

UNIVERSITY of NEBRASKA-LINCOLN

STATISTICS

UNLimited

ANNUAL NEWSLETTER

2024



STATISTICS

Institute of Agriculture and Natural Resources



There is no place like
NEBRASKA

An Essential Skillset in a Data-Driven World

The Department of Statistics at the University of Nebraska–Lincoln equips students to pursue successful careers in the fastest growing profession in the U.S.

Our degree programs train students to understand data, uncertainty, and natural variation, as well as think critically and use evidence to solve complex problems. With the recent rise of big data, data science, and data analytics, the demand for this set of skills has increased substantially.

You Belong Here.

You have the power to shape your future and impact. Let the Department of Statistics help you pursue your dreams!

Academic Programs

UNDERGRADUATE

B.S Statistics & Data Analytics

B.S Data Science

GRADUATE

M.S. in Statistics

Ph.D. in Statistics

Academic Advising Contacts

Undergraduate



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Our future is bright and only limited by our imagination and creativity. This moment in our history requires us to be bold and courageous trailblazers.

– Rodney D. Bennet, Chancellor

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Statistics UNlimited

Department of Statistics 2024
Institute of Agriculture & Natural Resources
University of Nebraska-Lincoln

Campus Photographs

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This newsletter was compiled and edited by Amanda Bulger via Canva. All contributions including articles, photos, and other graphics, are thanks to the faculty, staff, students, and alumni of the Department of Statistics. Electronic copies of this newsletter is available at statistics.unl.edu/newsletter.





A LETTER FROM THE DEPARTMENT HEAD

I am excited to share an update on our recent and ongoing activities.

In July 2024, Dr. Bertrand Clarke completed his two terms as chair after a decade of dedicated service. Following a national search, I had the honor of assuming the role of department head in July 2024. This transition has been a humbling experience, especially after spending nearly 30 years at Southern Illinois University, where I served as chair of the Mathematics and Statistics Department for seven years. I am deeply grateful to join this outstanding department and look forward to contributing to its continued growth and success in the years ahead.

Our department is a vibrant community of faculty, staff, and students who continue to excel across all levels of the discipline, from foundational research to advanced applications. Below are some recent highlights:

Faculty Achievements:

- Dr. Susan VanderPlas was granted tenure and promoted to associate professor in July 2024.
- Drs. Steve Kachman and Kathy Hanford retired in January 2024 after 25 years of exemplary service.
- Dr. Walter Stroup received the prestigious W.J. Dixon Award for Excellence in Statistical Consulting from the American Statistical Association.

New Hires

- Two distinguished scholars, Drs. Heike Hofmann and Indranil Mukhopadhyay, joined as full professors in 2024.

- Dr. Sanjay Chaudhuri, hired as an associate professor in 2023, received an NSF grant in 2024.
- Staff hires: In 2023 Tegan Brooks is hired as Undergraduate Advisor; Amanda Bulger hired as Office Associate

Program Growth:

- In Fall 2022, we launched a B.S. program in Statistics and Data Analytics, followed by a B.S. program in Data Science in Fall 2023. We are thrilled to welcome students into both programs.
- Student Milestones:
 - The department conferred 11 graduate degrees in 2024, including 7 M.S. and 4 Ph.D. degrees.

Looking ahead, we are planning an exciting conference in collaboration with the International Indian Statistical Association in June 2025.

My vision for the department is to foster a strong future for our faculty and students through collaborative research, innovative teaching, and meaningful engagement with the broader community. Together, we aim to drive innovations that benefit society, strengthen Nebraska's economy, and equip the next generation with critical thinking skills to address global challenges.

Wishing you all a successful and fulfilling 2025!

Bhaskar Bhattacharya
Department Head

CURRENT FACULTY



Christopher Bilder
Professor



Kent M Eskridge
Professor



Erin Blakenship
Professor



Souparno Ghosh
Associate Professor



Sanjay Chaudhuri
Associate Professor



Heike Hofmann
Professor



Bertrand Clarke
Professor



Reka Howard
Associate Professor



Jennifer Clarke
Professor & Director of the
Quantitative Life Science
Initiative



Indranil
Mukhopadhyay
Professor



Xueheng Shi
Assistant Professor



Susan VanderPlas
Associate Professor



Kimberly Stanke
Extension Assistant Professor



Dixon Vimalajeewa
Assistant Professor

PROMOTION & TENURE

Susan VanderPlas

Promoted to Associate and granted tenure



HIRED 2020, PHD 2015-IOWA STATE UNIVERSITY

Dr. Vanderplas's appointment is divided between research, teaching, and extension. Her main focus is helping people and data work together effectively, in research, investigating how to best communicate statistical information through visualization, and also designing algorithms which mimic human perception in forensics-related tasks and communicating this to lawyers, judges, and juries.

