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The New Zealand Statistical Association

Newsletter

Number 93 September 2025

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President's Welcome

by JOHN HAYWOOD

Kia ora koutou,

Welcome from me to this second issue of the NZSA Newsletter for 2025 - and I hope that everyone is having a great year. You will see, in the newsletter, that plenty has been happening within the NZSA over the last few months and it's great that we can share reports on a lot of that mahi. A big thank you to all contributors and especially our editor, David, plus the team of proofreaders.

The NZSA's Executive Committee team have been working away behind the scenes, keeping things running smoothly for members. Our Past President, Beatrix Jones, and our Webmaster, Heather Jenkins, have ensured that our updated Constitution is now available on the NZSA website; see https://www.stats.org.nz/constitution/. Updates were necessary so that we comply with the Incorporated Societies Act 2022, and Beatrix led that work for the NZSA during her term as the previous NZSA president. Heather also continues to make updates to our website throughout the year.

Treasurer Ciprian Giurcăneanu is close to completing annual reporting for our GST return and our Charities Services registration; those returns involve a lot of work, and we're very grateful to Ciprian for his efforts. Our Science Fairs sponsorship has been boosted to $200 per fair, with Roy Costilla now established in the role of Science Fairs Convenor. Regarding other sponsorship from NZSA, the Executive Committee agreed to continue our support of the New Zealand Mathematics and Statistics Postgraduate Conference (NZMASP), provided they continue to feature Statistics in a meaningful way, including with at least one invited speaker who has a focus on statistics within their research. This year NZMASP will be held at the University of Auckland, from 18-21 November, and Ben Stevenson is one of the Invited Speakers. Ben will be known to many readers of the NZSA Newsletter, given Ben was our most recent newsletter editor, prior to David.

Regarding conferences, there are reports on several recent and future events elsewhere in the newsletter, including our own NZSA 2025 Conference that is scheduled for 8-10 December in Ōtepoti Dunedin. Check out how to register for that one and don't miss the early bird rates - what a bargain! I'm looking forward to catching up with many of you there, and a big thank you to Conor Kresin and the rest of the conference organising committee for their hard work in getting things ready for us.

Various changes are afoot within the School Curriculum, and our Education Committee have been working hard to try and ensure that statistics education within NZ continues to be rightly seen as world-leading, as is currently the case. To quote/paraphrase one of the authors of the NZSA's recent submission to the Ministry of Education: "we tried to convince the people responsible for overseeing changes that: NZSA is important, statistics is important, maintaining our subject in the curriculum is important, we should be consulted on the design of any change-implementation plan components specific to statistics, and we need some internal assessment." This year the NZSA has had reasonable success in getting the ear of relevant people at the Ministry of Education, so hopefully they continue to listen to, and act on, the wise words from members of our Education Committee.

Activities coordinated by our Mentoring and SECS reps (Lisa Thomasen and Muskaan, respectively) continue to flourish - including successful mentoring of the SECS rep by the Mentoring rep - so both our reps are definitely walking the walk! One initiative that I'd like to further highlight here is the award of the first NZSA Tidy International Travel Scholarship, which has been generously funded by Hadley Wickham. The Scholarship application process was coordinated by the SECS Award Committee (led by Muskaan) and the award goes to Otago PhD student Sarah Croft. Sarah will use the scholarship to help fund attendance at the IBS-AR Conference, "Biometrics in the Bush Capital", 24-28 November 2025 in Canberra, Australia. You can read more about that IBS-AR conference plus other SECS+Mentoring activities in separate newsletter articles.

Finally, a shout-out to Jie Kang, who coordinated the process to set up our new External Engagement committee. Jie has secured an academic position at the University of Sydney (congratulations, Jie!), and consequently will be moving on from his role on the NZSA Exec. The idea behind the External Engagement committee was to develop a useful and workable replacement for the "corporate" class of membership, which the whole Exec had previously agreed was past its use-by date. Provisional terms of reference have been agreed for the new committee, with the proposal that it is chaired by the Past President, to ensure provision of continuing institutional (i.e. NZSA) knowledge. A primary aim is to bridge the gap between academia and industry. The committee's next steps are to reconsider its own 'most appropriate' name and then to develop a 12-month engagement plan. Watch this space for updates, on what will hopefully be a new and productive chapter in the NZSA's interactions with the day-to-day application of statistics across many sectors of our society.

Best wishes,

John

Editorial

by David Huijser

Kia ora koutou,

Welcome to Newsletter Issue 93!

In the last few years we published the second newsletter of the year around July / August. At the last Executive Board meeting it was agreed upon that the second newsletter should be published after the 3rd Executive Board meeting of the year. Therefore, in the future the second newsletter of the year might be published a bit later than the previous few years. Anyway, here it is: the 93rd Issue of the NZSA Newsletter. I am very grateful that we once again have so many contributors, which is a testament to the strength and vitality of our statistics community.

I would like to welcome Adam Glucksman, who stepped up to be a contributor on behalf of Victoria University of Wellington

On this occasion, I did not receive a contribution for the Back in the Day section, which presented me with the opportunity to write an article about the first two statisticians.

I would also like to express my sincere thanks to our proofreaders.

As always, please send any items for our next issue—planned for March 2026 to newsletter@stats.org.nz

Hei konā mai,

David

Upcoming Conferences and Events

2025 NZSA Conference

by Conor Kresin

The Department of Mathematics & Statistics at Ōtākou Whakaihu Waka University of Otago is very pleased to be hosting the 2025 NZSA Conference.

The dates of the conference are Monday 8 to Wednesday 10 December 2025 and registration is now open at weblink.

Call for abstracts
The deadline for abstract submissions is 10 November 2025.

Invited speakers
Kerrie Mengersen, Queensland University of Technology
Thomas Lumley, University of Auckland
Darryl MacKenzie, Proteus

The local conference organising team look forward to welcoming you to Ōtepoti Dunedin.

Biometrics in the Bush Capital

by Harold Henderson

The Australasian Region Biometrics conference is a biennual conference sponsored by the International Biometric Society (Australasian Region).

The conference is a forum for biometricians, statisticians, and those interested in the development and application of statistical and mathematical theory and methods to problems in the biosciences. The conference is open to members and non-members of the Society.

