salvana, Ph.D. joined the department at the Storrs campus this December as an Assistant Professor. Originally from Philippines, Dr. Salvana received her B.S. in Applied Mathematics from Ateneo de Manual University, her M.S. in Applied Mathematics from Ateneo de Manila University, and her Ph.D. in Statistics from King Abdullah University of Science and Technology (KAUST). Before joining the department, Dr. Salvana was a Postdoctoral Researcher in the Department of Mathematics at the University of Houston. Dr. Salvana's research interests include multivariate space-time statistics, environmental statistics, high performance computing, extreme events, risks and disasters, and climate change.

Ying Zhou, Assistant Professor yzhou@uconn.edu

Ying Zhou, Ph.D. will join the department of Statistics at the Storrs campus next Fall 2024 as an Assistant Professor. Dr. Zhou received her B.S. in Mathematics and B.A in Economics from Wuhan University, her M.A. in Mathematics of Finance from Columbia University, and her Ph.D. in Statistics from the University of Toronto. Before joining the department, Dr. Zhou was a Postdoctoral Fellow at the University of Pennsylvania. Dr. Zhou's research interests include causal inference and interdisciplinary data science.



A Message from the Director of the Statistical Consulting Services

The Statistical Consulting Services (SCS) has had another successful year, with the majority of our consultations still taking place remotely via WebEx, though we have resumed some in-person meetings and workshops. Since February 2023, the SCS assisted over 140 full, walk-in and online clients, drawn from across the Storrs and regional campuses, including UConn Health, as well as non-UConn affiliated clients.

Highlights from the past year include conducting in-person statistical programming workshops for faculty and students from across campus and beyond. We look forward to hosting more in-person workshops in the coming months. Members of the SCS also assisted with mentoring an undergraduate from Harvard University as part of the NextGen Data Science initiative of the New England Statistical Society, and Director Tim Moore gave a guest lecture on statistical consulting for a class at Denison University.

The SCS has continued to be involved with the successful publication of manuscripts over the last year, with 5 papers published so far this year, including a study in The American Statistician. We have also been actively involved in assisting with numerous grant proposals, and we are excited to see these receive support. Additionally, three UConn researchers have been awarded funds to conduct their first ever analyses in partnership with the SCS over the next few months as part of an internal OVPR funding initiative.

The SCS is continuing to partner with Jeremy Balsbaugh and Jen Liddle to develop an analysis pipeline for Proteomics experiments conducted through the PMF core. This semester, these efforts are being supported by the Department of Statistics student Shiying Xiao. This pipeline will facilitate the analysis of many of the research projects conducted by UConn's researchers, increasing the efficiency and statistical rigor with which their experiments can be analyzed.

Timothy Moore (timothy.e.moore@uconn.edu)

Undergraduate Student News



Our "Data Huskies" team (Mathew Chandy, Shivaram Karandikar, Sana Gupta, Hari Patchigolla, Giovanni Lunetta) won the award for Best Statistical Insight at the 2023 DataFest challenge.



The Joint Statistics Club

As an undergraduate Statistics student at UConn, some of my most valuable experiences have come from my connections with other Statistics students at the undergraduate and graduate levels. However, I wanted to broaden the Statistics community at UConn so that other students could learn from each other and be more informed about opportunities available to them. Along with Mathew Chandy (UG Senior) and Min Lin (Ph.D. Student), I started the Joint Statistical Club this Fall. Since then, we have expanded our e-board to include two more undergraduate Statistics students, Lucy Liu (UG Freshman) and Wenhao Ruan (UG Senior). Our club currently has over 70 registered members spanning students in statistics, computer science, business, mathematics, and engineering.



The Joint Statistical Club's mission is to connect undergraduate and graduate students interested in Statistics through social events, workshops, and community engagement. We meet biweekly and discuss internship and research opportunities, career planning, and skills development. We have led a two-part R programming workshop, which was inspired by feedback from first- and second-year students who expressed interest in learning R programming earlier than it is taught in the curriculum for the major.

Our group also organized volunteers for the New England Statistical Society Data Science Day conference, which allowed members to give their time to the Statistics community while building connections with community members. Conferences like these are often difficult for younger students to approach, and NESS allowed our volunteers from the club to attend for free, eliminating a significant barrier for participation.

Our organization at UConn also recently became affiliated with the American Statistical Association as an official student chapter. We are excited to have access to some amazing resources from the ASA, and we look forward to connecting with other student chapters to broaden our club's network.

As a senior at UConn, starting this club has been a highlight of my time here. I am grateful to have met so many wonderful students at all levels and I look forward to younger students in the club taking it even further when I graduate. On behalf of the whole e-board, we are excited to organize more



events and opportunities for our members in the Spring 2024 semester and continue to expand our engagement outside of the UConn community.

