

ZOobyTES

Newsletter of the Discipline of Zoology

Autumn 2025



Trinity College Dublin

Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin



It is a historic moment as the Zoology building closed temporarily in early May for refurbishment work. Many of us have relocated to temporary accommodation in Trinity East, units 17 and 5, but we look forward to moving back to a newly refurbished building, adjoining the E3 Learning Foundry, in the coming year.





**Thank you,
Fiona!**

We send massive thanks to Fiona Moloney who has been the backbone of Zoology for 23 years and has helped us all in so many ways that can't possibly all be listed. Fiona has been the oracle of all knowledge about the Discipline, the expert on college systems, the rock of sense that guided us all, the support to students, the ear to the ground and not least the friend who helped us all across the years.

Thankfully it is not goodbye as we continue to interact with Fiona in her role as Undergraduate Co-Ordinator for the School.



NEW PEOPLE

Celine Egan

Welcome to Celine Egan who joined us in September, providing administrative support for Zoology. In addition, Celine is part of the undergraduate administration team in the School. It is great to have Celine on board and we look forward to working together.

Celine Egan: I've worked in IT Services for a number of years, previously working in FSD. Trinity has given me a wonderful insight into how the university operates and serves its students and I'm looking forward to new experiences working in Zoology. I love animals, especially dogs, sadly we lost our Winston last year. But I do enjoy watching anything to do with animals on the TV from wildlife documentaries to Paul O'Grady's "For The Love of Dogs".



Dr. Shotaro Shiratsuru



I'm Shotaro Shiratsuru from Japan, who started a postdoc in Dr. Ian Donohue's research group in September to work on the project in which I will study the mechanisms whereby species interactions govern ecological stability. I recently completed my PhD at University of Wisconsin-Madison in the US, by conducting research on mammalian predator-prey interactions in winter in the Great Lakes region. Before doing PhD, I obtained Bachelor's and Master's degrees in Norway and Canada, respectively.

Sarah Hennigan

Sarah Hennigan has begun her first year of a PhD with funding granted to Rebecca Rolfe as principal investigator through the Trinity Research Doctoral Award (TRDA). The primary objectives of this research are to characterise the development and maturation of spinal ligaments, prenatally through adolescence and to investigate any differences that come with spinal deformities such as scoliosis. Other areas of interest are sex-based differences, the role of movement in the establishment of these ligaments and the comparison of mechanical properties of different spinal ligaments.



Jianjun Huang



Hi, I'm Jianjun, and I'm a PhD student working with Professor Pepijn Luijckx. I completed both my bachelor's and master's degrees at the Ocean University of China, where I mainly investigated the mechanisms of sex determination and the unique sexual reproduction process (conjugation) in ciliates such as *Paramecium* and *Euplotes*. For my PhD at Trinity, I will use *Daphnia magna* to understand why sexual reproduction persists despite its costs, by testing evolutionary theories like the Red Queen, Hill-Robertson interference, and Muller's Ratchet. Outside the lab, I am an outgoing person who enjoys outdoor activities, traveling, and exploring new things—although I rarely have the time or opportunity to do so. I also play a bit of guitar, and in my spare time, I like to relax by listening to pop music and watching movies and TV series from different genres.

Brian Huxley

Hello, my name is Brian, and I have started my PhD working in Professor Nessa O Connor's lab working on nature-based solutions to enhance marine biodiversity and ecosystems through native oyster restoration as part of the BRICONS project. Originally from Cork where I did my undergrad and masters in UCC, I'm really looking forward to working both in the lab and field to restore native oysters populations across Ireland's coastline. I am passionate about marine ecology and nature in general. I have a love of hiking and camping as well as having recently taken up surfing while travelling so I am currently trying to work up the courage to brave Irish waters this time of year.



Claire Kavanagh

My name is Claire, and I recently finished my undergraduate degree in Zoology at Trinity. I'm delighted to be continuing in the department as a research assistant in the Murphy lab and getting involved in ongoing research. For my capstone project my work focused on visualising the cytoskeleton in developing chick tendons, where I investigated how different types of embryo immobilisation affect F-actin organisation. I am now assisting on a project examining how immobilisation affects tendon architecture over time, and I'm looking forward to building on this work and gaining further research experience in developmental and cellular biology.



Aisha Kyryk



My name is Aisha, and I'm joining the Zoology Department as a Research Master's student under the supervision of Professor Jeremy Piggott. My research will focus on how multiple stressors influence *Daphnia magna*. I'm originally from Almaty, Kazakhstan, and I completed my Bachelor's degree at the University of Toronto in Canada, where I mainly worked with caddisflies and ramshorn snails. Outside of academics, I enjoy cooking, traveling, surfing, and fashion.



Visiting Professor Bradley Case

Prof Bradley Case from the Auckland Technological University, New Zealand is visiting Zoology from September to December 2025, in association with the Buckley group. We are delighted to welcome Brad, who gave a wonderful seminar on November 13th entitled ***Global alpine treeline ecotones: what can spatial patterns reveal about underlying processes?***



NEWS IN ZOOLOGY

New Doctors!