Pre-conference workshops are now open for registration:

- Generalized Nonlinear Models in R by Heather Turner
- Analysing Complex Survey and Subsample Data (with R) by Thomas Lumley
- Lost in Translation: Speaking Statistician in a Multi-Lingual World by Peter Humburg and Eve Slavich
- Deep Learning and Computer Vision in R: A Practical Introduction by Patrick (Weihao) Li

Keynote speakers

- Charmaine Dean, Vice-President, Research and International at the University of Waterloo.
- Cheng Soon Ong, Associate Science Director at Data61, CSIRO and a senior principal research scientist at the Statistical Machine Learning Group.
- Heather Turner, Associate Professor and EPSRC Research Software Engineering Fellow in the Statistics Department at the University of Warwick, UK.
- Jesse Goodman, Senior Lecturer in Statistics at the University of Auckland.
- Mevin Hooten, Professor in Statistics and Data Sciences at The University of Texas at Austin.

The conference will be held from Monday 24 to Friday 28 November 2025 in Canberra, Australia.

For more information click this link.

MaxEnt 2025 Conference

by Brendon Brewer

We are pleased to announce MaxEnt 2025, the 44th International Workshop on Bayesian Inference and Maximum Entropy Methods in Science and Engineering. The conference will take place at the University of Auckland, from December 14 to 19, 2025. This will be only the second time the MaxEnt conference has been held in Australasia, after being held in Canberra in 2013. As the long name suggests, the MaxEnt conference series focuses on the foundations and applications of Bayesian inference, along with the maximum entropy principle. Traditionally, a large emphasis of the conference has been inverse problems in the physical sciences. However, you can expect a variety of scientific fields to be represented at the conference. Statisticians with an interest in these topics are, of course, welcome!

The website is at https://maxent2025.co.nz and is open for registration and submissions.

The keynote speakers are:

- Richard Arnold
- Ali Mohammad-Djafari
- Alexei Drummond
- Renate Meyer
- Geoff Nicholls

We are grateful to Dr John Skilling for his generous support of this conference.

Australian Statistical Conference 2025

by Harold Henderson

The Australian Statistical Conference 2025 (ASC2025) will be held from Monday 1 December to Friday 5 December in Perth, Western Australia hosted by Curtin University.

Keynote speakers

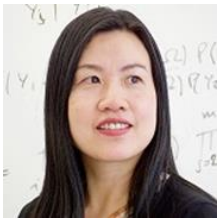
- A/Prof Tanya P. Garcia - University of North Carolina, Chapel Hill, USA
- Dr Phillip Gould - Deputy Australian Statistician, Head of Data and Statistical Practices Group, Australian Bureau of Statistics
- Prof Martin L. Hazelton - Otago University, Dunedin, NZ
- Dr Joanne Potts - Director, Analytic Edge Consulting, Tasmania
- Dr Katharina Schueller - Founder & CEO, STAT-UP Statistical Consulting, Germany
- A/Prof Sofia S. Villar - MRC Biostatistics Unit, Cambridge, UK

For more information click the link.

Conference and Event Reports

WiDS NZ 2025

by Ivy Liu



We are celebrating eight years of Women in Data Science NZ (WiDS NZ) events. This year, more than 240 people registered for the WiDS NZ event. We want to thank our sponsors, including the NZSA. The sponsorship enables us to make this conference free for all genders to attend and support WiDS in providing scholarships for women studying STEM at university.

In 2025, our WiDS NZ 2025 scholarship (value of $2,000) winners are Meng Niu, Eden Johns, WanTing Yin and Jaime Linton.

Everyone is welcome to watch the recording from WiDS 2025 event recording and enjoy the highlights from WiDS 2025 highlights.

One day later at the CIO Summit awards event in Auckland the WiDS NZ was one of the finalists in the Community Tech Champions category. Although we didn't take home the award, it was a real privilege to stand alongside Digital Future Aotearoa on their well-deserved win.

CIO Summit awards. Left to right: Louise Francis (one of the awards judges), Kate Kolich (WiDS NZ co-chair and ambassador), Ivy Liu (WiDS NZ co-chair and ambassador).

Ihaka Lecture Series 2025

by Paul Murrell

Patterns in space

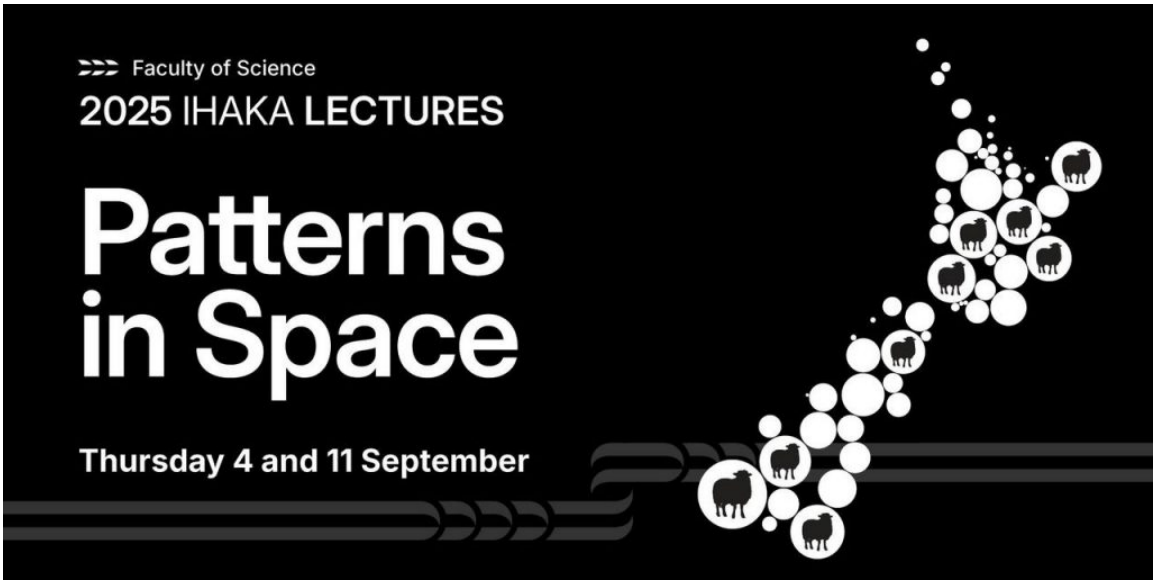
The first law of geography is that everything is related to everything else, but near things are more related than distant things. This year's Ihaka Lectures are about geographic data - facts on maps. Drawing maps and analysing them used to require specialised resources. Modern computing has made maps accessible as a form of data analysis, but they still require expertise. We will hear from experts in reasoning with geographic data and in presenting it for a wider audience.

