

Phytobytes

Botany's newsletter, Trinity College Dublin



COVER BY
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March - April 2025

People



We're thrilled to welcome all the new postgraduate students and staff members joining the Botany Department! Your fresh perspectives, enthusiasm, and passion for the natural world are invaluable additions to our community. Here's a quick introduction.

Owen Small

Hi there! My name is Owen and in March I began as a Research Assistant with the For-ES project.

I moved to Ireland in the summer of 2023 to complete an MSc in Environmental Science at University College Dublin. My background before that was in both terrestrial ecology and water quality, getting my BSc in Biology at the University of Pittsburgh Johnstown and then working back home in the U.S. for the Pennsylvania Department of Environmental Protection in water quality regulation. I did inspections and investigations all around Philadelphia, protecting rivers and streams. I've also interned with the U.S. National Park Service, Wildlands Conservancy, and Conservation Legacy, doing all sorts of work in conservation and habitat restoration.



With the For-ES project, I'll be working with Jane Stout and alongside Kathleen Conroy, assisting in the development of ecosystem accounts, finalising the project's decision support tool for sustainable forestry, and project management with our stakeholders and partners.

Outside of work, I write a newsletter and random editorials, both focused on ecology and conservation. You can find it on my [SubStack](#). Unsurprisingly, I love the outdoors and am always looking for new places to hike, so please reach out if you love to chat about that! In the short time I've been here I've been welcome graciously by the Botany and Zoology staff and I'm excited to work alongside this group for the next year.

Naomi Blumlein

Hi everyone! I'm a new PhD student researching nature-based solutions through a justice lens under Prof Marcus Collier. My part-time study is being funded by my employer, the Institute of Public Administration (IPA), where I'm a programme director and lecturer. My duties range across a number of fields including climate and housing policy, politics, government, and public administration. In terms of my academic background, I have a BA (double hon) in Political Science and English Literature from NUIM and a Masters in Public Policy from UCD. I also hold qualifications in the Global Impact of Climate Change, European Housing Studies, and Higher Education Teaching. Prior to joining the IPA, I worked with the Green Party Ireland in an operations-based role. I've really enjoyed my first few weeks in Botany - everyone has been so welcoming, and I look forward to meeting more people soon.



News

- As an established tradition for a few years now, to celebrate spring March saw our yearly wild garlic foraging trip. A plentiful bounty was harvested (paying attention to not go overboard). See you next year!



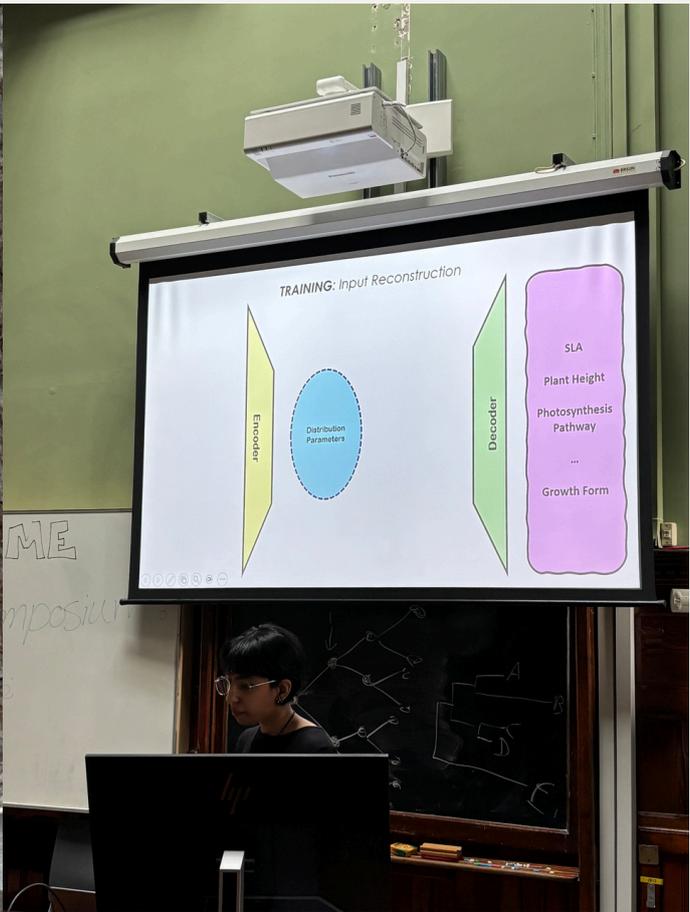
- On March 4th we celebrated Botany's first Pancake Tuesday! A great idea powered by **Luke Quill**