Sana Gupta (sana.gupta@uconn.edu

Graduate Student News

Empowering Connections: A Year of Growth and Engagement at the GSC-Statistics

At the Graduate Student Committee-Statistics (GSC) of UConn, we're not just a committee; we're a catalyst for connection and growth among our Master's and Ph.D. students in the Department of Statistics. This year, the GSC has been a dynamic force, uniting our department's graduate students through a series of engaging social events, insightful workshops, and responsive student advocacy.

The pandemic's lingering shadows couldn't dim the spirit of our community. Acknowledging the isolation felt by many who joined during these challenging times, we kicked off the fall semester with our heartwarming "Ice Cream - Ice Breaking" event on September 7th. This sweet gathering in the lounge Room 326 wasn't just about savoring six delectable flavors from the UConn Dairy Bar; it was about melting away barriers and weaving new connections. Over 40 students joined in this delightful escapade, with three lucky individuals winning coveted Statistics mugs in our Mini-Estimation challenge.

Our Executive Board, led by President Min Lin, Vice President Sydney Louit, Secretary Max Sun, and Treasurer Huyen Nguyen, welcomed a new face this semester: Lucas Godoy as the Statistical Computing Coordinator. Lucas inaugurated our Student Workshop Series on Computing with a captivating talk on "Crafting your website with Quarto and GitHub" on September 14th. This workshop wasn't just a technical guide; it was a journey through the art of creating and maintaining a personal online presence, empowering participants with digital skills essential for today's academic and professional landscapes.

Continuing our mission of academic enrichment, Ben Stockton presented the second workshop on November 16th, exploring the world of Stan through the lens of sports analytics. This session, held just before the Thanksgiving break, combined intellectual stimulation with a cozy, communal atmosphere, as attendees enjoyed wraps courtesy of the GSC.

We invite you to explore further and engage with our vibrant community. All workshop materials and additional insights are available at https://swosc.github.io/blog.html.

As we look forward to another year of innovation and connection, the GSC remains committed to enriching the academic and social fabric of our department. Join us in this exciting journey as we continue to break new ground and build a supportive, inclusive community for all our graduate students.

Min Lin (min.2.lin@uconn.edu)



Students enjoying Ice Cream at the Ice Cream social.

Students attending a computing website hosted by Ph.D. student Ben Stockton.



Ice Cream Ice Breaking

3:30pm - 4:30pm, Thursday Sep. 7th PAUST 326

Ice Cream social hosted by GSC.

Halloween decorations in the department lounge.



Student activities during the Annual Department picnic.



Student activities during the Annual Department picnic.

Department Welcome Back Picnic

The annual fall picnic for the Department of Statistics is finally back. It is almost 3 years without such in-person event for welcoming our new graduate students since the pandemic. This event aims to provide great chances for new graduate students to know the current graduate students, faculty, staff and their families. This year the picnic was again held at Patriots Park Lodge, which has a great view of the beautiful Coventry Lake. The rain was perfectly stopped before we started our picnic. We had around 80 people attend the picnic and everyone brought a dish to share. We have enjoyed tasting different types of cuisines and playing different games and sports. In this year's picnic, we also celebrated those graduates who received departmental prestigious awards for their Academic and Service Achievements. The picnic event was very successful and we were grateful for our program secretary Tracy Burke, our Department Event Committee (including Professors Vladimir Pozdnyakov, HaiYing Wang and Xiaojing Wang) and Graduate Student Committee for organizing this event. We also want to acknowledge those graduates and faculty members who helped us on site. Without your help and your participating, we could not make this annual event so enjoyable and successful!

Xiaojing Wang (xiaojing.wang@uconn.edu)









"Dose Finding and Other Topics in Drug Development" Honoring Dr. Naitee Ting

Thursday June 8, 2023 – Friday June 9, 2023

The Dose Finding and Other Topics in Drug Development conference was held June 8-9, 2023, at the Storrs campus of the University of Connecticut (UConn) in honor of Dr. Naitee Ting's 70th birthday.

Finding the right dose(s) is one of the most important objectives in new drug development. In Phase I clinical development, one of the objectives is to escalate test doses from low to high. The low doses should be safe, then escalate up to the maximally tolerable dose (MTD).



Phase II clinical trials then lower test doses to the minimal efficacious dose (MinED). Dose range of a study drug can be thought of as the doses between MinED and MTD. From this dose range, one or a few doses are selected for Phase III confirmation. In practice, dose finding is a very difficult challenge in every phase of clinical development for new drugs.

The first book on the subject, Dose Finding in Drug Development, was published in 2006 and edited by Naitee Ting. This book is highly regarded by his peers and is considered a leading reference title in the environs of dose response for clinical trials. Building upon basic principles found in the book, many advancements have occurred since. The conference covers these important topics, as well as other related topics, and celebrates the 70th birthday of Naitee Ting who helped to pioneer this field of research.