Lecture 1: Thursday 4 September
Vis-ease - Using visualisation to move beyond the conventional
Professor Dan Exeter, School of Population Health, The University of Auckland
Watch the lecture

Lecture 2: Thursday 11 September
Connecting the dots with R
Professor Adrian Baddeley FAA, John Curtin Distinguished Emeritus Professor, Curtin University
Watch the lecture

Even though this year's lectures have already been, you can watch all the lectures on the Ihaka lecture series on Youtube.

The Ihaka Lecture Series was established in March 2017 by the Department of Statistics at the University of Auckland to honour Associate Professor Ross Ihaka for his pioneering contributions to statistical computing and data science. Since its inception, this annual lecture series has served as a platform for thought leaders to share insights into the evolving landscape of data analysis, computation, and statistical methodology. In the past, the Ihaka Lecture Series explored the evolving intersection of statistics and data science, encompassing themes like data visualization, software development, machine learning, and the application of data analysis to public policy and societal challenges, with a growing emphasis on effective communication and responsible use of data.



Stories of Interest

NZSA Awards

by Vanessa Cave, Convenor of the Awards Committee

Call for Nominations

The NZSA recognizes our members contributions to the New Zealand statistical community through the Campbell, Littlejohn, Worsley and Jean Thompson awards.

The Campbell Award is the premier honour bestowed by the NZSA and is awarded in recognition of an individual's contribution to the promotion and development of statistics in New Zealand.

The Littlejohn Award is the NZSA's research award, recognising excellence based on publications during the five calendar years preceding the date of the award.

The Worsley Award recognises outstanding recent published research from a New Zealand statistician in the early stages of their career. In particular, applicants must be within seven years of confirmation of their PhD, or their highest completed degree.

The Jean Thompson Award recognizes excellence in the application of statistics in New Zealand industry, including business, Public Research Organisations, government agencies and departments, media, etc. The award celebrates the insightful use of statistical thinking and practice in solving practical problems and creating value.

Nominations (or queries about these awards) should be emailed to Vanessa Cave, Convenor of the NZSA Awards Committee at vanessa.cave@auckland.ac.nz. The closing date for nominations is Monday 3rd November.

Congratulations to the 2024 winners: Lisa Thomasen (Campbell Award) Tilman Davies (Littlejohn Award), and David Baird (Jean Thompson Award). Their citations can be found in the previous newsletter.

NZSA Travel Grants

Student Travel Award

The New Zealand Statistical Association (NZSA) is funding travel awards for students attending our 2025 conference. To be eligible for these awards, applicants must:

- Be a student enrolled at a New Zealand institution at the time of registration. Students are required to have their supervisor e-mail the NZSA Awards Committee convenor, Vanessa Cave to confirm their enrolment.
- Present research at the conference. Students are required to submit their abstract with their application
- Provide a single page academic CV
- Be a member of the NZSA

To apply for a student travel award, please contact Vanessa Cave: vanessa.cave@auckland.ac.nz.

Applications will close on **Monday 3rd November**.

Early-Career Travel Grant

The New Zealand Statistical Association (NZSA) is offering needs-based financial support to help early-career researchers attend our 2025 conference. To be eligible for funding, applicants

must:

- Be an early-career researcher
- Be either seeking employment, or in an employment situation where the cost of attendance is not covered by your employer
- Provide a statement outlining why financial support is required, along with any other relevant information (Note: This fund is managed by the Awards committee and grants are awarded at the committee's discretion)
- Be a member of the NZSA

To apply for an early-career travel grant, please email : vanessa.cave@auckland.ac.nz. Applications will close on **Monday 3rd November**.

Back-In-The-Day

by DAVID HUIJSER

Have you ever wondered who were the First Statisticians? Before you read on, please take a minute a think what names come to mind when you think of the First Statisticians? You might think that is an odd question, and you're completely correct, because rarely is it possible to identify one or two people whose impact caused such a paradigm shift within a field of science. Sure, physics has Newton observed a dropping apple and Einstein bending spacetime, but statistics? As in any proper argumentation I would like to start my argument with the definition of statistics.

The word itself, "statistics" comes from the German Statistik, meaning "description of the state" (as in, tallying up your kingdom's cows and cannonballs). But that hardly captures what we do today, which is more along the lines of: "the science of learning from data and of measuring, controlling, and communicating uncertainty". And that definition, I think, is a better guide for spotting the true pioneers.

Traditionally, the medals often go to John Graunt (1620–1674) and William Petty (1623–1687). Graunt poked around in London's bills of mortality, noticing suspiciously regular patterns in births and deaths. Petty turned to numbers to advise governments—basically inventing data-driven policy centuries before it became a buzzword.

Or maybe you're in Team Probabilists, which contains Pascal (1623–1662), Fermat (1601–1665), Bernoulli (1655–1705) and Laplace (1749–1827). After all, they gave us probability theory and the maths that makes our field possible. Without them, we'd simply be gazing at numbers, and imagining patterns without the proper tools to test whether these patterns are really there.

But if you ask me (and I'll stress this is purely my opinion, so feel free to sharpen your quills in disagreement) [1], the first two statisticians weren't the usual suspects at all. They were Tycho Brahe and Galileo Galilei.

Tycho Brahe (1546–1601), the flamboyant Danish nobleman with the golden nose, spent decades meticulously charting the stars and planets. He didn't just gaze dreamily into the night sky—he obsessed over measurement error, consistency, and accuracy. His mountain of astronomical records was the original big dataset.

Then there's Galileo Galilei (1564–1642), who had the unprecedented notion that it might actually be a good idea to repeat experiments and average the results. He even thought seriously about uncertainty in measurements. That mindset—recognizing the messiness of data and working to tame it — is basically the birth of modern statistics.

[1] This is my personal, slightly biased take. Disagree? Excellent. Statistics thrives on argument—preferably backed by data.

I understand that some of you might not be convinced, however I am sure that if you would have to describe modern statisticians by their most common activities it would be something like: “someone who designs, analyzes, and interprets data to extract knowledge, quantify uncertainty, and guide decisions”.

