

2022-2023 Newsletter

Department of Statistics and Data Science

Chair's Note

Dear friends,

I trust that this message finds you all in good health and spirits. It is a relief that the pandemic is concluding and that everything is returning to normal. But reflecting upon the past three-plus years, I'll bet everyone has a unique story to tell, and the enduring impact of the pandemic might still require considerable time for complete healing. I urge you all to continue to take good care of yourself, your family, and your loved ones.

I first want to extend my heartfelt congratulations to our recent graduates, both at the undergraduate and graduate levels. Your unwavering determination, hard work, and perseverance have culminated in a truly remarkable achievement. As you embark upon new journeys, always remember that you remain an integral part of our extended family within the Department of Statistics and Data Science. We eagerly anticipate news of your future accomplishments.



The 2022-2023 academic year stands as a significant milestone in the history of our Department, both for our undergraduate and graduate programs. With the official launch of the Data Science major in Fall 2022, our community has grown to include 273 currently-declared Data Science majors, with another 31 Data Science majors having graduated in the spring of 2023. Additionally, we have 465 Data Science minors, 90 Statistics majors, and 9 Statistics minors, collectively totaling over 830 declared undergraduate students. In Fall 2022, we welcomed 8 new PhD students, along with the inaugural cohort of 16 terminal MS student and 1 BA/MS students. Fall 2023 brings the anticipation of 9 new PhD students, 18 MS students, and 3 BA/MS students. Coupled with approximately 50 Ad Hoc MS students, our graduate student body has grown to around 120 enrolled students. To all students, I convey my best wishes for another productive year of academic pursuits and research.

I'm also thrilled to share some wonderful news about our esteemed faculty and diligent staff. On November 3rd, Professor Larry Hedges will be honored with the World Cultural Council (WCC) José Vasconcelos World Award of Education at the University of Helsinki. Furthermore, Professors Han Liu and Beth Tipton were promoted to the rank of Full Professor, and Professor Arend Kuyper was promoted to Associate Professor of Instruction. In addition, Professor Han Liu was also appointed the Orrington Lunt Professorship. Professor Krishna has been appointed to a three-year term as Data Science Advisor, teaming with with Professor Kuyper to provide advising to our Data Science majors and minors. Department Business Coordinator, Kisa Kowal, won the Weinberg Dean's Excellence Award for 2022-2023. My heartiest congratulations go out to them for their exceptional accomplishments. I hope you will find more inspiring news about our faculty in this newsletter. *(continued on following page)*

Chair's Note (continued)

In Spring 2023, Bruce Spencer retired and became Emeritus Professor in Statistics and Data Science after over forty years of service at Northwestern. Congratulations, Bruce, on your distinguished career and exemplary service to the Department! We wish you all the best in the next phase of your life, and we will miss you. Meanwhile, we are very delighted to welcome Dr. Matey Neykov and Dr. Kaize Ding to our faculty team as Assistant Professors in Fall 2023. Welcome aboard, new colleagues!

Alums, we are grateful for your continuous support and generous gifts to the Department! We would love to be informed about any exciting or important updates in your careers and your lives. Highlighting the academic year 2022-2023, the Department successfully introduced a professional talk series under the coordination of Professor Hongmei Jiang. This platform aims to invite our esteemed alumni (that's you) to impart their invaluable career experiences to our present cohort of both undergraduate and graduate students. Should this opportunity resonate with you, I'd encourage you to reach out to myself or Professor Jiang without hesitation. We'd love to see you come back to visit us.

Lastly, I feel very honored and humbled to continue in my role as Department Chair. My sincere appreciation extends to our dedicated faculty and staff for their steadfast support and resilience over the past three years, leading to various accomplishments despite the enormous challenges we have encountered. Looking forward, I am brimming with excitement for the many opportunities our department is embracing. Let's work together to make more things come forth!

Best wishes,

Ji-Ping Wang

Professor and Chair, Department of Statistics and Data Science
August 29, 2023

Faculty News

Larry Hedges



Larry Hedges was selected to win the World Cultural Council's 2023 José Vasconcelos World Award of Education. The citation for the Award acknowledges "Professor Hedges's groundbreaking and systematic application of research and his development of methods for meta-analysis over the past four decades which have contributed to more accurate assessment of evidence across disciplines," and "the jury also enthusiastically highlights that his impact extends far beyond academic boundaries—it has led to local, national, and international institutions advancing education practices, products, and programs."