- Postgraduate Symposium - 6th of March

Postgraduate students from the botany and zoology departments took the opportunity to showcase their research and gain experience in communicating their work. This year the topics ranged from palaeobotany to plant pathogens and from moths to mice. It was fascinating getting an update on all the research students' ongoing work. We also heard from our keynote speaker, Dr Zoë Popper from the University of Galway, who gave a fascinating talk on cell walls as well as giving career advice to early career researchers.

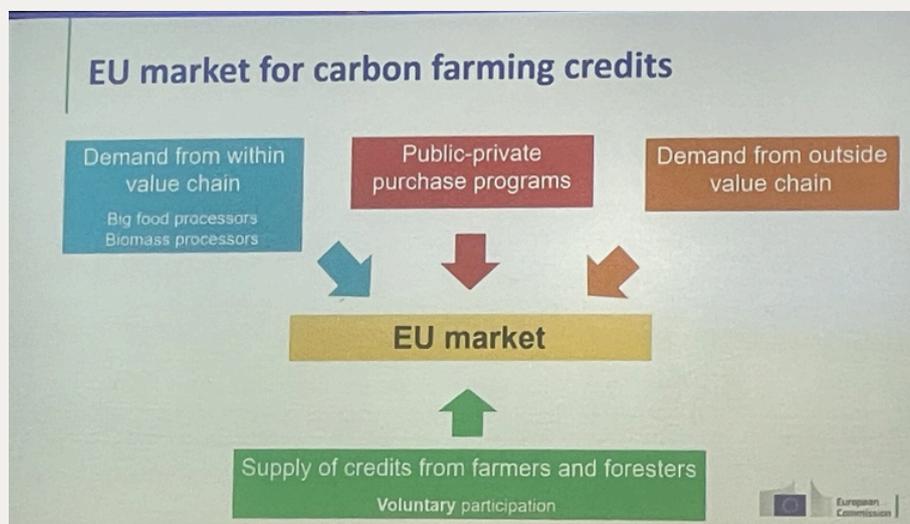
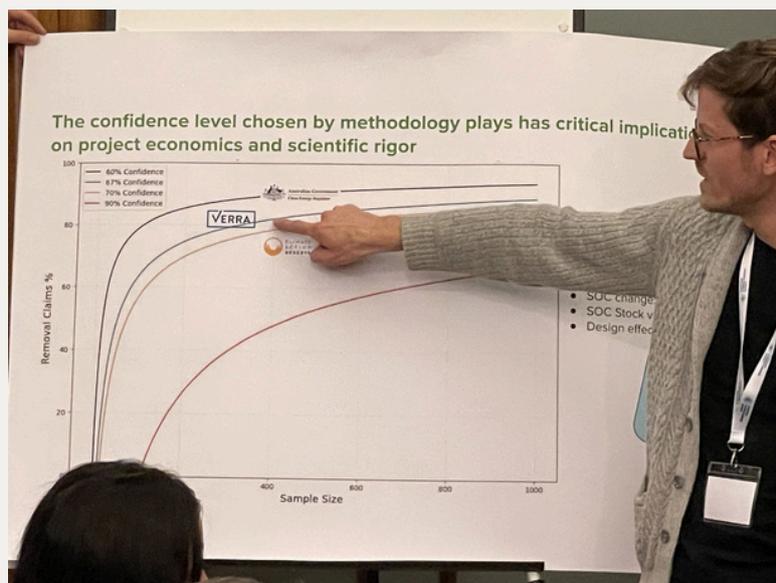
Grace McNicholas won the prize for the best 10-minute talk, Gayathri Girish Nair won the best 5-minute talk and Simon Benson won the crowd favourite prize. Congratulations to the prize winners and to all the speakers who contributed to a very successful symposium. Thanks to the organisers this year for a great meeting with a relaxed atmosphere that encouraged open exchange: Ailis Wynne, Emily Symington and Allison MacDara.