According to that criteria Tycho Brahe and Galileo Galilei do fit many of those elements:

- Designed experiments/observations (Tycho’s observatory, Galileo’s inclined plane).
- Collected large amounts of high-quality data.
- Analyzed variability (Galileo with averaging, Tycho with error reduction).
- Interpreted results to improve models of the cosmos and physics.

The biggest counter argument you could come up with is that Tycho Brahe and Galileo Galilei didn’t yet have the mathematical probability theory that underpins modern statistics. And yes, you’re correct, however in my humble opinion Tycho and Galileo set up the statistical and scientific framework, and the others...they just had to fill in the blanks.

So yes, I go with Tycho and Galileo as the first statisticians. Not because they solved p-values or invented regression, but because they treated error and uncertainty not as nuisances, but as things worth understanding. And that’s the beating heart of statistics.

Updates

NZSA Mentoring Program

by Lisa Thomasen

Mentoring Program

Over 80 NZSA members have now been involved with the mentoring program to date, with many of these individuals being involved across multiple cohorts and connecting with the program in multiple ways. We've just passed the mid-point for Cohort 4 of the mentoring program which includes 20 mentor:mentee pairs. We have multiple people who are both a mentor and a mentee this year which has resulted in two 'mentoring trains' consisting of 4 individuals (e.g. A mentors B who mentors C who mentors D). This is a great example of how mentoring provides opportunities for growth and development in both directions and can equip people to support others.

Lisa & Muskaan had the opportunity to meet in-person for a recent mentoring session

My mentee and I have now been connecting virtually for over a year. We recently had an opportunity for our first in-person catch up. It was wonderful to connect without a screen, even though it meant braving the rain to get to the café.

Lean in circle

This year, two lean in circles are being offered. One of these circles has been meeting since March and consists of 9 women. This circle has discussed busyness, time management, strategic yeses and integrity. The second circle kicked off in June with an intro session. This is a mixed circle with space for a couple more to join, so get in touch if you'd like to get involved.

Coffee roulette

Coffee roulette kicked off in May. Matches are sent out in the first week of the month and pairs reach out to find a half hour slot to network and connect. Most pairs connect virtually, but at least one pair have had the opportunity for an in-person coffee. Rina Hannaford has been leading the coffee roulette matches. We are planning to send out a monthly match from May to November. NZSA members can join this initiative at any point throughout the year. Email Rina to be added to the list for next month's round.

Lunch 'n' Learns

We had our first Lunch 'n' Learn for the year in May. James Bristow led a discussion session on scientific writing. We had 18 attendees, and the discussion covered what makes scientific papers memorable, useful tools for writing, thoughts on the future of scientific writing and the role AI will play going forward. Our second Lunch 'n' Learn was held in July. Richard Vale led the discussion and shared his experiences of the current job market for statisticians. This session attracted 33 attendees, making it the most attended Lunch

'n' Learn so far. The discussion covered ghost jobs, roles with 10+ interview rounds, Applicant Tracking Systems, and the challenges of job applications and interviews from the perspective of both the applicant and recruiter. Our August Lunch 'n' Learn was led by Elena Moltchanova and focused on the challenges facing mid-career statisticians. We had 19 attendees, which formed a bi-modal distribution of early and mid-career statisticians. The consensus of this discussion is that there is often a rapid drop off of career support as we transition to mid-career, despite the new goals and challenges that mid-career statisticians are often faced with. Peer mentoring and open discussions about the challenges were suggested as possible solutions to enable visibility and support.

Multiple people have volunteered to facilitate a Lunch 'n' Learn this year. Manori Wickramasinghe is arranging the schedule for these, so please reach out if you have an idea for a future session. The appointments for these are shared via the NZSA mailing list, so keep an eye on your inbox for upcoming sessions.

Thank You!

Thank you to Rina Hannaford, Manori Wickramasinghe, James Bristow, Richard Vale and Elena Moltchanova for volunteering your time to support Mentoring Program initiatives. It is fantastic to have your support to create a vibrant support network for NZSA members.

If you would like more information about the mentoring program, please check out the NZSA website or our FAQs document or send me an email: mentoring@stats.org.nz

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Student and Early Career Statisticians' Network

by MUSKAAN

New Structure - Introducing Your Network Representatives

We've restructured our representative model! Instead of regional representatives, we now have a unified team of seven Network Representatives, some of whom have taken on additional roles to support our community.

Please join us in welcoming the new SECS Network Reps:

- Muskaan - National Rep, SECS Awards Committee
- Hu Jinxian - SECS Awards Committee
- Jyotsna Garg - SECS Awards Committee
- Andre Macleod Hungar - SECS Awards Committee
- Amy Li – Social Media Manager
- Yongshi (Agnes) Deng
- James Bristow

We're excited about this new structure and look forward to a more connected and collaborative network.

NZSA Tidy International Travel Scholarship – First Round Complete!

We're thrilled to announce the successful launch of the first round of the NZSA Tidy International Travel Scholarship. The SECS Awards Committee designed the application process and evaluation criteria, which were approved by our generous sponsor *Hadley Wickham*.

- Application period: 1 May - 15 June 2025
- Applications received: 10

After an initial shortlisting by the SECS Award Committee, the NZSA Awards Committee randomly selected a recipient.

Congratulations to Sarah Croft!

PhD student at the University of Otago, Sarah will receive the scholarship this year and will be attending the IBS-AR Conference: Biometrics in the Bush Capital, held 24–28 November 2025 in Canberra, Australia.

As part of the scholarship conditions, Sarah has kindly agreed to attend specific sessions if requested and include summaries in her post-conference report. If there's a talk you'd like Sarah to attend and report on, email us at secs@stats.org.nz.

Additionally, we welcome your feedback on the scholarship process. Planning for the next round (conferences from July 2026–June 2027) will begin near the end of this year – stay tuned!

SECS Webinars – Career Progression

Our recent Career Progression Webinar, hosted in a podcast-style format by James Bristow, was a huge success! The session focused on navigating the transition from academia to industry, featuring insights from three inspiring early-career professionals:

- Olivia Angelin-Bonnet - Statistical Scientist, Plant & Food Research
  PhD in Statistics (Massey University); works on data integration, reproducibility, and R packages.
- Tom Moore - Quantitative Ecologist
  Specializes in modelling environmental data, including nitrogen pollution and invasive species. Founder of RgonJaRgon - mentoring support for early-career researchers.
- Hana Liang - Data Scientist, Auckland
  Focuses on sensor data, model calibration, and ML applications like computer vision. Currently pursuing a Master's in Data Science.