Other winners of the Award include William Bowen (former President of both Princeton University and the Mellon Foundation) and Sir David Attenborough. Professor Hedges is only the fifth American to win this award in the past 40 years. The Award will be conferred in Helsinki, Finland on November 3, 2023.

Faculty News

Arvind Krishna



In fall 2022, Arvind (Krish) Krishna introduced a new course, STAT 201 (Introduction to Programming for Data Science), which will become a required course for all undergraduate majors and minors in the department effective the 2023-2024 academic year. Krish and fellow assistant professor of instruction Emre Besler received an OER grant in Summer 2023 to write a book for the course.

Krish has been appointed by the Department as Data Science Advisor starting in Fall 2023 for a three-year term to provide additional advising and administrative support to our Data Science majors and minors.

Krish was included among the 2021-2022 Faculty and Administrator Honorees at Weinberg College in fall 2022:

<https://news.weinberg.northwestern.edu/2022/11/09/congratulations-to-the-2021-2022-faculty-and-administrator-honorees-at-weinberg-college/>.

Han Liu



Professor Han Liu has been approved by the Provost for promotion to tenured Full Professor. The appointment will become effective in September 2023.

In addition, Han Liu has been appointed to the Orrington Lunt Professorship effective September 2023. This professorship is awarded in recognition of his stature within the profession and his strategic importance within McCormick School of Engineering and Weinberg School of Art and Science. This chair was created in 2006 and honors one of the founders of Northwestern, a prominent businessman and civic leader in Chicago in the 19th century and the principal benefactor associated with the University's first library building, the Orrington Lunt Library (now Lunt Hall), completed in 1893.

Faculty News

Beth Tipton



In July 2023, Beth Tipton delivered the Keynote, "Beyond Deep Learning: Learning from Small and Heterogeneous Data", at The Idiap Research Institute's meeting in Martigny, Switzerland. Beth also delivered a Keynote at the International Meeting of the Psychometric Society (IMPS) in Bologna, Italy in July 2022.

In 2024, Beth will be "Chair Elect" of the Social Statistics Section of the American Statistical Association. Beth has also been promoted to full professor in the Department.

Sandy Zabell

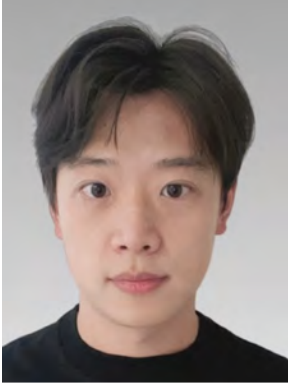


In October 2022, Sandy Zabell was a keynote speaker at the First International Conference on Foundations, Applications, and Theory of Inductive Logic in Munich, Germany. Sandy is also currently serving on a NIST Expert Working Group on Human Factors in Forensic DNA analysis.

Within the past year, Sandy has had two papers published in Statistical Science and has had one invited chapter accepted in a forthcoming Cambridge University Press book on the philosopher Rudolf Carnap.

New Faculty Spotlight

Kaize Ding



Kaize Ding is excited to join Northwestern as an Assistant Professor in the Department of Statistics and Data Science. Prior to joining Northwestern, Kaize obtained his PhD degree in Computer Science at Arizona State University, working under the supervision of Professor Huan Liu. Kaize's research interests generally lie in data mining, machine learning, and natural language processing, with a particular focus on graph mining/graph machine learning, data-efficient learning, and reliable AI.

His dedication and expertise have led to the publication of numerous high-impact works in top-tier conferences such as AAAI, EMNLP, IJCAI, KDD, NeurIPS, and TheWebConf, as well as in prestigious journals like TNNLS and TKDD. In recognition of his contributions, Kaize was the recipient of several prestigious awards and honors at ASU, including the Graduate Outstanding Research Award, CS PhD Outstanding Student Award, and Graduate College Completion Fellowship.