Dr. VanderPlas teaches introductory statistics and statistical computing classes. In the Fall, she trains new incoming graduate teaching assistants, coaching them by using innovative teaching techniques for an audience unfamiliar with statistics and handling data.

In extension, Dr. VanderPlas applies her research and teaching experience to collaborate with other UNL extension educators and facilitate communication of research results to farmers, crop consultants, and community leaders.

Dr. VanderPlas continues to enrich our department through her collaboration with researchers in fields including, but not limited to, agronomy, psychology, forensics, and law, demonstrating that Statistics is relevant to almost every academic discipline and collaboration does not have to be limited.

Congratulations to Susan on this well-deserved promotion!

CREATING AN UNDERGRADUATE PROGRAM

*by Erin Blankenship, Professor,
Department Committee Chair for
Undergraduate Programs*

IN THE LAST TWO YEARS, the Department of Statistics has launched two new undergraduate degree programs! The Bachelor of Science in Statistics and Data Analytics debuted in Fall, 2022 and the Bachelor of Science in Data Science followed in Fall, 2023.

The major in **Statistics and Data Analytics** was some time in the making. While the Department's successful MS and PhD programs are long-standing, the undergraduate offerings had previously been focused on service courses and a few methods courses aimed at students minoring in Statistics. In developing the new major, a committee of faculty started from square one using a backwards design approach. The entire faculty first came to agreement on a set of broad learning objectives for the degree program.

Then, the major development committee spent several months brainstorming and narrowing an extensive list of specific concepts we believe students should master before graduation. The committee then grouped them into a cohesive set of courses. In the end, the committee created 24 new courses for the undergraduate major, including 13 required courses, 7 new electives, and 4 capstone courses. The committee also revised 4 existing electives



to make them accessible to both majors and minors. The curriculum is designed to integrate essential statistical theory with applications and computing. Students begin working with data in a meaningful way during their very first semester, and the courses are carefully sequenced to scaffold the students' development as novice statisticians.

A unique feature of UNL's undergraduate program is a focus on collaboration and communication. Communicating with and about data is integrated into most of the required courses, and there are two third-year courses specifically focused on collaboration/consulting and communication skills. Computing is also integrated into required courses from the very first semester, and students are gaining proficiency in Tableau, R, SAS, and Python. While the degree program is still very new, we already have undergraduate students participating in undergraduate research projects and education abroad programs!

LEARNING OBJECTIVES

STATISTICS & DATA ANALYTICS

1. Identify the question and design a data collection strategy
2. Appropriately analyze data to solve complex problems
3. Understand the underlying assumptions and theoretical properties of the analysis.
4. Use appropriate computing applications to pre-process, organize, visualize, and analyze data.
5. Demonstrate an understanding of how statistical procedures are computationally implemented, including awareness of when a procedure has failed and what to do about it.
6. Communicate statistical concepts and interpretation of data and results with collaborators in conversation, and through visual summaries and written reports.

DATA SCIENCE

1. Foundational knowledge and expertise in the analysis of large-scale data sources from the interdisciplinary perspectives of applied computer science, data modeling, mathematics, and statistics.
2. Foundational knowledge and expertise in the application of computing, informatics, and modeling to solve multidisciplinary problems.
3. Abilities and professional skills to solve multidisciplinary data science problems as a member of an interdisciplinary team.
4. Familiarity with ethical challenges in data science, including ethical collection of data, responsible use of data and algorithmic bias.

The major in **Data Science** is a collaboration among the Department of Statistics in the College of Agricultural Sciences and Natural Resources (CASNR), the Department of Mathematics in the College of Arts and Sciences, and the School of Computing in the College of Engineering. Students in the Data Science major choose the College through which they matriculate. Students in all three Colleges have a common set of core requirements, giving them a broad background in statistics, mathematics, and computing, and there is a common set of learning outcomes for the major. Students also select two focus areas and must take at least 9 credits from one focus area and at least 6 credits from another. There are 8 focus areas, and include Data Pipeline, Statistical Modeling, and Software Development. There are also sp-

-ecific requirements depending on the degree College. For example, CASNR students are required to take the collaboration and communication courses referenced above, as we believe they are essential skills for data professionals. In the past year, we have also developed a new minor in Statistics for Data Science, allowing Data Science majors to gain more knowledge of core statistical concepts.