Missed it? The session will be available on our new YouTube channel for you to watch anytime.

Stay Connected

We're working on more exciting webinars and opportunities. If you'd like to present or suggest a topic, reach out to us! Follow the SECS network on Facebook and LinkedIn to stay up to date. Let's keep growing together!

Statistics Education

Statistics Education Research

by Maxine Pfannkuch

The School Curriculum

The refreshed curriculum for Years 9-13 was released for consultation from 27 January to 28 April 2025: NZC – Mathematics and Statistics (Years 9-13). We gave detailed feedback to the Ministry. The final curriculum is due to be released in Term 4 2025 for implementation in 2026.

With the planned full implementation of the refreshed curriculum in 2026, the President of the NZSA, John Haywood, sent a detailed submission to the Minister of Education expressing our concerns about the impact on teachers and students of dealing with a refreshed curriculum containing new content and consequent new assessments at the senior levels in one year. We suggested that a staged introduction of the curriculum and assessment should be instigated. The Minister thanked us for our submission.

Probability | Tūponotanga - A Guide for Teaching Probability

The NZSA education committee's digital book as a guide for teachers to support the teaching and learning of tūponotanga | probability in Aotearoa New Zealand schools is underway. Pip Arnold is leading the project. The book will have 14 wāhanga (chapters) authored by members of the NZSA education committee, other NZ educators, and international experts. The book will align with the new refreshed mathematics and statistics curriculum. Two wāhanga have been published: Building the language of probability: Vocabulary, visualisations and concepts and Modelling uncertainty: Exploring probability from a modelling perspective. The aim is to have a further seven wāhanga published by December 2025 and the rest available by June 2026. The book is sponsored by NZSA and NZAMT.

People in Statistics Education

Matt Beckman

Matt Beckman, Penn State University, was the NZSA visiting lecturer 2025. During April and May 2025, he visited and gave talks at the universities of Auckland, Otago, Canterbury, Massey, and Victoria. His research expertise is in capstone courses and computer-based large-scale teaching and formative assessment practices for intro-level stats and data science. In June, Anna Fergusson visited Matt Beckman at Penn State as part of a collaborative research link between Penn State and Auckland University.

Congratulations to Anna Fergusson and Maxine Pfannkuch for receiving the 2024 JSDSE (Journal of Statistics and Data Science Education) Best Paper Jackie Dietz Award. The award will be presented at the ASA's Joint Statistical Meeting in

Nashville, Tennessee in August. The paper was: Using grayscale photos to introduce high school statistics teachers to reasoning with digital image data.

Statistics and Data Science Education Conferences and International Involvement

The biennial NZAMT19 conference was held in Dunedin in the first week of July. The NZSA sponsored Leticia Perez, WestEd, USA as the statistics keynote speaker. Leticia's keynote was titled: *How do we know where we belong?* Members of the NZSA education committee, Pip Arnold, Dave Phillips, Michelle Dalrymple and Mark Hooper presented workshops at the conference.

USCOTS 2025 is at Iowa State University in July. Anna Fergusson is the keynote speaker at the Research Satellite as part of the conference program. The IASE Satellite Conference is in Münster, Germany in October 2025, which Anna Fergusson, Stephanie Budgett and Malia Puloka are attending as part of the Paderborn University collaborative research project with the University of Auckland. The ICOTS-12 conference is in Brisbane in July 2026, for which Stephanie Budgett is the IPC Chair. For details regarding abstract submissions for ICOTS-12, click here.

CensusAtSchool Project

The CensusAtSchool project, under the co-direction of Rachel Cunliffe and Anne Patel, launched its twelfth biennial online census for Years 3-13 students on February 25, 2025. So far about 15,000 students from 294 schools have participated. Pip Arnold is the resource developer and recently presented workshops on CensusAtSchool at NZAMT19 in Dunedin.

Local News

Biostatistics Centre at the Dunedin Campus, University of Otago

by Andrew Gray

In the last newsletter, I mentioned that Dr Ella Iosua and our amazing administrator, Janet Kim, were working on updating parts of our website. Thanks to Janet, we can now edit the news ourselves on one of our webpages!

You can find that from our homepage or by going straight to our news. So, if you would like to know more about Dr Nisa Widyastuti's three-week trip to Indonesia (where she visited ten universities) or about our latest series of workshops delivered by Professor Robin Turner, Associate Professor Ari Samaranayaka, Professor James Stanley, and Dr Jimmy Zeng, with help from everyone, then visit the news link and enjoy the stories and photos!

While James was in Dunedin to present his two-day Regression Modelling course, the Centre took the opportunity to have dinner with him. We were very pleased to be joined by Dr Brett Maclennan, a biostatistician in the Department of Preventive and Social Medicine. By the time you read this, we will likely be starting to plan for the next set of workshops in spring/summer and our contribution to the Wellington Public Health Summer School in 2026.

Robin showed us another string to her bow (she seems to have an inexhaustible supply) by sewing an amazing bag for Janet's birthday. We are all very lucky to have someone like Janet in the Centre and marked the occasion with a birthday lunch. These celebration lunches have become a very popular tradition in the Centre, along with celebration dinners - there is something of a theme here - so if you are ever in Dunedin, please do get in touch with us so that we can catch up.

To see what we have been celebrating between writing this column and its publication - the odds are good that there will be something - check out our new news page!

Department of Mathematics and Statistics, University of Otago

by Matt Parry

Ting Wang [Associate Professor in Statistics, University of Otago Ōtākou Whakaihu Waka] organised a workshop in Wānaka from June 8-11 that brought together leading earthquake researchers and modellers from China, Japan, Australia and New Zealand. The question motivating the workshop was how best to use seismic data, fault line research and statistical modelling to boost the accuracy of forecasts.

It is not yet possible to estimate the magnitude of an impending earthquake - just the likelihood of it occurring in a region within a certain time - but Ting and the team are working towards a statistical model to change that. "If we could forecast the magnitude of a future earthquake, that can help with our planning for those more

damaging earthquakes."

The team is also focused on forecasting aftershocks - smaller quakes that follow a main event, often near the same fault.

Having scientists from around the world in one room was a real advantage, as was having researchers across disciplines. "It takes data scientists, statisticians, and modellers working together testing ideas, sharing tools, and refining the models that support real-time decision-making." [Professor Mark Stirling, Professor of Earthquake Science, University of Otago Ōtākou Whakaihu Waka]

The Wānaka workshop was part of two major research programmes led by the University of Otago, with support from MBIE and the Marsden Fund.