Kaize's research goal is to develop effective and reliable knowledge-guided AI algorithms to tackle real-world challenges across various domains, such as cybersecurity, social good, and healthcare. Notably, Kaize has also established strong collaborations with industry leaders, including Google Brain, Microsoft Research, and Amazon Alexa AI. Beyond his academic pursuits, Kaize finds joy in sports and outdoor activities, particularly basketball, hiking, and traveling. More information about Kaize can be found at <https://kaize0409.github.io/>.

Matey Neykov



Matey Neykov is excited to join Northwestern and its community of world-renowned scholars, extremely bright students and dedicated staff members as an Assistant Professor in the Department of Statistics and Data Science. Matey received a BS in Applied Mathematics from Sofia University, Bulgaria, in 2009, and the PhD in Biostatistics from Harvard University in 2015. Afterwards, he was a Post-Doctoral Researcher in the Operations Research and Financial Engineering Department of Princeton University for two years. Before joining Northwestern, Matey was on the faculty of Carnegie Mellon University.

Among Matey's greatest achievements so far (shared with his wife Yuanyuan) are his two kids, Michael and Sophia. His research interests include theoretical statistics, machine learning, and statistical applications to biomedical sciences. For more information about Matey, please visit <https://mateyneykov.com/>.

Department News

Data Science (Undergraduate)

The past year has seen the undergraduate Data Science program continue to grow and attract a variety of students from across the University. The Data Science major was successfully launched in Fall 2022, and the following spring saw the first cohort of 31 students graduate with a Data Science major! Heading into Fall 2023, we have over 700 students who are either majoring or minoring in Data Science.

As part of the process of launching the Data Science major, we offered three new courses in the 2022-2023 academic year: Data Structures and Algorithms for Data Science (STAT 304), Data Management and Information Processing for Data Science (STAT 305), and Advanced Machine Learning (STAT 362). The initial feedback on these courses was positive and informative. We are taking what we have learned from this feedback and making thoughtful adjustments so that the upcoming iterations of the courses will be even better targeted to our students.

After completing the pilot and evaluation process for a new Introduction to Programming for Data Science course (STAT 201), the course has been set as a requirement for all Statistics and Data Science undergraduate programs beginning in 2023-2024. We hope this course will establish a baseline of programming skills needed for modern data work.

In the coming academic year, we will continue to monitor our relatively new Data Science programs and work to improve the courses and curriculum to best serve our students and the Northwestern research community.

Statistics (Undergraduate)

The undergraduate Statistics program continues to be strong. Prior to spring graduation this year, there were 140 declared Statistics majors and 18 declared Statistics minors, a grand total of 158 and close to our all-time high of approximately 180. The growth in our undergraduate programs, in terms of majors and minors, has been nothing short of spectacular.

The undergraduate TA program has proven to be an unqualified success, benefiting interested majors with teaching experience and providing invaluable support to our burgeoning number of undergraduate courses.

Program News

PhD in Statistics

Congratulations to our recent PhD graduates! Listed after each name is their graduating quarter and (if applicable) their current place of employment.

- Zhipeng Hou (Spring 2023)
- Jiahui (Joanna) Lyu (Spring 2023, Walmart Inc.)
- Abby Smith (Winter 2023, Recidiviz)

We are also excited to welcome nine new first-year PhD students who will be joining the Department in September 2023. 2021 Statistics PhD graduate Rita Zejnollahi has recently accepted a joint Assistant Professor position in the Division of Biostatistics and Epidemiology in the School of Public Health and the College of Applied Health Sciences at University of Illinois Chicago.

In other news, beginning in the 2023-2024 academic year, the Department has increased the department conference travel grant amount for PhD students.

Masters in Statistics

The mission of the Masters in Statistics program is to provide students with comprehensive training in advanced theory and methodology in statistics and data science, exposure to cutting-edge research, and collaborative experience with practical applications of statistics and data science. The program prepares students for careers as a professional statistician or data scientist for industry, government, as well as for the non-profit sector. It also prepares students with rigorous training for doctoral study in statistics, data science or other related fields.

During their study, students have the opportunity to attend research seminars, professional development talks, and workshops on resume writing and job searching, and to interact with the speakers. For the professional development talk series, the invited speakers are usually Northwestern and Department alumni who share their working experience and give their advice to the current students.

In Fall 2023, we will welcome 17 new Masters in Statistics students and 3 combined BA/MS students to the Department.