The conference brings together stakeholders from various scientific disciplines who seek to share research in a collegial environment for the advancement of dose-finding science in clinical trials. The conference also provides a collaborative environment for young researchers seeking to learn more about the field, develop networks, and connect with top researchers. Modalities include oral presentations, short courses, poster exhibits, and flash talks. Located between Boston and New York City, the University of Connecticut at Storrs is a major research and teaching institution located in a picturesque environment.



The conference featured two plenary talks delivered by Dr. José Pinheiro, Janssen Research & Development, who is the current president of the International Biometric Society (IBS), a Fellow of the American Statistical Association, past-editor of Statistics in Biopharmaceutical Research, and past-president of the East North American Region (ENAR) of the IBS, and Dr. Lee-Jen Wei, Harvard University, who is a fellow of American Statistical Association and Institute of Mathematical Statistics. Their plenary presentation titles are "Dose Finding under Model Uncertainty: the MCP-

Mod Approach and its Extensions" (Pinheiro) and "Lost in Translation" (Wei). The banquet speaker was Dr. Joseph Cappelleri, who is an executive director in the Statistical Research and Data Science Center at Pfizer



Inc., past president of the New England Statistical Society, elected Fellow of the American Statistical Association (ASA), elected recipient of the Long-Term Excellence Award from the Health Policy Statistics Section of the ASA, and elected recipient of the ISPOR Avedis Donabedian Outcomes Research Lifetime Achievement Award.

Five short courses, entitled "A Brief History of Adaptive 2-In-1 Designs" by Dr. Cong Chen & Dr. Eric (Pingye) Zhang; "Computational Drug Development with Real World Data Using Machine

Learning and Statistics" by Dr. Fei Wang & Dr. Kun Chen; "Introduction to Combining Information for Causal Inference" by Dr. Issa Dahabreh & Dr. Sarah Robertson; "Statistical Topics in Outcomes Research: Patient-Reported Outcomes, Meta-Analysis, and Health Economics" by Dr. Joseph C. Cappelleri & Dr. Thomas Mathew; and "Statistical Translation of Extrapolation: demonstrating efficacy and safety of investigational medicines in pediatric populations" by Dr. James Travis, Dr. Margaret (Meg) Gamalo & Dr. Jingjing Ye were offered on June 7, 2023. There were also 12 invited sessions and one poster session. The topics of these sessions cover "Dose Optimization and Selection for Oncology Drugs (dose optimization, escalation, expansion)"; "Sampling methods for learning complicated health care data"; "Fruitful Collaborations with Naitee"; "Oncology dose finding (dose optimization, escalation, expansion)"; "Approaches to Dose-Response Assessment"; "Causal Inference Innovation and Application in Real World Evidence"; "Panel on mentoring and Career events"; "BOIN design and application for oncology drug development"; "Dose finding studies: From methodologies to applications (non-oncology)"; "Advances in dose finding method for non-oncology"; "New advances in phase 2 dose finding studies (non-oncology)"; "Recent developments for dose finding in clinical trials"; and "Dose-Finding and Dose-Optimization in Oncology Drug Development Beyond Statistics". Dr. Dipak K. Dey of the Department of Statistics at UConn gave the closing remarks. There were 82 in-person attendees and 83 virtual attendees.

The program committee was co-chaired by Dr. Qiqi Deng of Moderna and Dr. Wen Zhou of Colorado State University, the local organizing committee was co-chaired by Dr. Kun Chen & Dr. Ming-Hui Chen of UConn; and the poster committee was chaired by Helen Li of SDC. The supporting staff includes Tracy Burke, Simiao Gao (Whova administrator), Min Lin (Whova administrator), Courtney Trzasko, and Yelie Yuan (Webmaster) from UConn. There were 12 student volunteers from UConn. The conference was sponsored by ASA CT Chapter, the International Chinese Statistical Association (ICSA), the New



England Statistical Society (NESS), DahShu, Boehringer Ingelheim, and Regeneron. Please visit https://events.stat.uconn.edu/drug-development/ for more information about this conference.

Ming-Hui Chen (ming-hui.chen@uconn.edu)

UConn Alumni & Friends Luncheon at JSM 2023

Wednesday August 9, 2023





During the 2023 Joint Statistical Meetings (JSM), the UConn Statistics Department Alumni and Friends Luncheon successfully unfolded. This gathering took place at the InterContinental Toronto Centre's Ontario Room, situated at 225 Front Street West, Toronto, ON M5V 2X3, on August 9, 2023. With attendance of 36, the event welcomed a diverse cohort, including our faculty, alumni spanning back to 1989 from academic and industrial domains, current graduate students, and friends representing various universities. This event was organized by our department's Alumni and Friends Receptions at JSM or other major conferences committee consisting of Yuwen Gu (Chair), Yuping Zhang and Yao Zheng, with wonderful assistance from our staff Tracy Burke of Statistics, and Jessica Alexander of Alumni Relations, College of Liberal Arts and Sciences.