Ting Wang (5th from left on the front row) and members of the Wānaka workshop. Other NZSA members include Jess Allen (4th from left front row), Mark Bebbington (farthest right) and Conor Kresin (back row).

Department of Statistics, University of Auckland

by Priya Parmar

Congratulations are in order for Liza Bolton, a rising star of the Department who recently received the Faculty of Science Equity, Diversity, and Inclusion Award. Liza regularly advocates for those with diverse learning needs and contributes ideas on how to make teaching more inclusive and accessible for all learners. Through her teaching work in China as part of the University's transnational education programme, she has deepened her understanding of how to support English Language Learners and has brought this back to STATS10X teaching team, with whom she shares the credit of her award for their openness for change and combined learning journey.

Our May graduation featured 152 statistics graduates. The success of the Data Science programme continues to be steady with 45 Master of Data Science or Master of Professional Studies (specialising in Data Science). Our foundation statisticians remain strong with 80 BSc and 16 BSc conjoint graduating. We saw just one doctoral graduate in this round – well done to Yongshi (Agnes) Deng! A NZSA SECS member, her doctoral research focused on investigating the use of statistical learning methods to solve missing data problems for large datasets. After submitting her thesis, she began her role as Data Scientist at ESR and since March 2025, as a Statistical Data Scientist at Oritain Global Limited.

We look forward to congratulating Petra Tang who has just passed her viva, at the next ceremony – Petra was co-supervised by Statistics and Physics through Professor Jan Eldridge and Professor Renate Meyer for her project combining binary population synthesis code BPASS outputs and FIRE simulation, then generates LISA (Laser Interferometer Space Antenna) signals from Galactic binaries to better understand the gravitational wave Galactic populations being observed.

The next wave of doctoral candidates were showcased earlier this year through Department presentations. Wenqi Zhao speaking about 'Modern Variable Selection for Vector Generalized Linear Models'; Deborah Kakis on 'Investigating Statistical Literacy of Health Professionals in Papua New Guinea'; Shuangyan Deng spoke about 'Mathematical Reasoning over Multimodal Large Language Models'; Guoping Hu about 'Forecasting Multiple Time Series with Graph Convolutional Networks'; Qingyu Meng on 'GCN-Driven Feature Selection and Prediction on Block-Wise Missing Multi-Omics Data'.

MOTAT's annual STEM fair took place over 5th - 6th April. The department's contributions were coordinated by Yalu Wen, Priya Parmar and Matt Edwards. The event drew a large crowd and succeeded in sparking curiosity and enthusiasm among the next generation of scientific explorers.

A big thanks to the following people who gave up their time to showcase what statistics/data science has to offer; Anne Patel, Stephanie Budgett, Yongshi Deng, Thomas Yee, Kate Lee, Alain Vandal and Avi Vajpeyi. Avi brought a cool maze game he made during a hackathon where kids got to complete a virtual maze and see how fast they completed. It was an absolute blast! Below is a photo of part of our set-up in MOTAT's new upstairs renovated space.

Kate Lee continues to deliver strong academic

presenters for the Department, both nationally and internationally. Local presentations featured Jason Kurz from University of Waikato speaking about 'Radial Basis Operator Networks' and Tilman Davies from University of Otago about 'Conditional Auto-regressions for Muscle Fibre-Type Data'.

International speakers included Brandon Whitcher from University of Westminster speaking about 'Image-Derived Phenotypes in Whole-Body MRI'; Michael J. Kane of MD Anderson Cancer Center, The University of Texas 'Modeling Population-Scale Commuting Patterns in New Zealand'; Pernille Christensen from University of Technology in Sydney offering a discourse on 'The simultaneously simple and complex health data paradox'; Osamu Komori from Japan's Seikei University presented work on 'Cumulant-based approximation for fast and efficient prediction for species distribution'; Stephanie Casey from Eastern Michigan University discussed their journey as a statistics teacher and statistics teacher educator. Matt Beckman from Pennsylvania State University looked at 'Evaluating natural language processing (NLP) tools designed to assist instructors with formative assessment for large-enrolment STEM classes'.

Statistics Research Associates

by Robert Davies

Alistair Gray has been working with Len Cook to identify what is the sort of assurance that others would need to have confidence in the radical changes being planned for the census that are consistent with what past government statisticians would have done. A fully independent external review led by a body such as the Royal Society is necessary given the scale of the change and concerns about the lack of transparency in key elements of the decision process.

Otherwise there's not a lot to report from SRA but possibly we are not as retired as we had thought.

Alistair Gray has been working with Fisheries New Zealand on a project looking at the feasibility of recruiting a panel of marine recreational fishers using commercial online panels. He has also been revisiting the weighting of the International Visitors Survey for the Department of Conservation.

David Harte and his Massey colleagues have been invited to put in an application for an extension of RNC funding (Resilience to Nature's Challenges). David recently attended an international conference in Wanaka on earthquake modelling organised by Associate Professor Ting Wang of Otago University.

Robert Davies has a follow-on of an old project from the Kapiti coast.

Peter Thomson is continuing informal research with old colleagues at Victoria University and John Maindonald is studying the implications of AI and giving talks on them to the Wellington U3A philosophy group.

We have cancelled our post box so if you want to write to us use email. About the only mail we were receiving in it was the annual invoice from NZ Post for the rental. Then they started using email and that was the hint we needed.

Foodstuffs

by MAZEN KASSIS

What do grocery checkouts and national censuses have in common? Until recently, not much. But with the Government's June 2025 announcement to replace New Zealand's traditional Census with an admin-data-first model, a deeper connection emerges, one centred on latency, trust, and operational readiness.

A Tectonic Shift in the Statistical Landscape
Minister of Statistics Dr Shane Reti confirmed that the days of full enumeration Censuses are over. Instead, Stats NZ will piece together population data using administrative sources, bolstered by flexible annual surveys targeting subsets of the population.

From a systems perspective, this is a bold move. From a statistical lens, it raises urgent questions.

- How fit-for-purpose are our administrative systems for statistical use?
- Can we reorient statistical practice to match the cadence of real-world decision-making?
- And perhaps most importantly: how do we do all this without sacrificing public trust?