Department News

Ad Hoc Masters in Applied Statistics

The Ad Hoc Masters in Applied Statistics program is open to any student enrolled in a PhD program at Northwestern. Students in the program complete 9 courses in Statistics and Data Science and write a culminating project. These projects provide an opportunity for students to apply advanced statistical methods to problems in their field. There are currently approximately 40 students enrolled in the program, with about two thirds of those students enrolled in PhD programs in the social sciences. The remaining one third are enrolled in programs representing nearly every school at Northwestern.

In the 2022-2023 academic year, the program accepted 11 new students, including students in Psychology, Sociology, Political Science, and Management and Organizations.

Congratulations to the Ad Hoc Masters graduates from the past year for their hard work! Listed after each name is the student's PhD program and the title of their culminating project.

- Molly Gallahue (PhD in Earth and Planetary Sciences, New Methodology for Unbiased Ground-Motion Intensity Conversion Equations)
 - Yuan Catherine Han (PhD in Psychology, Implicit Learning as a Universal Learning Mechanism, Not a Stable Cognitive Trait)
 - Qin Huang (PhD in Political Science, Towards Machine-Learning Enhanced QCA: Optimizing Coverage and Empirical Significance)
 - Suji Kang (PhD in Political Science, Selections from Dissertation)
 - Daniel King (PhD in Psychology, Verb Metaphoric Extension Under Semantic Strain)
 - Lantian Li (PhD in Sociology, Using Structural Topic Model to Analyze COVID-related Anti-Asian Hate Speech Before and During the Pandemic)
 - Zhihang Ruan (PhD in Political Science, Framing and Support for Foreign Aid Among Chinese Nationals During COVID-19)
 - Yutong Jasmine Wu (PhD in Communication, Information Sharing at a Hybrid Workplace)
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Staff News

Department of Statistics and Data Science Business Coordinator **Kisa Kowal** was among the recipients of the Weinberg College's 2022-2023 Staff Recognition Awards, winning the Dean's Excellence Award. This award honors an outstanding staff member, employed within the College for more than three years, who is exemplary in communication, service, efficiency, and leadership and who also consistently demonstrates an outward focus and assists and represents their department or program, the College, and the University in a positive manner.

Department Events

2022-2023 Fall Welcome Picnic



(above) The Department of Statistics and Data Science Fall Welcome Picnic was held for faculty and PhD and MS graduate students on Friday, September 23, 2022 in Gillson Park

2023 Chinese New Year Celebration



(above) On Friday, January 27, 2023, the Department hosted a Chinese New Year Celebration for faculty and graduate students in the F 2006 Sheridan Ave. common room. (photo credit: Tim Tsz-Kit Lau)

Department Events

Symposium for Bruce Spencer



A celebration of Professor Bruce Spencer's career was held on October 28, 2022 in the Guild Lounge of Scott Hall. The symposium featured tributes from current Department faculty Larry Hedges and Beth Tipton and Department Chair Ji-Ping Wang, Marilyn McCoy (Northwestern Vice President of Administration and Planning), Diane Schanzenbach (former Director, Institute for Policy Research), Seth Stein (faculty, Department of Earth and Planetary Sciences), Lindsay Chase Lansdale (former Northwestern Vice Provost for Academics and Associate Provost for Faculty), along with a number of other former students and colleagues.

Alumni News

Alumni of the Department are encouraged to send us any news they care to share for forthcoming editions of the Department Newsletter. Additionally, we are always in search of interested alumni who would like to serve as speakers as part of our ongoing seminar series or participate in a professional development event.

If you are interested in sharing news or participating in a future Department event, please contact us at stats@northwestern.edu.

Giving at Northwestern

As a Department, we accomplish a great deal in partnership with campus friends. Additionally, we are grateful to alumni and other friends who make individual contributions to support our programming, from lectures and symposia to undergraduate and graduate research travel. If you would like to make a gift to the Department, the easiest way to do so is to give online at www.giving.northwestern.edu/nu/wcas. You may designate the Department of Statistics and Data Science as the direct recipient of your gift. Thank you for your continued support of the Department of Statistics and Data Science.

Visit Our Website

<https://statistics.northwestern.edu/>

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