The last few years have been an exciting time as the department has evolved its undergraduate mission. It's been very rewarding getting to know our new majors and seeing the energy they bring to our profession. Our undergraduates are very anxious to learn and develop as statisticians. If you have an internship opportunity to share, we'd love to pass it on to them!

CULTIVATE ACCESS:

DATA SCIENCE & CLIMATE RESILIENCE

by IANR Media via Nebraska Today

The University of Nebraska–Lincoln’s Cultivate ACCESS (*Agriculture Career Communities to Empower Students in STEM*) has launched two new academic programs: Cultivate ACCESS to Data Science in Agriculture and Climate Resilience.

The programs aim to engage high school teachers and their students in agricultural STEM topics. Students are connected to undergraduate peer mentors, and teachers collaborate with university experts in data science and climate resilience. In the 2024-25 school year, there are 29 students participating from seven high schools: Grand Island, Kearney Catholic, Loup City, Madison, Norfolk, Omaha Bryan and Omaha Westview.

The objective of the data science program is to integrate thinking about connections related to data through an educational, interactive game on water quantity. Teachers will provide feedback on the game and use it in their classes. High school students will play the game, meet regularly with their peer mentors and participate in a community action project to share what they are learning about data and connections with others in their local community.

The Cultivate Resilience program connects high school teachers with support and expertise from the university so they can develop lesson plans related to climate resilience. High school students will be better prepared to face climate challenges, while adapting to new technologies and ways of working through challenges after engaging

with the program. Goals for both teachers and students include learning more about climate resilience, being culturally responsive and preparing for future career opportunities.

“Expanding Cultivate ACCESS with these new programs has been incredibly rewarding,” said Jenny Keshwani, team leader for the programs. “Hearing our high school students’ diverse passions and commitment to making a difference is truly inspiring. I look forward to seeing how they bring their community action projects to life this spring, sharing their knowledge and skills to create local impact.”

The work is supported by the U.S. Department of Agriculture’s National Institute of Food and Agriculture, Women and Minorities in STEM Program and Food and Agricultural Non-Formal Education Program.

Both of the Cultivate ACCESS programs are open to any Nebraska high school student or teacher. Applications are currently open for teachers and will open for students in early 2025. The next cohort will begin in summer and fall 2025.

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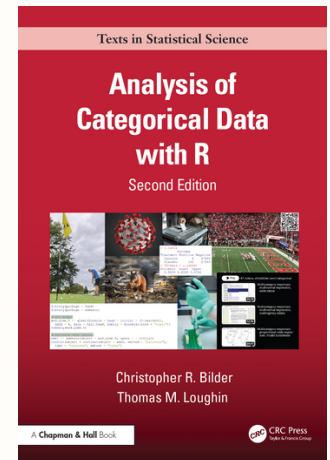
Dr. Erin Blankenship is the PI for the Cultivate Access to Data Science grant.

PUBLICATION HIGHLIGHTS

Chris Bilder



- Bilder, C. and Loughin, T. (2024). *Analysis of Categorical Data with R, 2nd edition*. CRC Press.
- Bilder, C., Hitt, B., Biggerstaff, B., Tebbs, J., and McMahan, C. (2023). binGroup2: Statistical tools for infection identification via group testing. *The R Journal* 15, 21-36.



Bertrand Clarke



- Clarke, B. and Dustin, D. (2024). Post-Model Selection Prediction Intervals for Generalized Linear Models. *Sankhya A* 86, Special issue: D. Basu Centennial Volume: Contributions to Mathematical Statistics and Probability, 301-326. <https://doi.org/10.1007/s13171-024-00349-7>
- Dustin, D., Clarke, B. & Clarke, J. Predictive stability criteria for penalty selection in linear models. *Computational Statistics* 39, 1241-1280 (2024). <https://doi.org/10.1007/s00180-023-01342-8>