Top left: Grace McNicholas-the winner of the best 10-minute talk and symposium committee,; top right: the winner of the best 5 minutes talk,our very own Gayathri Girish Niar; bottom: photo of well-deserved post-symposium recess time.

- 2nd European Carbon Farming Conference

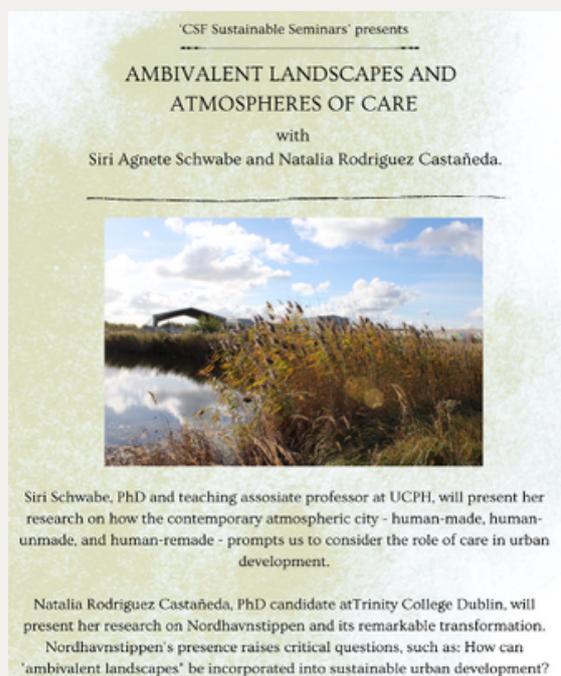
Cian White, Catherine Farrell and Ed Knapp attended the 2nd European Carbon Farming Conference in Dublin Castle in February. The conference was attended by a mix of national and European policymakers, academics, farmers and landowners, NGOs, an array of companies building technology to measure carbon sequestration, and large agricultural processors, particularly from the dairy industry. This resulted in a useful discussion across the various sectoral domains - with European policymakers discussing and receiving feedback from academics, industry and start-ups on the new Carbon Removals and Carbon Farming Framework- the EU policy formalising carbon farming in the EU. In Cian's opinion, the costs of measurement are currently too expensive for carbon farming to be widely adopted, and there is a need for further technological development to reduce the transaction costs (cost of measurement, cost of verification) before Carbon Farming can be integrated into conventional farming practices.