Yao Zheng (yao.zheng@uconn.edu)





Data Science Day (DSD)

Saturday October 21, 2023

On October 21st, University of Connecticut served as the host for Data Science Day, an annual one-day event coordinated by the NextGen Committee of the New England Statistical Society. The event--held to support the next generation of statisticians and data scientists---had over 200 attendees spanning over 40 academic institutions and companies.

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The day featured a welcome address by UConn's Associate Dean for Life and Physical Sciences

Barrett Wells, a keynote presentation on Opportunities for Innovative Data Approaches in the Non-Clinical Space by Eve Pickering of Pfizer, a special workshop on large language models by Nathan Carter of Bentley University, and a student poster competition. Professionals from Hartford Steam Boiler, ESPN, Travelers Insurance, Pfizer, Upstart, Alkermes, Meta, and UConn described their roles, discussed careers in statistics and data science, and answered audience questions during multiple panels and networking sessions.

Several of the panelists were members of the UConn statistics community, including Associate Professor Haim Bar, Adjunct Professor Joe Cappelleri, PhD alumnus Yang Liu, and MS Alumna Haining Zhang. The organizing committee of the conference also featured several UConn community members: undergraduate student Sana Gupta, PhD student Min Lin, Assistant Professor Neil Spencer, and PhD alumnus Greg Vaughan. Student volunteers played a key role in ensuring the day's success, including Jaden Astle, Vinnie Carbone, Mathew Chandy, Kaya Dua, Alexander Hill, Joann Jun, Brady Levensohn, David Li, Carly Marshall, Leon Nguyen, Nicholas Pfeifer, Harshita Rayapureddy, Wenhao Ruan, and Sebastian Symula. UConn statistical data science Major Joshua Lee was awarded second prize in the undergraduate student poster competition, and UConn Statistics PhD Student Jennifer Leach who was awarded an honorable mention in the graduate student poster competition.







The 29th Distinguished Statistician Colloquium

The Department of Statistics at the University of Connecticut hosted the 29th Distinguished Statistician Colloquium, sponsored by ASA, Pfizer and UConn. The Pfizer colloquium series range from 1978 until 2012 and was renewed in 2018. The colloquium series featured C. R. Rao, Bradley Efron, D.R. Cox, Grace Wahba and many more. For a complete list, see https://statistics.uconn.edu/pfizer-colloquium/. The purpose of the Colloquium is to provide a forum for a distinguished statistician to share and disseminate their unique perspective and



work in the theory and/or application of statistics. Starting from 2018, the series has been cosponsored by Pfizer, the American Statistical Association, and the Department of Statistics at the University of Connecticut.

This year's speaker was Dr. James O. Berger, Arts and Sciences Distinguished Professor Emeritus of Statistics at Duke University. Professor Berger gave a presentation entitled, "Frequentist and/or Bayesian adjustment for multiple testing," under the auspices of the Pfizer Colloquia by Distinguished Statisticians in Honor of Dr. David S. Salsburg. Following the lecture was a "Conversation with Distinguished Statisticians in Memory of Professor Harry O. Posten". This discussion with Professor Berger was led by Dr. Dipak Dey, Board of Trustees Distinguished Professor; Dr. Ming-Hui Chen, Board of Trustees Distinguished Professor; and Dr. Xiaojing Wang, Associate Professor, all from the Department of Statistics at the University of Connecticut.

We thank Pfizer and the ASA for their generous financial support. We also thank the members of the selection committee – Dan Meyer and Demissie Alemayehu from Pfizer, Ron Wasserstein and Nancy Flournoy from the ASA, and Dipak Dey (Chair), Joseph Glaz and Ming-Hui Chen from UConn. Professor Chen also represents the New England Statistical Society (NESS). We also thank our staff and student volunteers for their continuous help for the great success of the event.



Dipak Dey (dipak.dey@uconn.edu)



Conferences to Celebrate Dipak Dey



This year two conferences were arranged in order to celebrate the 70th birthday of Professor Dipak K. Dey. Both conferences were arranged by his Ph.D. students, post-doctoral fellows and visiting students from USA, China, Korea, India and Latin American countries for his distinguished research, teaching, and mentoring career.

The first conference, held on July 13-14, 2023, at Virginia Tech, Blacksburg, VA, was titled, "Pushing the Boundary of Data Science through Statistical Modeling and Inference: A Conference in Honor of Prof. Dipak Dey".

The event brought together Dr. Dey's former students, advisers, collaborators, friends, and mentees to recognize his significant contributions to the field of Statistics. The conference program covered a broad range of topics, from cutting-edge statistical modeling and inference to innovative data science techniques in various applications. This conference was attended by more than 60 people.