Dixon Vimalajeewa



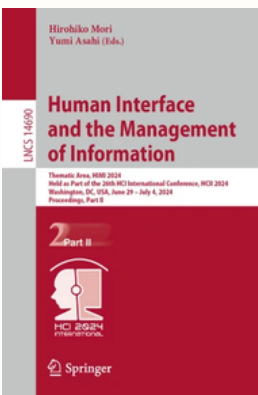
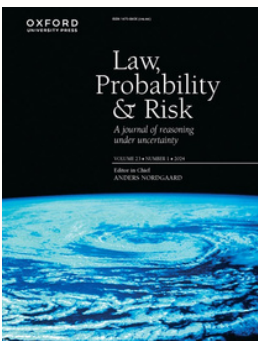
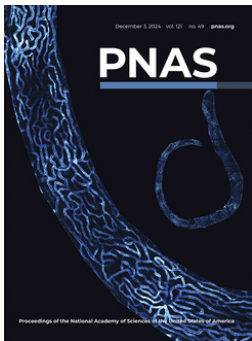
- Hinton Jr.,R., Byun, J., Vimalajeewa, D., Vidakovic, B. Ovarian Cancer Diagnostics using Wavelet Packet Scaling Descriptors. *Biomedical Signal Processing and Control* (2024). <https://doi.org/10.48550/arXiv.2401.16396>

PUBLICATION HIGHLIGHTS



Susan VanderPlas

- Ju, W., VanderPlas, S. R., Hofmann, H., VanderPlas, S. R., & Hofmann, H. (2024). One Model that Fits Them All: Psychometrics With Generalized Linear Mixed Effects Models. *Electronic Imaging*, 36, 1–8. <https://doi.org/10.2352/EI.2024.36.1.VDA-358>
- Li, W., Cook, D., Tanaka, E., & VanderPlas, S. (2024). A Plot is Worth a Thousand Tests: Assessing Residual Diagnostics with the Lineup Protocol. *Journal of Computational and Graphical Statistics*, 1–19. <https://doi.org/10.1080/10618600.2024.2344612>
- Rogers, R., & VanderPlas, S. (2024). Demonstrative Evidence and the Use of Algorithms in Jury Trials. *Journal of Data Science*, 22(2), 314–332. <https://doi.org/10.6339/24-JDS1130>
- Rosenblum, M., Chin, E. T., Ogburn, E. L., Nishimura, A., Westreich, D., Datta, A., Vanderplas, S., Cuellar, M., & Thompson, W. C. (2024a). Incorrect statistical reasoning in Guyll et al. Leads to biased claims about strength of forensic evidence. *Proceedings of the National Academy of Sciences*, 121(45), e2315431121. <https://doi.org/10.1073/pnas.2315431121>
- Rosenblum, M., Chin, E. T., Ogburn, E. L., Nishimura, A., Westreich, D., Datta, A., Vanderplas, S., Cuellar, M., & Thompson, W. C. (2024b). Misuse of statistical method results in highly biased interpretation of forensic evidence in Guyll et al. (2023). *Law, Probability and Risk*, 23(1), mgad010. <https://doi.org/10.1093/lpr/mgad010>
- Vanderplas, S., Blankenship, E., & Wiederich, T. (2024). Escaping Flatland: Graphics, Dimensionality, and Human Perception. In H. Mori & Y. Asahi (Eds.), *Human Interface and the Management of Information* (pp. 140–156). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-60114-9_11
- Vanderplas, S., Carriquiry, A., & Hofmann, H. (2024). Hidden multiple comparisons increase forensic error rates. *Proceedings of the National Academy of Sciences*, 121(25), e2401326121. <https://doi.org/10.1073/pnas.2401326121>
- Wiederich, T., & Vanderplas, S. (2024). Evaluating Perceptual Judgements on 3D Printed Bar Charts. *Journal of Data Science*, 22(2), 176–190. <https://doi.org/10.6339/24-JDS1131>



STUDENT AWARDS

- **Aarif Baksh - Mary and Charles C. Cooper/Emma I. Sharpless Fellowship \$3000**
 - Awarded to exceptional graduate students who have been accepted into either an M.S. or Ph.D. program, and who are capable of benefiting from further education into the College of Agricultural Sciences and Natural Resources (CASNR). The student's application file must show evidence of a last degree GPA of 3.5 or greater; excellent scores on the GRE (if required), and excellent letters of recommendation.
- **Pranta Das, Asif Enan, Nicole Harms, Ryan Lalicker - Othmer Fellowship: \$4000 renewable for up to three years given continued excellent progress toward degree**
 - Awarded to newly admitted M.S. or Ph.D. students. The students' applications demonstrate excellent letters of recommendation and a minimum GPA of 3.5 in previous degree
- **Aleena Chanda- Department of Statistics Graduate Student Fellowship: \$750**
 - Fellowship awards outstanding graduate students in the Department of Statistics, demonstrating outstanding academic achievements, statistical research accomplishments, and departmental/university service of students within the Department. All awardees are given a monetary stipend and their name engraved on the department plaque.