Lessons from the Checkout

At Foodstuffs, our checkouts are engineered for throughput, but that efficiency didn't come from slapping on a scanner and calling it a day. It required relentless optimisation, transparency in design, and fail-safes that build consumer confidence.

This is the same challenge Stats NZ now faces. It's not just about using different data, it's about retooling the entire system to be faster, trusted, and responsive.

Operational Readiness $\neq$ Just Timeliness
Quarterly inflation data will soon become monthly. Census outputs will arrive annually. These changes promise to reduce insight latency — but statistical latency isn't just a matter of time. It's also about:

- Relevance: Are we measuring what matters at the right level of granularity?
- Actionability: Will these insights inform policy, service delivery, or investment decisions in time?
- Equity: Are we surfacing the stories of rural, mobile, or underrepresented communities?

As economists and population researchers have noted, administrative data can easily miss the margins. Census data may have been imperfect, but it was at least designed to look for everyone.

A Provocation: Build Systems for Activation, Not Just Collection
In the commercial world, we've begun treating data products like living tools. Our delivery isn't just the insight, it's whether the insight causes action. We track 'time-to-action', not just 'time-to-report'.

What if Stats NZ, and the statistical profession more broadly, adopted the same stance more broadly?

- Data quality should be measured not just by accuracy, but by its ability to guide decisions.
- Bias audits shouldn't be occasional, they should be embedded.
- Statistical education should include operational design, data ethics, and human-centred delivery.

This is a moment not for nostalgia, but for intentional reinvention. The transition to an admin-data-first Census doesn't have to signal a retreat, it can mark a new statistical compact, where speed, trust, and equity are engineered into the system.

From Grocery Floors to Government Forms
At the checkout, every scan counts. In statistics,

every life counts. The stakes are higher, but the principles of readiness, responsiveness, and responsibility are the same.

I'm keen to continue building systems that are not just statistically sound, but 'statistically activated'.

Luma Analytics

by Oliver Stevenson

As we move into the second half of the year, the Luma team has been out and about – connecting with students, industry, and our wider community, all while gearing up for our 2026 graduate recruitment cycle.

It was a pleasure to recently take part in the University of Auckland's Data Science Industry Evening. Events like these are always a great chance to meet the next generation of data scientists, as well as hearing from peers doing interesting and meaningful work across Aotearoa. It's also an opportunity to connect with students and learn how universities are evolving their teaching and courses to keep pace with advancements in the world of data science.

Closer to home, we've had a few recent team movements. We're delighted to welcome Eric Luo to Luma as our new Data Engineering Manager. At the same time, we'll soon be saying farewell to Rohit Rajagopal, who's heading across the ditch to take up a role as a Data Scientist in Sydney.

Finally, the team recently participated in a volunteer day with House of Science NZ, an awesome organisation working to lift science literacy in primary and intermediate schools. Their science kits are seriously impressive – they're hands-on, aligned to the school curriculum, and come in Te Reo Māori, English, and even some French. It was a great way for our team to give back to the community while also connecting over something that's really close to our own values as scientists from different backgrounds – some action shots below!

Plant & Food Group, BSI

by Duncan Hedderley

Our big news is that we became the Plant and Food Group of the New Zealand Institute for Bioeconomy Sciences (BSI for everyday use) on 1st July. Our Auckland stats group met up with the AgResearch statisticians and Robbie Price from Manaaki Whenua at Ruakura (Hamilton) on Friday 4th July. The Palmerston North AgResearch and PFR stats groups also met up, along with Ben Jolly from Manaaki Whenua. In the short term, the four CRIs which have been merged will continue as four groups under the BSI umbrella, but our CEO has said he expected there to be some changes within the next year.

In other news, Olivia Angelin-Bonnet attended the R Exchange 2025 conference in Wellington, organised by Epi Interactive. She presented on the R package moiraine, for facilitating the construction of reproducible multi-omics integration pipelines. This one-day event was packed full of exciting presentations: attendees got a glimpse of the newest developments at Posit around using LLMs directly from R (talk by Garrick Aden-Buie), learned what network graphs are and how interactive visualisations facilitate data exploration at MBIE (Jane Li and Chris Samson), or how data journalist Chris Knox leverages R and the targets package to quickly uncover stories from raw data. Breakout rooms and panel discussions allowed attendees to interact and exchange on diverse aspects of the data science world. And as an added bonus, there were hex stickers up for grabs to customise your laptop!

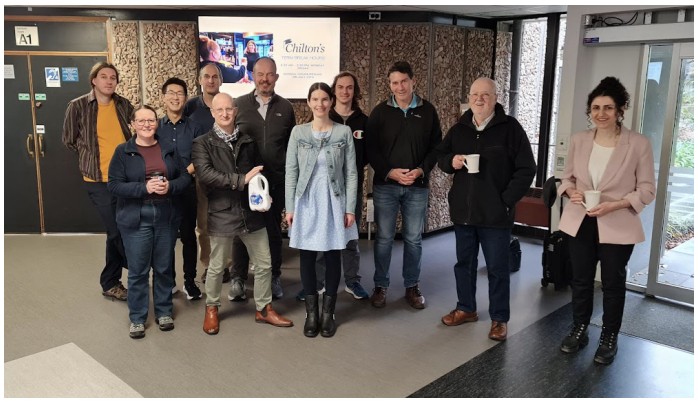
Heather Jenkins attended the Mathematics in Industry NZ (MINZ) meeting at the University of Canterbury. She and Dimetre Triadis (from AgResearch) were working on a problem provided by Fonterra, on how products like chocolate milk settle during storage. Other problems at the meeting were provided by Nova Systems (risk quantification for space launches), and the Energy Efficiency and Conservation Authority (EECA) on splitting national measures of energy use into regional estimates.

Fonterra

by Lisa Thomasen

I recently attended the Mathematics in Industry NZ (MINZ) study week at University of Canterbury. I had the opportunity to give the plenary address discussing the Significance of Communication & Collaboration which highlighted my perspectives on mentoring and the value of connection and supporting each other as we navigate change and challenges in our profession. Fonterra also took along an industry challenge to this event Settling the Sediment Debate. I was supported by my colleague Graeme Gillies who shared the project context. Throughout the week we had some thought-provoking discussions and learnt a lot about our sediment data which will challenge the way we collect and analyse data of this type going forward.