The Organizing Committee consisted of Professor Feng Guo (chair), Jyotishka Datta, Marco Ferreira, Rochelle Fu, Aritra Halder, Sandra Hurtado, Shariq Mohammed, Seongho Song, Xia Wang, and Xiaojing Wang.

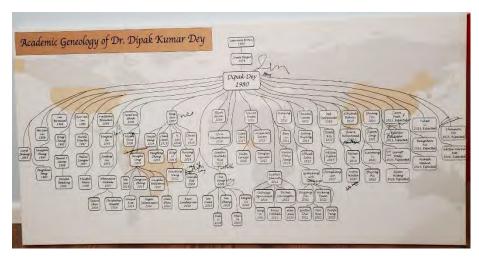


Plenary Speakers were Professors Jim Berger, Alan Gelfand from Duke University, and Malay Ghosh from University of Florida.

Invited Speakers were Professors Sudipto Banerjee, (UCLA), Haim Bar, (UCONN), Sanjib Basu,(UIC), Kun Chen, (UCONN), Bani Mallick, (TAMU), Peter Mueller, (UT, Austin), Gyuhyeong Goh, (KSU), Yuwen Gu, (UCONN), Shariq Mohammed, (BU), Himchan Jeong, (SFU, Canada), Qing Li, (ISU), Abhisek Saha, (NIH), Seongho Song, (UC), Aritra Halder, (Drexel U), Debajyoti Sinha, (FSU), Victor Hugo Lachos Davilla, (UCONN), Xia Wang, (UC), and Malini Iyengar, (Astra Zeneca).

In addition, Ph.D. students gave poster presentations during breaks.

This conference was sponsored by the College of Science and Academy of Data Science, Virginia Tech University, New England Statistical Society, and Pfizer. The conference was attended by many UConn, faculty and current students.



The second conference was held on August 16-18, 2023 at the Federal University of Minas Gerais at Belo Horizonte, Brazil, entitled, "A New Era of Statistical Science: A Special Conference in Honor of Prof. Dipak Dey's 70th Anniversary."

Statistical science has been a crucial discipline in our understanding of the world around us. It is the science of collecting, analyzing, and interpreting data, and it has been used in a wide range of fields, including social sciences, medicine, engineering, and business. However, recent advances in technology and computing power have paved the way for a new era of statistical science.

This new era of statistical science is driven by the rapidly increasing availability of data and advances in computing technology. As a result, statisticians and data scientists are now able to analyze and make sense of vast amounts of complex and diverse data, providing new insights and understanding of phenomena that were once impossible to fully comprehend. This has led to a paradigm shift, where traditional statistical methods are being combined with novel techniques to create more accurate and efficient models for data analysis and interpretation.



The Scientific and Organization Committee for this conference consisted of Marcos Oliveira Prates (UFMG — Chair), Victor Hugo Lachos (UCONN), Aldo Medina Garay (UFPE), Francisco Louzada Neto (USP-São Carlos), Carlos A. Abanto-Valle (UFRJ) and Jorge L. Bazán Guzmán (USP-São Carlos).

In addition, Ph.D. students gave poster presentations during breaks.

Opening presentation was given by Dipak Dey and plenary talks were given by Rosangela H. Loschi (UFMG), Marcia D. Branco (USP-Sāo Paulo), Francisco Louzada Neto (USP-Sāo Carlos), Carlos A. Abanto-Valle (UFRJ), Victor H. Lachos (UCONN), Dipankar Bandyopadhyay (VCU), Reinaldo B. Arellano Valle (PUC-Chile), and Luis Mauricio Castro Cepero (PUC-Chile).

Invited talks were given by Francyelle de Lima (UFPE), Fabio
N. Demarqui (UFMG), Ronny Vallejos (USM), Marcos
Oliveira Prates (UFMG), Shariq Mohammed (BU), Jorge Luis
Bazán (USP-São Carlos), Renato Assunção (UFMG), Aldo Garay (UFPE), and Clecio Ferreira (UFJF).

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Poster presentations were given on each evening by around 40 Ph.D. students, post-doctoral fellows, and junior faculty from Brazil, Chile, Columbia, Peru. More than 90 people attended this conference. This conference was supported by UCONN College of Liberal Arts and Sciences, Brazilian Statistical Association, Institute of exact science, and Center of Applied and Industrial Mathematical Sciences, Brazil.