FACULTY GRANT AWARDS

Sanjay Chaudhuri

Sanjay Chaudhuri has been awarded a three-year grant by the Division of Mathematical Sciences — National Science Foundation, to develop empirical likelihood-based methods for Approximate Bayesian Computation problems. The project aims to establish a well-justified, purely data-driven, statistical procedure for complex problems with intractable analytic likelihoods. Such problems abound in many application areas in natural sciences, engineering, environmental, and social sciences.



Kimberly Stanke

Grant title: Engaging Nebraska Youth and Educators in AI

Organization: National 4-H Council, Google

Total awarded: \$225,000

Role: PI

Kimberly Stanke is an Extension Assistant Professor for 4-H Youth Development and she holds a joint appointment in the Department of Statistics. Dr. Stanke's focus is improving science and numerical literacy among all individuals with a particular focus in youth, undergraduate, and graduate students.

RECENT GRADUATES



VED PIYUSH

Ved received his PhD in December 2023, presenting his dissertation titled, “A Generalized Stacking Method Using Matrix Ensemble Kalman Filter-Based Multi-Arm Neutral Network”, under the supervision of Dr. Souparno Ghosh. Ved now works full-times as a Senior Data Scientist for IBM in New York.



PAULUS HERMANTO

Paulus received his MS in May 2024, advised by Dr. Xueheng Shi. After graduation, Paulus landed a job working as a full-time Statistician in the South Carolina Department of Social Services.

Paulus previously earned his Bachelor’s of Science in Actuarial Science at the University of Nebraska-Lincoln.



ANDREW KER

Andrew received his MS in May 2024, advised by Dr. Xueheng Shi. While at UNL, Andrew worked as a Sports Analytics Intern for the University Athletics Department in the Nebraska Athletic Performance Lab.

Andrew previously earned his Bachelor’s of Science in Statistics at the University of Wyoming.

ALUMNI SPOTLIGHT



RACHEL ROGERS

I am a postdoctoral research associate

working with Susan Vanderplas on research relating to statistical communication. I grew up in rural Missouri, and I enjoy reading books and traveling in my free time. As a PhD student at UNL, my dissertation research focused on statistical communication – specifically, how to measure juror perception of a bullet matching algorithm, either with or without images. This included developing a method for mapping participant notes to the study transcript, developing a more engaging study format, and investigating the most useful response types for capturing participant opinions.

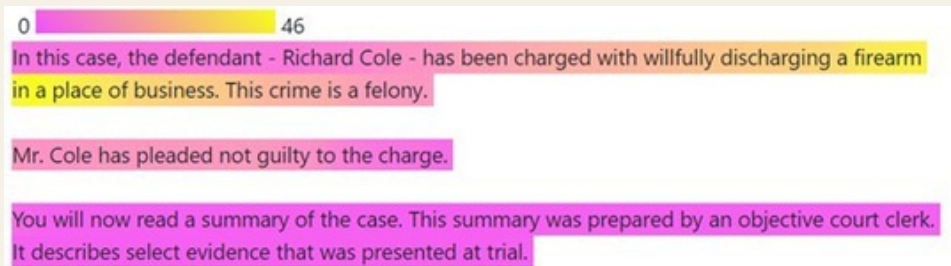


Figure 1: Highlightr package in action—highlightr creates a visual ‘heatmap’ by mapping phrase frequency of participants’ notes, providing valuable information about what participants chose to, or not to, record.