The need for replication in our data was a recurring theme. While the event name implies MINZ is an event aimed at mathematicians, the industry challenges regularly have a significant data component, meaning statistical skills are in hot demand. I've found MINZ events to be more valuable for my professional development than traditional conferences due to their practical nature and the opportunities for collaboration.



Fonterra challenge participants at MINZ

Department of Mathematical Sciences, Auckland University of Technology

by Patricio Maturana-Russel

We are delighted to announce that AUT's joint Master of Analytics programme with China Jiliang University (CJLU) celebrated its first graduating cohort on 28 May 2025. Forty students marked the completion of their studies at a special ceremony hosted by CJLU, with staff from both universities participating in person and online. On this occasion, the students were awarded AUT's Master of Analytics degree. The event recognised 18 months of intensive learning, collaboration, and meaningful cross-cultural exchange.

Our Mathematical Modelling and Analytics Research Centre, together with the Department of Mathematical Sciences, is organising the 10th AUT Mathematical Modelling and Analytics Symposium on Monday and Tuesday, November 24–25, 2025. Everyone is welcome to join us at this event, which offers an excellent opportunity to align our research with the challenges faced by industry and to explore potential joint solutions. We invite contributed talks (20 minutes) from members of the mathematical modelling and analytics community. More information will be posted on our website: https://mmarc.aut.ac.nz

School of Mathematics and Statistics, Victoria University of Wellington

by Adam Glucksman

This year has seen plenty of positive events within the Statistics and Data Science team at Victoria University of Wellington. First, congratulations to Ivy Liu, who, at the start of the year, was promoted to Professor. Perhaps as some form of 'value for money extraction' on the part of the University, Ivy then generously agreed to fill in as the acting Head of School of Mathematics and Statistics from 28 March until 28 July. Staff noted that, given Ivy had been Head of School for several years previously, and given she knew this was only a temporary role, Ivy took that extra three months of responsibility in her stride, before passing on the Head of School baton to Richard Arnold. Richard will be our boss for the next few years.

In recognition of her promotion to professor, Ivy delivered her public, inaugural lecture, "The beauty of uncertainty" on Thursday 4 September. Here's a photo of Ivy all dressed up and ready to lecture, sandwiched between the Dean of Science and Engineering, Professor Nicola Nelson, and the Victoria University of Wellington Vice-Chancellor, Professor Nic Smith.

Left to right: Professor Nicola Nelson, Professor Ivy Liu and Professor Nic Smith

Anyone who wants to watch Ivy's inaugural lecture can access the recording here.

Ivy was also the organising chair for the Women in Data Science New Zealand 2025 event on 18 August, for which the NZSA was a silver sponsor, contributing $1,500. That money went towards one of the WiDS scholarships, which aim to fund undergraduate women students to promote a career in Data Science. More about WiDS 2025 is available from their website: https://ecs.wgtn.ac.nz/Events/WiDSNZ2025/

Prior to taking on the Head of School role from Ivy, in July Richard Arnold travelled to Georgia to celebrate the 80th birthday of our retired colleague Estate Khmaladze. Richard attended a conference on probability held in Estate's honour, and which recognised his achievements and contributions to the field.

From left to right: Estate and Mzia Khmaladze with Richard Arnold at Kvatakhevi Monastery in Georgia

Nokuthaba Sibanda is currently on a 6-month sabbatical for the second half of 2025, with visits to the University of Queensland in Brisbane and RMIT University in Melbourne. As regular Newsletter readers will know, Nokuthaba was the NZSA Secretary for the four years up to December 2024. Louise McMillan travelled to Europe for her research and study leave in the second half of 2024, and therefore missed out on the annual NZSA Conference being in Wellington

last year. She certainly made up for it though, by developing various new collaborations with statistical ecologists and ecological statisticians.

Congratulations to Binh Nguyen on securing some valuable new research grants. Firstly, with New Zealand Singapore Bilateral Research Programme "Leveraging AI For Healthy Ageing", AIMCura: AI-augmented Interactive Platform for Longitudinal Cognitive Health Monitoring in Remote Care, NZ MBIE, $4,000,000 (3 years). The project aims to develop an AI-powered mobile platform that uses speech-based tasks and cognitive games to monitor and improve cognitive health in older adults over time. By enabling remote, personalised assessments and training, the tool supports early detection of cognitive decline and promotes cognitive resilience. Testing is underway in both Singapore and New Zealand. Secondly, Binh also secured a grant with the Catalyst Fund: Seeding, Advanced AI Methods for Biomarker and Drug Discovery, Royal Society of New Zealand Te Apārangi, $80,000 (2 years), which will develop a tailored AI system to accelerate and reduce the cost of drug discovery by combining biomolecular modelling and biomarker detection into an efficient, streamlined pipeline.

Laia Egea Cortes successfully defended her PhD on 19 September and now joins the VUW staff as a teaching fellow, as part of her post-doctoral work. Laia's PhD research was supervised by Richard Arnold, Daniel Fernandez and Ivy Liu.

Along with our regular in-house seminars, we had a couple of presentations from international speakers. Prof Carl Scarrott from University of Galway, Ireland visited John Haywood briefly during August. Carl gave a presentation jointly to the School of Mathematics and Statistics and as a public lecture to the NZSA's Wellington Statistics Group on 13 August, "Bayes-ically fair: A Bayesian Ranking of Olympic Performances". Carl's talk was very popular with the local audience since, with the proposed Bayesian ranking scheme that he presented, NZ's Olympic Games performance was number one in the world! The work by Carl and his co-authors uses shrinkage to provide a more stable per-capita type ranking than a simple count of medals won, which is unduly influenced by population size. For several pre-Covid years Carl was the convenor of another NZSA Local Group, The Canterbury Tails, based in Christchurch.

Our Professor of Data Science, Alejandro Frery, hosted the School's latest Shayle Searle Fellow for two weeks in early September: Prof Antonio Loureiro from Federal University of Minas Gerais, Brazil. While he was here Antonio gave a fascinating presentation, "On the Design of Real-Time Mobility Foundation Models", which highlighted a disparate range of interesting and challenging research problems, linked under the overarching theme of mobility analytics.

Finally, congratulations to current PhD student Adam Glucksman [2] on winning the Stats NZ Jacoby Prize for 2025 at the biennial New Zealand Population Conference (see photo).

Adam Glucksman (on the right).

[2] *Editor's note: This recognition is mentioned at the editor's request, to ensure the department's accomplishments are fully acknowledged.*