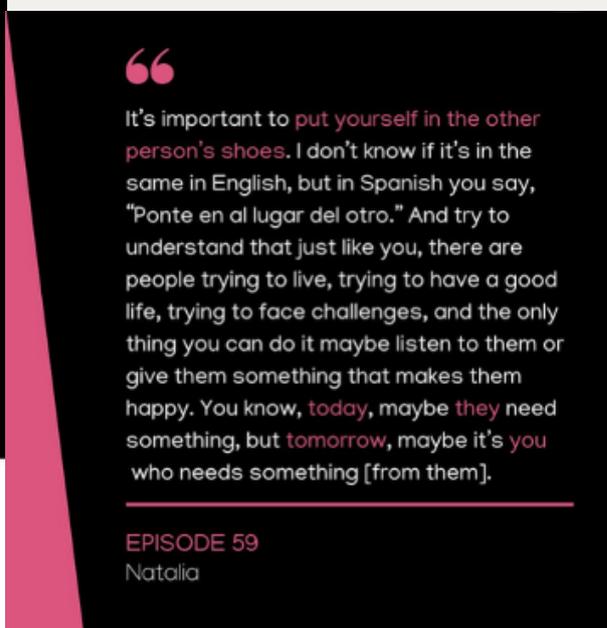
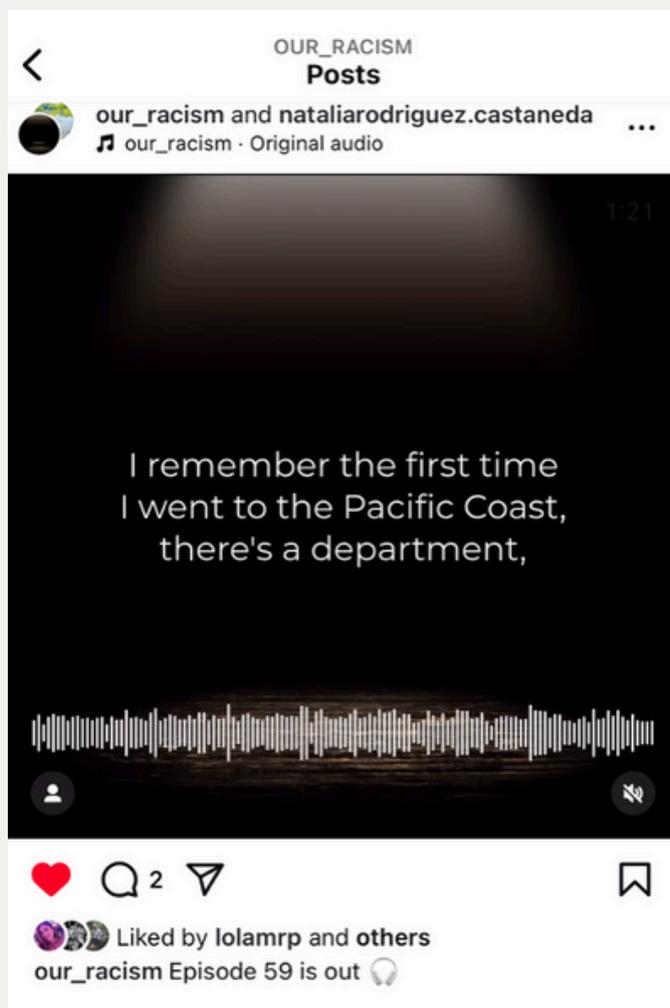
- At the beginning of March this year, Natalia Rodriguez Castañeda concluded her research stay at the University of Copenhagen, at the Faculty of Landscape and Urban Planning, with the support of Professors Natalie Gulsrud and Megan Maurer. During this period, Natalia collected data and refined the findings and theoretical framework for her thesis. She also contributed as a lecturer in the course Strategic Planning for Urban Nature, where she delivered a session on **Multispecies One Health and Urban Green Spaces (UGS)**. In this lecture, she invited students to reflect on city planning through an interfaced health perspective, one that encompasses people, biodiversity, and the broader ecological system.

As part of her lecture, Natalia discussed her research conducted in Copenhagen (*Nordhavnstippen*) and Bogotá (*Los Cerros Orientales*), highlighting the different needs, challenges, and opportunities for conceptualising urban novel ecosystems in diverse global contexts. She emphasised the importance of understanding the needs and socio-cultural approaches toward these spaces to recognise their value from a multispecies, health, and place-based perspective.

Natalia concluded her research time presenting her findings at the CSF Sustainable seminar, SAXO Institute, Faculty of Humanities, University of Copenhagen. In collaboration with Professor Siri Agnete Schwabe they explored the notion of **ambivalent landscapes** from care, restorative, and urban development perspective. The discussions and reflections from these sessions will form an integral part of Natalia's PhD thesis.