Dipak Dey (dipak.dey@uconn.edu)



Statistics Spring 2023 Colloquium Series

(https://statistics.uconn.edu/statistics-colloquium/)

Wednesday, January 18

"Causal Inference for Environmental Health Data: Estimating Causal Effects in the Presence of Spatial Interference"

presented by Nathan Wikle, University of Texas, Austin

Thursday, January 19

"Gaussian Processes as a Tool to Represent Complex Phenomena" presented by Marcin Jurek, University of Texas, Austin

Monday, January 23

"3D Bivariate Spatial Modelling of Argo Ocean Temperature and Salinity Profiles" presented by Mary Lai Salvana, University of Houston

Tuesday, January 24

"The Promises of Parallel Outcomes" presented by Ying Zhou, University of Toronto

Thursday, January 26

"Bayesian Spatial Homogeneity Learning for Functional Data" presented by Guanyu Hu, University of Missouri

Monday, January 30

"Optimal Subgroup Identification" presented by Matteo Bonvini, Carnegie Mellon University

Wednesday, February 1

"Harnessing Extra Randomness: Replicability, Flexibility and Causality" presented by Richard Guo, University of Cambridge

Thursday, February 2

"Identifiable Deep Generative Models via Sparse Decoding" presented by Gemma Moran, Columbia University

Wednesday, March 1

"Applications of Finite Mixture Models" presented by Paul Cislo, Pfizer

Wednesday, March 8

"Joint Inference of ROC Measures for Diagnostic Biomarker/Test Evaluation" presented by Jingjing Yin, Georgia Southern University

Wednesday, March 22

"Predictive Bayes Factors with an Application Model-Assisted Design" presented by Shouhao Zhou, Pennsylvania State University

Wednesday, March 29

"A Shape Restricted Propensity Score Matching Method in Casual Inference" presented by Jing Qin, National Institute of Allergy and Infectious Diseases

Friday, April 14

"Lost in Translation" presented by Lee-Jen Wei, Harvard University

Wednesday, April 19

"Structured Shrinkage Priors" presented by Maryclare Griffin, University of Massachusetts Amherst

Wednesday, April 26

"Dynamic enrichment of Bayesian small sample, sequential, multiple assignment randomized trial (snSMART) design using natural history data: A case study from Duchenne muscular dystrophy"

presented by Satrajit Roychoudhury, Pfizer

Statistics Fall 2023 Colloquium Series

(https://statistics.uconn.edu/statistics-colloquium/)

Wednesday, September 13

"Design of Efficient and Privacy Preserving Machine Learning" presented by Caiwen Ding, University of Connecticut

Wednesday, September 20

"Perspectives from the Realm of Statistical Consulting" presented by Cristina Sison, Northwell Health

Wednesday, September 27

"Nonparametric Estimation of Multivariate Copula using Empirical Bayes Method" presented by Sujit Ghosh, North Carolina State University

Wednesday, October 4

"Learning the Ocean's Microbial Ecology using Statistical Mixture Models" presented by Sangwon Hyun, University of California, Santa Cruz

Wednesday, October 11

"Logistic regression is not just logistic regression: tales of statistical consulting in pharmacometrics"

presented by James Rogers, Metrum Research Group

Wednesday, October 18

"Bayesian Nonparametric Modeling of Restricted Mean Survival Time" presented by Sanjib Basu, UIC

Wednesday, October 25 (Pfizer Colloquium)

"Frequentist and/or Bayesian adjustment for multiple testing" presented by Jim Berger, Arts and Sciences Distinguished Professor Emeritus of Statistics, Duke University

Friday, October 27 (Econometrics-Statistics Joint Seminar)

"Policy Targeting under Network Interference" presented by Davide Viviano, Harvard University

Wednesday, November 1

"Copula Based Models for Bivariate Zero-Inflated Count Time Series Data" presented by Norou Diawara, Old Dominion Univ

Wednesday, November 8 (UConn/UMass Joint Colloquium)

"Generalized Variable Selection Algorithms for Gaussian Process Models" presented by Dipak Dey, University of Connecticut

Thursday, December 7 (Joint Collaborative Statistics Colloquium)

"Network analytics with applications to input-output tables" presented by Jun Yan, University of Connecticut

Faculty Awards and Achievements

July 2022-June 2023

June 2023

- Yao Zheng has been awarded a three-year NSF DMS grant
- Victor Lachos has been awarded a UConn Research Excellence Program (REP) funding for AY 2023-24
- Yuping Zhang has been awarded a UConn Research Excellence Program (REP) funding for AY 2023-24

May 2023

Ofer Harel joins The National Academies of Sciences, Engineering, and Medicine Committee on Applied and Theoretical Statistics

April 2023

Ming-Hui Chen received the Purdue University College of Science 2023 Distinguished Science Award

February 2023

- Jun Yan Elected to Connecticut Academy of Science and Engineering
- Dipak Dey Nominated Candidate for President of American Statistical Association

January 2023

- Yao Zheng has been named the new Makuch Faculty Fellow
- Adjunct Prof. Joseph Cappelleri wins HPSS Long-Term Excellence Award

December 2022

Dipak Dey wins IISA Lifetime Achievement Award for 2022

November 2022

Ofer Harel has been elected to the Connecticut Academy of the Arts and Sciences (CAAS).