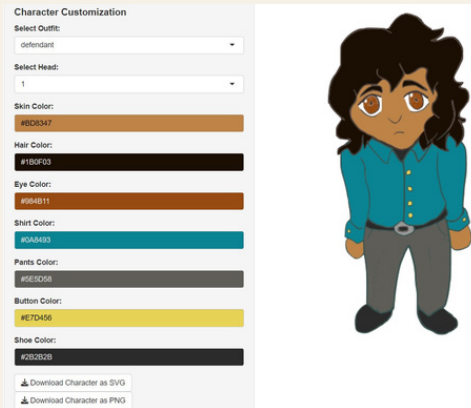
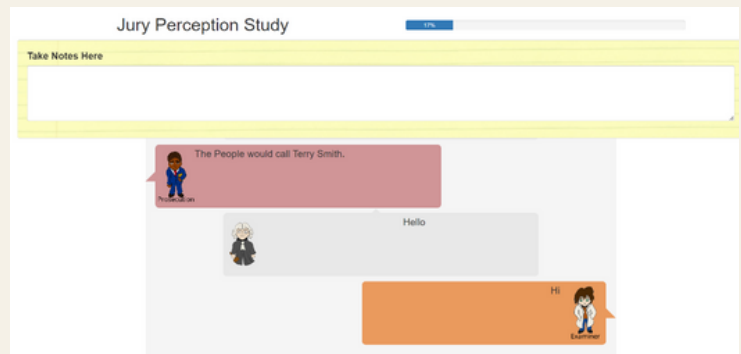


Figure 2 (left): Customizable characters implemented to clarify speakers in the testimony.

Figure 3 (below): Characters are used in a visualized courtroom dialogue



After graduating in May, I have continued to explore these issues through releasing a package, highlightr (Figure 1), for mapping derivative documents to source documents through highlighting, testing general perception of the cartoon characters (Figure 2)–drawn by my husband 😊 – used in the courtroom study, and using the modified response formats (Figure 3) in a study of jury perception. In the future, I plan to continue teaching and research at a university level.

FACULTY SPOTLIGHT

HEIKE HOFMANN



AFTER 22 YEARS AT IOWA STATE, I have joined the Statistics Department at the University of Nebraska Lincoln in August 2024. My research area is the development of methodology and tools for observational data and exploratory data analysis. Data visualizations are a key tool to identify interesting patterns in large, multivariate, and complex data. Visualizations are used everywhere for encoding and communicating information - their value depends on their quality, but the influence of a good graphic is hard to overestimate. Excellent graphics manage to simplify complex problems and summarize the essentials of a problem in a way that makes problems accessible to the non-expert.

Displaying information is a first step in understanding - being able to quantify what we see is a natural second question. This question involves the use of statistical models. My research bridges the gap between visualizations and models by formalizing the link between exploratory data analysis and statistical inference, answering questions of the form: 'what exactly do I see in the graphic and how relevant is it?'

Graphical Inference is based on non-parametric inferential methods using human observers to establish the relevance of graphical findings.

We answer the question of relevance with... can you guess? Another visualization!

We put the data plot to the test in a lineup by embedding it in a series of plots that are generated under the null hypothesis. **Figure 1** shows one of these lineups. Onlookers are then asked to identify the most different plot. If this plot happens to be the one showing the data, this is evidence against the null hypothesis.

Visual lineups provide the basis for a rigorous testing protocol that allows us to evaluate the significance of a graphical finding. This enables us to draw from the power of graphical tools in detecting new structures, while safe-guarding us from over- or misinterpreting the data.

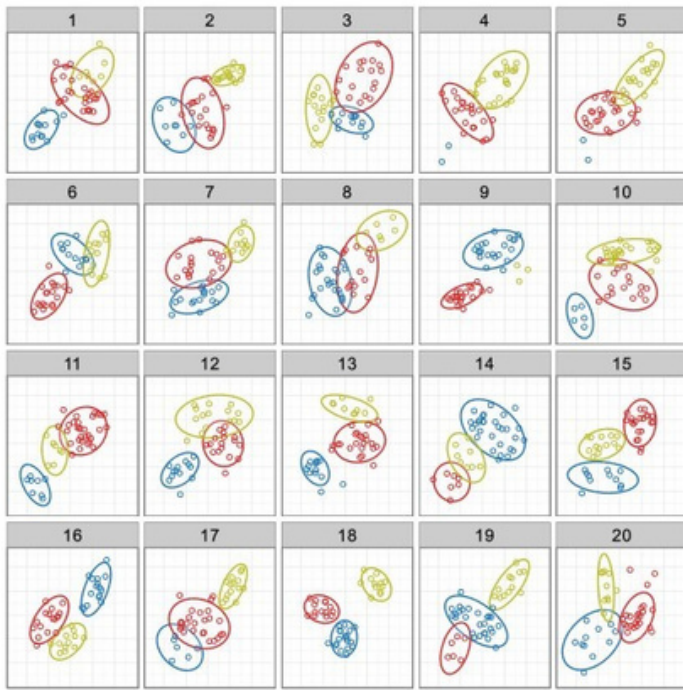


Figure 1: Which of the plots look the most different?