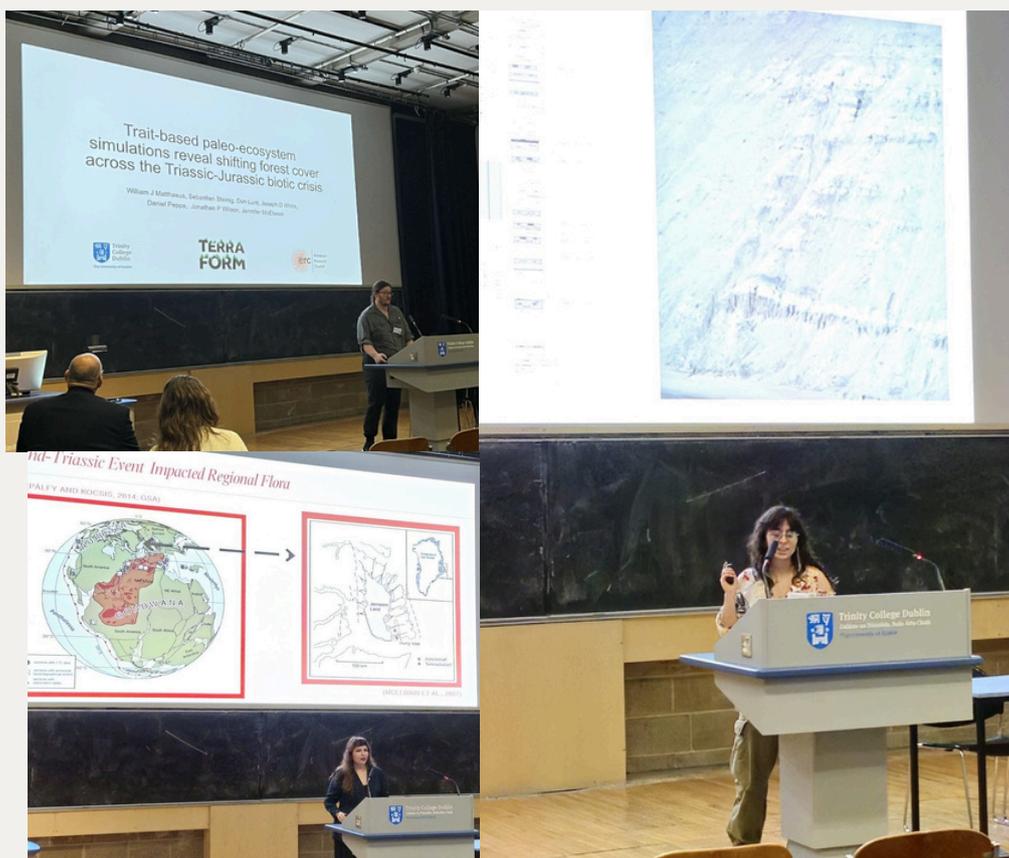
What does being a Colombian woman growing up in Bogotá, Colombia, and studying in Denmark and Ireland mean? Listen to Natalia share her journey of navigating stereotypes, understanding the differences and commonalities of places and their history, and pursuing her passion for anthropology, health, and the natural sciences.



Listen more: <https://www.ourcontexts.org/podcasts-racism/episode-59-natalia>
Follow @our_racism to discover more stories!

- 68th Irish Geoscience Research Meeting

The **68th Irish Geoscience Research Meeting (IGRM2025)** was held at Trinity College Dublin from February 28th-March 2nd. The meeting included a session on paleoclimate, at which several project **TERRAFORM** researchers showcased their current work and scientific advancements. **Dr William J. Matthaeus** presented his talk titled, Trait-Based Palaeo-Ecosystem Simulations Reveal Shifting Forest Cover Across the Triassic-Jurassic Biotic Crisis, highlighting the exciting potential of utilising plant fossil trait data in deep-time ecosystem modelling. PhD candidates **Antonietta B. Knetge** and **Catarina Barbosa** also presented talks on the Triassic-Jurassic Biotic Crisis. Knetge presented her study Palaeoecology and Diversity Loss During the End-Triassic Event at South Tancrediakløft, East Greenland, and Barbosa presented How Counting Method Influences the Interpretation of Plant Palaeoecological Data. Barbosa received an honourable mention for best student presentation. **E. Blanka Kovács** gave a talk on her research about secondary controls on the natural mercury cycle during large-scale volcanic events, titled *Astronomical modulation of enhanced environmental mercury (Hg) fluxes during early Toarcian LIP volcanism*. TERRAFORM members have benefited from engaging with Earth scientists from global and regional communities. IGRM is a critical venue for fostering collaborations in Ireland's emerging geosciences community.



Publications

New research from the discipline of Botany, in collaboration with the Engineering Department and the National Parks and Wildlife Service (NPWS), reveals that some of Ireland's rare alkaline fens (peat forming, groundwater fed wetlands) are becoming more uniform, or "homogenised," due to historic drainage and degradation. Led by **Sate Ahmad (Plant-Climate Interaction Lab), the research team compared a relatively intact fen in Westmeath with a degraded one in Limerick and found striking differences. While both had high levels of organic matter, the degraded site held significantly less water and showed far less microvariation in soil and surface features. The team discovered that the degraded fen had become much more spatially uniform. These differences hint at a loss of the ecosystem's ability to perform vital functions. The findings highlight the importance of microtopography as early indicators of damage and recovery. They also underscore the value of small-scale mapping and monitoring in ecosystem restoration.**

As Ireland works to restore and protect its remaining peatlands, the study offers new tools to measure restoration success and ecosystem complexity. The study was funded by Research Ireland (formerly Irish Research Council) New Foundations Award in partnership with Sunflower Charitable Foundation and Community Foundation Ireland.