October 2022

- ➤ HaiYing Wang has been awarded funding by the CLAS Research in Academic Themes 2022 funding initiative.
- ➤ Haim Bar has been awarded funding by the CLAS Research in Academic Themes 2022 funding initiative.

September 2022

- ➤ Jun Yan, Kun Chen, Elizabeth Schifano, Laura J. Burton and Robert A. Huggins have been awarded an NSF grant (DMS-2219336).
- Kun Chen and Jing Zhao have been awarded an NSF grant (CHE-2203854).

Student Awards and Achievements

July 2022-June 2023

April 2023

- ➤ Undergraduate statistics student Sana Gupta has been awarded the UConn IDEA Grant for the 2023-2024 academic year in recognition of her research project.
- Our "Data Huskies" team (Mathew Chandy, Shivaram Karandikar, Sana Gupta, Hari Patchigolla, Giovanni Lunetta) won the award for Best Statistical Insight at the 2023 DataFest challenge.
- Undergraduate students Mathew Chandy and Pranav Tavildar have won the Senior Slice for 2023 with their creative pizza recipes.

January 2023

PhD student Yelie Yuan received an honorable mention for the John M. Chambers Statistical Software Award

December 2022

Nidhi Nair '23 (CLAS) named UConn's first Schwarzman Scholar

September 2022

Ph.D. student Garrett Frady has won 3rd place in the poster presentations at the 2022 International Society for Bayesian Analysis (ISBA) conference in Montreal, Canada.

July 2022

Ph.D. student Jung Wun Lee was selected as a finalist of the 2022 Applied Public Health Statistics (APHA)/Stata Scholar Student Research Competition by the Applied Public Health Statistics Section of APHA.

2022 Annual Statistics Department Awards for Student Achievement

- Jing wang received the Fairfield & Dolores Smith Award
- Jing Wang received the Gottfried Noether Award
- > Zoe Gibbs and Jackson Lautier received the Best Performance in Probability
- Zoe Gibbs received the Best Performance in Inference
- Sarah Tilley and Jintao Zhang received the Best Performance in Biostatistics
- Prince Allotey, Lucas Godoy, and Daeyoung Lim received the Teaching Award
- Yelie Yuan and Eric Baron received the Service Award



2023 Statistics Ph.D. Graduates

May and Summer 2023 Graduates:

Prince Allotey Jackson Lautier Jingyu Sun Eric Baron Jung Wun Lee Patrick Toman Xiaolin Chang Ziyang Wang Daeyoung Lim Jianmin Chen Zhongmao Liu Ganchao Wei Simiao Gao Hao Wu **Austin Menger** Zijian Huang Namitha Pais Meiruo Xiang Jiwon Park Haiwei Zhou Yakov Khariton

December 2023 Graduation Candidates:

Anhar Aloufi Boyang Tang
Daniel Kpormegbey Bangchen Xu
Jing Li Zehan Yang
Yifan Li Yelie Yuan

Jingyu Sun Katherine Zavez



















Spotlight on 2023 UConn Statistics Department Distinguished Alumni Award Winners

The UConn Statistics Department is delighted to have recently celebrated two of our most distinguished alumni, Dr. Cristina Sison and Professor Sujit K. Ghosh. Their remarkable achievements and contributions to the fields of statistics and biostatistics not only brought honor to our department but also provided an invaluable learning experience for our community.

Dr. Cristina Sison - Distinguished Alumna Award Recipient



Dr. Cristina Sison, the Director of the Biostatistics Unit at Northwell Health, was honored with the 2023 Distinguished Alumna Award. With over 25 years of experience in medical research and statistical consulting, Dr. Sison has made significant contributions to the field.

Dr. Sison visited us on September 20, delivering a compelling colloquium titled "Perspectives from the Realm of Statistical Consulting." In her talk, Dr. Sison shared insights from her extensive experience in statistical consulting within the medical field, emphasizing the skills, methodologies, and values essential for aspiring statisticians and biostatistics leaders. Her discussion of diverse projects at Northwell Health highlighted the critical role of statistical expertise in advancing

medical research.

Her career is marked by her collaborations with clinician scientists across numerous medical disciplines, resulting in many abstracts, publications, grants, and presentations. Dr. Sison's academic roles at the Feinstein Institutes for Medical Research and the Department of Molecular Medicine at the Zucker School of Medicine at Hofstra/Northwell demonstrate her commitment to educational excellence and her dedication to advancing the field of biostatistics.