Niamh McCartan from the Daphnia lab successfully defended her thesis, "Heatwaves and cold snaps have complex effects on the relationship between *Daphnia magna* and its microsporidian parasite *Ordospora colligata*" on September 19th. Congrats, Dr. McCartan!



Well done to **Whitney Parker**, also from Daphnia lab, on defending her thesis, "Shaping the course of infection: host resistance and epidemiology in the *Daphnia magna*-*Ordospora colligata* system" on October 20th. Congratulations, Dr. Parker!





A big congratulations to **Dr. Grace McNicholas** from the Payne lab on a successful thesis defense on November 3rd: "Temperature's governing role in the spatial ecology of Atlantic bluefin tuna (*Thunnus thynnus*) in Ireland".



Redmond O'Connell - Trinity College Institute of Neuroscience, Andrew Jackson - Zoology, Clinton Haarlem - Trinity College Institute of Neuroscience, Kevin Mitchell - School of Genetics and Microbiology

Congratulations to **Dr. Clinton Haarlem** who defended his doctoral thesis on April 4th and recently graduated. Clinton carried out his research under the supervision of Andrew Jackson, co-supervised by Redmond O'Connell - Trinity College Institute of Neuroscience, and Kevin Mitchell - School of Genetics and Microbiology.

Clinton is now a Government of Ireland Postdoctoral Research Fellow in Prof. Redmond O'Connell's research group at the Trinity College Institute of Neuroscience where he is using electroencephalography, psychophysics and computational modelling to examine how variation in visual processing rates may be linked with performance in different ecological settings and elite sports. <https://oconnell-lab.com/home/meet-the-team/clinton-haarlem/>

Zoology class graduation 2025 (October 22nd). Congratulations everyone!



Front row: Nessa O'Connor, Megan Collis, Maria Keeling, Allie Noonan, Robyn Doyle, Grainne Connolly, Ema Gurycova, Nour Hachemian, Iona Tinch, Michelle Bielecka, Jessica Sohn, Paula Murphy
Back row: Nova Hogan, Michelle Kuzmicheva, Anna Murphy, Ella Shiels, Claire Kavanagh, Stefan Simonovic, Brandon Collins, Louis Grelet, Brion O'Conchubhaire, Amrith Harikrishnan, Shasanand Sugumar.



Elinore Katus, Shasanand Sugumar, Heidi Armstrong, Alison Zobenko



Max O'Connor, Angel Alsumaiti, Shasanand Sugumar, Amrith Harikrishnan, Morgan Trauscht

Not captured in the pictures but graduated on the day: Emily Sheridan and Michael Hurley

Special congratulations to Ema Gurycova, gold medalist!



We welcome the new Zoology Junior Sophister class who recently completed their Marine Biology Field Course at CECAS at Myross House.



Well done to the 5 School of Natural Sciences students, including Zoology graduates **Elinore Katus** and **Claire Kavanagh**, who completed the Evolutionary Ecology and Biology BIP (ERASMUS+ Blended Intensive Programme) at the University of Montpellier during the summer. Bravo!

Book launch

An Unnatural History by Martyn Linnie was launched at an event hosted by publishers Red Stripe Press at Hodges Figgis book shop, Dawson Street, on April 2nd. There was standing room only for a very memorable evening with selected readings from the many wonderful tales in the book, read with great flair by John Rochford. Martyn responded with thanks to all present and interesting insights into the writing of the book.

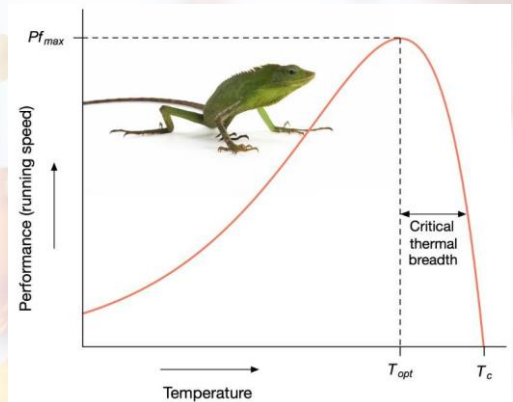


ZOOLOGY IN THE NEWS

Universal Thermal Performance Curve Discovered

Zoology colleagues **Prof Andrew Jackson** and **Dr Nicholas Payne** have recently published a paper in the top-ranking journal PNAS that has garnered attention across the science media outlets. They have identified what appears to be a Universal Thermal Performance Curve (UTPC) — a single underlying pattern that describes how organisms respond to temperature. By analysing thousands of thermal-response measurements across an exceptionally broad range of species, the team found that performance curves previously thought to be highly variable actually share the same basic shape. Species differ mainly in where their curve sits and how wide it is, but the rise toward an optimal temperature followed by a steep decline beyond it is remarkably consistent.

The study, published in [PNAS](#), shows a tight link between an organism's optimal temperature and the point at which performance collapses under heat stress. This suggests that many species may be more constrained than expected in their ability to adapt to warming conditions. The group hopes that using the UTPC as a baseline will help identify where and how some species diverge from this pattern, offering new insight into thermal adaptation and vulnerability under climate change.