Ahmad, S., Wang, M., Bates, A. et al. (2025) Flatlining fens? Small-scale variations in peat properties and microtopography as indicators of ecosystem homogenisation, *Ecological Indicators*, Volume 172, 113317, <https://doi.org/10.1016/j.ecolind.2025.113317>

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Lanuza, J.B., Knight, T.M., Montes-Perez, N., et al. (2025), EuPPollNet: A European Database of Plant-Pollinator Networks. *Global Ecol Biogeogr*, 34: e70000. <https://doi.org/10.1111/geb.70000>

Murray, A.F., Leonhardt, S.D., Stout, J.C. et al. (2025) Pollen-Derived Fatty Acids and Amino Acids Mediate Variance in Pollinator Visitation. *J Chem Ecol* 51, 7. <https://doi.org/10.1007/s10886-025-01552-y>

Cini, E., Potts, S.G., Senapathi, D., et al. (2025) Beekeepers' perceptions toward a new omics tool for monitoring bee health in Europe. *PLOS ONE* 20(1): e0316609. <https://doi.org/10.1371/journal.pone.0316609>

Tsang, T.P.N., De Santis, A.A.A., Armas-Quiñonez, et al. (2025), Land Use Change Consistently Reduces α - But Not β - and γ - Diversity of Bees. *Glob Change Biol*, 31: e70006. <https://doi/10.1111/gcb.70006>

Premrov, A., Yeluripati, J., Renou-Wilson, F., et al. (2025a): Preliminary insights into potential application of random forest (RF) modelling to predict water-table (WT) in selected Irish peatlands. In: *IGRM 2025 Abstract Booklet*, page 81. IGRM 2025. February 28th to March 2nd 2025. Trinity College Dublin, Dublin, Ireland. [https://www.tcd.ie/media/tcd/geology/pdf/IGRM-2025-Abstract-Booklet-\(2\).pdf](https://www.tcd.ie/media/tcd/geology/pdf/IGRM-2025-Abstract-Booklet-(2).pdf) (page 81).

Premrov, A., Yeluripati, J., Renou-Wilson, F., Walz, K., Byrne, K. A., Wilson, D., Hyde, B., and Saunders, M. (2025b): Assessing the application of random forest (RF) to predict water-table (WT) in selected Irish peatlands, EGU General Assembly 2025, Vienna, Austria, 27 Apr–2 May 2025, EGU25-5122, <https://doi.org/10.5194/egusphere-egu25-5122>

Morris, K., & Nair, R. (2025). Below the leaves: Integrating above- and below-ground phenology for earth-system predictability. *Functional Ecology*, 00, 1–19. <https://doi.org/10.1111/1365-2435.70057>

Phytoart

A Library of lost smells is a slow distillation of deep time created from plants and mineral rich bog waters, that explores links between smell & memory. - Siobhán McDonald

A library of lost smells is an artistic response to the fascinating project 'Unlocking Nature's Pharmacy from Bogland Species (UNPBS)' led by Professor Helen Sheridan, Academic Director of NatPro, Trinity Centre for Natural Products Research. Driven by tales of plants and alchemy in Irish folklore, Siobhán created a scent library that aims to invite audiences to experiment with different time scales to imagine forms of preservation, over thousands of years of organic matter swallowed up, from tree stumps, bodies and sacred objects to plant life.





Siobhán McDonald works with natural materials, drawing them from their cycles of generation, growth, and decay. This process gives form to a range of projects that explore our place on Earth within the context of geological time. Since 2024 she is artist in residence at the School of Natural Sciences here in Trinity College Dublin. Find more of her works at <https://www.siobhanmcdonald.com>

Thanks for reading!

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Call for cover art

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