Professor Sujit K. Ghosh – Distinguished Alumna Award Recipient



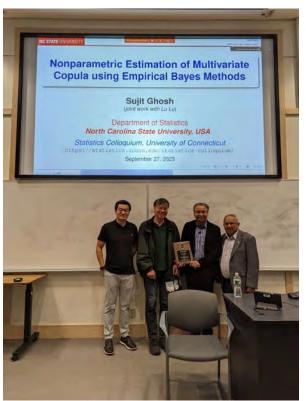
Professor Sujit K. Ghosh, currently serving at the Department of Statistics at North Carolina State University, was awarded the 2023 Distinguished Alumnus Award. Prof. Ghosh has an illustrious career spanning over 25 years, marked by significant contributions in statistical analysis in biomedical, econometric, and environmental data.

On September 27, 2023, Prof. Ghosh delivered an enthralling colloquium titled "Nonparametric Estimation of Multivariate Copula using Empirical Bayes Method."

His presentation, held at 4:00

pm in AUST 110, offered groundbreaking insights into developing a smooth copula function for arbitrary dimensions using empirical Bayes methods — a crucial advancement in statistical modeling for finance, insurance, and system reliability sectors.

Prof. Ghosh's career is highlighted by his mentorship of over 45 doctoral graduate students, his extensive publication record of over 135 refereed journal articles, and his involvement in over 45 research projects funded by various leading agencies. His accolades include the Cavell Brownie Mentoring Award, D.D. Mason Faculty Award, the IISA Young Investigator Award, and being elected a Fellow of the American Statistical Association (ASA). His roles at NSF and SAMSI further underscore his influential presence in the statistical community.



The visits of Dr. Sison and Prof. Ghosh were not only celebrations of their achievements but also served as inspirational events for our current students and faculty, highlighting the far-reaching impacts of a career in statistics. Their contributions exemplify the excellence we strive for at the UConn Statistics Department.

Alumni Awards and Achievements

July 2022-June 2023

June 2023

> Sudipto Banerjee began as the new senior associate dean for academic programs at the UCLA Fielding School of Public Health.

December 2022

Sandra Milena Hurtado Rúa '11 Ph.D. received Fulbright Scholarship

November 2022

- Yan Zhuang, '18 Ph.D. has been elected to membership in the International Statistical Institute (ISI).
- "Flexible Conditional Borrowing Approaches for Leveraging Historical Data in the Bayesian Design of Superiority Trials", co-authored by Wenlin Yuan, John Zhong, and Ming-Hui Chen, is selected to receive one of the 2023 Statistics in Biosciences Best Paper Awards given by Statistics in Biosciences journal of the International Chinese Statistical Association (ICSA).

July 2022

- Congratulations to Jing Wu '17 Ph.D., who was promoted to associate professor with tenure in Department of Computer Science and Statistics at the University of Rhode Island.
- Xia Wang '09 Ph.D. has been promoted to the rank of full professor in the Division of Statistics and Data Science Department of Mathematical Sciences at University of Cincinnati.

Department Directory

Haim Bar, Associate Professor Tracy Burke, Department Secretary Joseph Cappelleri, Adjunct Professor

Kun Chen, Professor

Ming-Hui Chen, Department Head & BOT Distinguished Professor

Zhiyi Chi, Professor

Qiqi Deng, Adjunct Professor

Dipak Dey, BOT Distinguished Professor

Joseph Glaz, Professor

Yuwen Gu, Assistant Professor

Ofer Harel, Professor & Interim Dean, CLAS Emmy Karim, Assistant Professor-in-Residence

Amir Kouzehkanani, Adjunct Professor

Victor Lachos, Professor

Suman Majumdar, Associate Professor Kathleen McLaughlin, Adjunct Professor

Nitis Mukhopadhyay, Professor Alyssa O'Keefe, Academic Advisor

Zhanna Pozdnyakova, Adjunct Professor

Vladimir Pozdnyakov, Professor Nalini Ravishanker, Professor

Michael Saccucci, Assistant Professor-in-Residence

Dooti Roy, Adjunct Professor

May Lai Salvana, Assistant Professor

Elizabeth Schifano, Associate Professor

Neil Spencer, Assistant Professor

Naitee Ting, Adjunct Professor

Courtney Trzasko, Educational Program Coordinator

HaiYing Wang, Associate Professor Xiaojing Wang, Associate Professor

Jun Yan, Professor

Yuping Zhang, Associate Professor

Yao Zheng, Assistant Professor

Ying Zhou, Assistant Professor

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Stay Connected

The Statistics Department would like to stay connected with all of our alumni. If you would like any of your professional or personal updates to be included in the next newsletter, please send them to Courtney Trzasko at Courtney.trzasko@uconn.edu. Please be sure to include the year you graduated and the degree received in your email.

To stay connected with other University of Connecticut alumni or to get involved in alumni events, please visit https://www.foundation.uconn.edu/alumni-network/ for more information.

Please visit us at https://statistics.uconn.edu/