Graphical Tools – This line of my research is centered around the idea of improving graphical tools, and finding new or better ways of extracting information graphically, particularly in challenging situations, such as large or messy data; once adapted to display large quantities of data, graphics present a natural answer to the question of practical relevance (as opposed to statistical significance, which is usually directly proportional to the number of observations under consideration and becomes for large data increasingly meaningless): ‘is something really there, if we don’t see its effect?’

Statistical Computing – My work would not be possible without the use of good statistical computing tools. Besides using these tools, I am also actively developing tools for others to use. The R package system allows a distribution of high quality code. I encourage my students to make use of it, students get the feeling of accomplishment when submitting the final product, they get used to sharing res-

ults and methods with colleagues, and they get valuable feedback from users. Often these R packages are accompanied by a second publication in a more traditional paper format.

Application Areas – As a statistician I treasure the privilege to get to play in other disciplines’ backyards. Some of the most rewarding and stimulating projects in statistics result from collaborations with experts in other areas. On the flip side of that, I see my role in making statistics accessible and useful in practical settings. I have been actively engaged in initiatives, such as Data Science for the Public Good. My collaborations span across various fields, such as Biostatistics, Social Science, and Transportation Studies.

Since 2015, I have been a key member of the Center for Statistics and Applications in Forensic Evidence (CSAFE, www.forensicstats.org, led by Prof. Alicia Carriquiry out of Iowa State University), a NIST Center of Excellence. In this role, I have collaborated with legal and forensic practitioners and scientists towards the shared goal of developing methodology for a more scientific and fair administration of justice. I have been the project lead for research on assessing the similarity between marks on fired bullets and cartridge cases.

I am excited to move into my new position in IANR and the University of Nebraska-Lincoln! Thank you to everybody who has made me feel so welcome!



FACULTY SPOTLIGHT

INDRANIL MUKHOPADHYAY

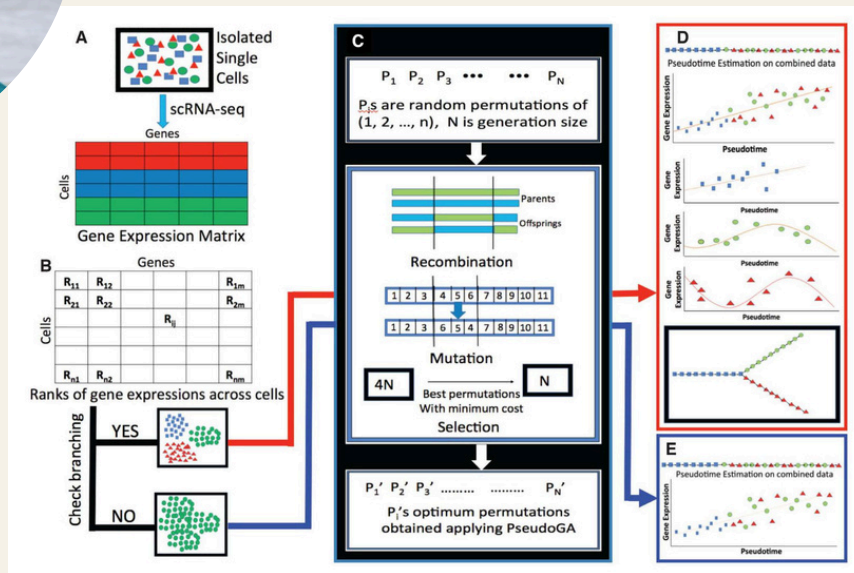


Figure PseudoGA an algorithm for pseudotime reconstruction using scRNA-seq data (Mondal et al., Nucleic Acids Research, 49(14), 2021)