A hypothetical generalised thermal performance curve (TPC), illustrating how performance traits —such as running speed in lizards—exponentially increase with temperature until reaching a maximum performance at the optimal temperature. Beyond this peak, performance declines sharply as temperature continues to rise, eventually reaching a minimum or collapsing at the critical temperature. Image: Prof. Nicholas Payne and Prof. Andrew Jackson, Trinity College Dublin.

Oyster restoration for resilient coasts

A new €1.5 million, five-year all-island project called BRICONS, led by Dr Paul Brooks at UCD and funded by the Marine Institute, aims to restore native flat oyster reefs around the coasts of Ireland and Northern Ireland. The initiative brings together researchers from UCD, Trinity College Dublin, Atlantic Technological University, and Queen's University Belfast to create pilot restoration sites in partnership with ports, harbour authorities, and coastal communities. These oyster reefs are a nature-based solution to stabilise sediments, boost biodiversity, improve water quality, and offer natural coastal protection from storms—aligning with Ireland's obligations under the EU Nature Restoration Law. At Trinity, **Professor Nessa O'Connor** (School of Natural Sciences) is one of the key collaborators, investigating how native oysters respond to environmental stressors such as ocean warming, acidification, and emerging contaminants. Her work is critical for designing restoration strategies that are effective under changing conditions. She emphasises that reviving oyster habitat not only enhances biodiversity but also delivers ecosystem services—cleaning water and buffering shorelines. Read more [here](#).

OUTREACH AND ACTIVITIES

BRICONS Kick-off meeting!

The BRICONS (Building Resilient Irish Coasts through Oyster Restoration) project has officially started and held their first official meeting in September in the Museum Building in Trinity. You can follow our progress as we endeavour to enhance and improve biodiversity and ecosystem services associated with our native biogenic reefs on our [website](#), follow us on [LinkedIn](#) or by asking Nessa or Brian!



Prof. Nessa O'Connor and **Dr. Abby Gilson** presented results of the Beyond Biofuel Project at the 14th [International Temperate Reef Symposium \(ITRS\)](#) in Brest, France in July. Abby's presentation discussed down-regulation of carbon concentrating mechanisms in kelp in response to ocean warming and acidification and Nessa showed results from experiments harnessing ecological theory to enhance kelp cultivation. The ITRS Scientific Steering Committee are delighted to announce that the 15th ITRS will be hosted by the University of Waikato, New Zealand in January 2028.

OPEN POSITIONS

The EU [SEAGROW](#) (Seaweed in Ecosystem Enhancing Aquaculture for Growth and Sustainability) project has commenced, and we will shortly be recruiting a postdoc in Zoology. Please contact Nessa if you are interested (n.oconnor@tcd.ie).



RECENT PUBLICATIONS

McCartan N, O'Keeffe F, Zhang G, Luijckx P (2025) Impact of heatwave amplitude, duration, and timing on parasite fitness at different baseline temperatures. *PLOS Clim* 4(6): e0000632. <https://doi.org/10.1371/journal.pclm.0000632>

Connor, T., Wang, J., Deng, W. et al. Osteophagy in wild giant pandas. *acta ethol* 28, 189–193 (2025). <https://doi.org/10.1007/s10211-025-00471-1>

Connor, T., Dheer, A., Dorcy-Ponce, J., Steinbeiser, C., Landers, R., Klip, M., & Furnas, B. (2025). Estimating wildlife populations and their dynamics using multiple data sources and a hierarchical integrated model: The case of California's black bears. *Ecological Solutions and Evidence*, 6, e70076. <https://doi-org.elib.tcd.ie/10.1002/2688-8319.70076>

Hennigan, S., Basturkmen, E.T. & Rolfe, R.A. (2025) Characterisation of spinal ligaments in the embryonic chick. *Journal of Anatomy*, 00, 1–13. <https://doi.org/10.1111/joa.70006>

Jarvis-Cross M, Kirk D, Krichel L, **Luijckx P**, Molnár PK, Krkošek M (2025) Early warning signals do not predict a warming-induced experimental epidemic. *PLOS Glob Public Health* 5(10): e0005142. <https://doi.org/10.1371/journal.pgph.0005142>

J. Arnoldi, **A.L. Jackson**, I. Peralta-Maraver, & **N.L. Payne** (2025) A universal thermal performance curve arises in biology and ecology, *Proc. Natl. Acad. Sci. U.S.A.* 122 (43) e2513099122, <https://doi.org/10.1073/pnas.2513099122>



SHARE YOUR NEWS IN THE NEXT ISSUE OF ZOobyTES!

Have news to share for the next issue of *Zoobytes*? Whether you're a staff member or student, we'd love to hear from you—no matter how big or small the update! Email me at rozmannv@tcd.ie with "Zoobytes" in the subject line.

Are you a Zoology alumnus up to something exciting? We'd love to feature you in our "*Where Are They Now?*" section—let us know what you've been doing!

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