I DID MY PH.D. FROM CALCUTTA University, India under Prof. Adhir Kumar Basu in time series analysis. My main focus was on parameter estimation in general order vector autoregressive model in sequential analysis paradigm. Then I moved to USA for my Post Doctoral fellowship in Statistical genetics under Prof. Daniel E Weeks from the University of Pittsburgh. Since then, my main area of research became developing novel statistical methods in human genetics. Our development of kernel based association test, opens the importance of multi-loci genetic association study reducing multiple testing burden and increasing the chance of capturing true associated loci having small or moderate effect on phenotype. My current focus is on solving major problems in single cell genomics and on developing new methodologies for integrating multi-omics data under one statistical framework. Paralle-

l to my research career, I also have a very successful career in teaching for nearly 30 years. While doing my Ph.D. I taught at St. Xavier's College, Kolkata, India. I have taught numerous courses over the years and had a major contribution in opening the statistics major program there. It is currently one of the best undergraduate colleges in statistics in the country. After I finished my Ph.D. I joined Burdwan University, India and also played a substantial role in modernizing the department of Statistics. After completing Post Doctoral fellowship, I moved to Indian Statistical Institute, Kolkata and taught the most brilliant students at BS, MS and Ph.D. levels spanning almost all topics in Statistics.

Now I moved to University of Nebraska-Lincoln and am excited to work in the area of plant and animal genetics and other applied fields of research.

EMERITUS PROFESSOR, WALTER J. STROUP



RECEIVES W. J. DIXON AWARD FOR EXCELLENCE IN STATISTICAL CONSULTING

August 15, 2024

Walter W. Stroup, emeritus professor in the Department of Statistics at University of Nebraska-Lincoln, was the recipient of the 2024 W. J. Dixon Award for Excellence in Statistical Consulting presented by the American Statistical Association.

Stroup has demonstrated excellence in statistical consulting throughout his career, with his accomplishments benefiting both the statistical community and a diverse set of scientific fields. The award recognizes his dedication to statistical consulting and interdisciplinary collaborations, his excellence in developing new tools for statistical practice, his contributions to training the next-generation of statistical consultants, and his commitment to help his colleagues.

Among Stroup's life-long professional accomplishments in the field of statistical consulting that contributed to his award are a series of books on linear, mixed and generalized models that are widely used today; collaboration with SAS software developers; work with the American Statistical Association to train current and future statistical consultants; development of numerous courses; and a wide array of interdisciplinary collaborations in fields including agriculture, horticulture, soil science, entomology, veterinary medicine, food science and much more.

In addition, Stroup had a crucial role in developing statistical methods for shelf life estimation for the Stability Shelf Life Working Group that is an academia, government and industry partnership sponsored by the Product Quality Research Institute. Stroup also played a key role in the Nebraska Math project, a \$10M NSF initiative in psychology and educational research. The project aimed to improve middle school math teacher training by implementing innovative curricula. Stroup, serving as a statistical consultant and a co-principal investigator, applied design and analysis techniques to access the program's effectiveness, working closely with education partners.

Stroup's demonstrated excellence, commitment to the advancements of statistical consulting and collaborative research, significant and long lasting-impact on students and colleagues, inspiring attitude still continues as he contributes to UNL's Statistical Cross-disciplinary Collaboration and Consulting Lab (SC3L)' mission of providing assistance to students, faculty and staff in their statistical analyses and developing the next generation of statistical consultants at UNL.

STAFF SPOTLIGHT



TEGAN BROOKS

Tegan is the department's Undergraduate advisor. She graduated from UNL in 2021 with a B.S. in Actuarial Science and minors in Mathematics and Statistics. As the department works to develop the undergraduate program, Tegan plays an essential role guiding the new class of students deciding best steps to graduation and helping them fulfil their potential in the program. Tegan enjoys interacting with students and meeting potential applicants and their families.

When she's not meeting with students, Tegan enjoys traveling, reading, and taking her two Goldendoodles on walks with her husband.



AMANDA BULGER

Amanda is the department's office associate. She graduated from UNL in 2019 with a B.A. in Classical Studies and Art History. Her original plans were to pursue museum work but she decided to come back to academia. As an office associate she helps the department with the day to day administration, facilitating purchase orders, providing graduate administration support, and making sure the office is functioning properly. She enjoys the relationships she's made with the faculty and students and helping the department wherever she can.

When she's not doing administrative duties, Amanda enjoys traveling, attending concerts with her boyfriend, shopping at bookstores, messing with her three cats, and PC gaming.

Support Statistics



Statistics is a vital field – creative, versatile, and growing.

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