

# Phytobytes

Botany's newsletter, Trinity College Dublin



This cover features a coaster  
Gayathri made from dry  
pressed flowers she picked in  
her garden and preserved in  
resin

**COVER BY**  
Gayathri Girish Nair

October - December 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.

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## **Clodagh Moriarty**

Hi, my name is Clodagh. I just started as a PhD on the PeatFor project which aims to investigate the carbon and GHG dynamics in temperate peatland forests. I'll be using eddy covariance towers installed on peatland forests in varying stages of tree growth and productivity, including forested blanket bog, raised bog and organic mineral soil sites.

My educational background includes a varied mix of law, politics, earth science and data analytics. Most recently, however, I graduated with an MSc in Environmental Science at TCD.

Outside of work, I enjoy wonky crochet, over ambitious DIY projects and killing houseplants



## Ryan Brennan

Hi everyone, I'm Ryan and a new RA in the Plant-Soil Biogeochemistry Group! I just started in October; however, I've only been away from Trinity for a year, having done my undergrad in environmental science and masters in biodiversity and conservation here. I worked as a consultant ecologist for a year but yearned to get back into research so here I am! My role within the PSB group is supporting the research activities of the team and taking charge of the new expensive 3D printer. Outside of work my main passions lie in lichenology, playing Dungeons & Dragons and talking pure nonsense in the pub. Everyone has already been so welcoming and I'm looking forward to meeting even more of you



## Shujian Yu

Shujian joins Botany with a background in landscape architecture and urban planning. He graduated from Politecnico di Milano with master's degree in Italy, and a bachelor's degree from Southeast University, China. Beyond his academic training, he also has four years of work experience as a landscape architect, in architectural media, and as an architectural editor.

Attracted by the complexities of the urban environment, he now focuses on the relationships between the perspective of more-than-human and multispecies entanglements within urban area. His research interests include, but aren't limited to, urban sustainability, urban resilience, urban planning, and policy making, multispecies justice, multispecies ethnography, environmental humanities, indigenous knowledge, and oriental philosophy. Adopting an interdisciplinary approach to understand cities and consider it essential is important for him.

He is currently pursuing his PhD under the supervision of Dr. Marcus Collier (Discipline of Botany, Trinity).



## Daniel Kaufman

Hello all! My name is Daniel Kaufman, and I'm ecstatic to be starting my PhD working with both Matthew Saunders in Botany and Laurence Gill in Environmental Engineering. Over the past few years, I've worked on a range of projects examining emissions from agricultural systems, primarily with the non-profit, Hudson Carbon, in collaboration with the Yale School of the Environment and the Woodwell Climate Research Centre. My work has focused on measuring carbon stocks in mineral soils as well as gaseous emissions from agricultural lands.

Applying these techniques to natural systems, particularly fens and other minerotrophic wetlands, is especially exciting to me. I'm interested in understanding carbon storage at these sites, the drivers of emissions, and how these ecosystems will respond to environmental change. Working with both Matt and Laurence, I think we can tackle multiple dimensions of these critical ecosystems and better understand their future trajectories. I've been warmly welcomed into the botany community, and I'm looking forward to getting some great research done



## **Carmen Watkins**

Hi everyone, I'm Carmen! I'm a postdoctoral researcher with the Plant Ecology Modelling Group, led by Dr. Silvia Caldararu, where I'm developing a model to forecast ash tree resistance to a fungal pathogen that causes Ash Dieback Disease. I'm broadly interested in species interactions in a changing world and passionate about using ecological modelling and theory to address applied ecological challenges.

Before joining Trinity, I received my PhD in Biology from the University of Oregon, where I studied how the interplay between drought, herbivory and plant interactions shape species coexistence and ecological stability in grasslands, in both California and Kenya. Outside of work, I enjoy running, rock climbing, painting, and spending time with my dog.



## **Mateus Sanchez**

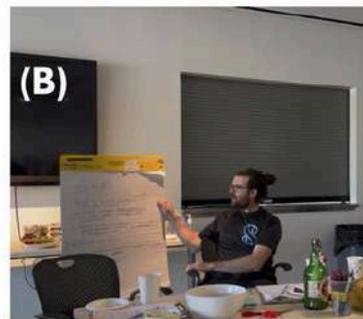
Hi there! My name is Mateus Sanchez and I'm a biologist with a master's degree in Ecology from the University of Brasília in Brazil, where I developed a strong interest in how insects and plants communicate. In September 2025, I started my PhD at TCD, with Jamie Waterman as my supervisor. As chemical ecologists, we want to understand more about the patterns of the herbivory arms race between plants and insects.

Outside of work, I love following pop music trends, a bit into movies, nature, parks and travel. My favourite artist is Lana Del Rey. I really enjoy a range of activities, from cafés, museums and small talk, as well as exploring new pubs, bars and clubs with electronic music.



# News

- Mairéad O'Donnell successfully defended her PhD, Urban Wilding for Systems Transformation: An Approach to Co-Designing Urban Wild Spaces, where she explored how co-design can transform urban spaces into shared habitats, fostering multispecies awareness and transformational learning. In addition, in November she also published a perspective piece, Future novel ecologies: exploring multispecies futures in urban places through a co-design workshop, reflecting on the workshop methods used during her PhD research. See the Published section for more! And congratulations Mairéad!
- Picture from O'Donnell 2025, participants engaged in three activities during the workshops: (A) 'noticing'; (B) storytelling; and (C) role-playing. Photos by M. O'Donnell (A), C. Pierson (B), and M. Collier (C)



- Jenny McElwain featured in the popular Blindboy Podcast for his annual Science Week Episode talking about plants, their evolution and impact on the planet. It was a pleasure to listen to! For anyone who hasn't already, you can hear it on the [link here](#) or any other podcast platform (except for Spotify. Don't feed the Spotify machine if you can).

- In October, Marcus Collier was interviewed for the Dublin InQuirer about the restoration of the Liffey Head Bog, in the Wicklow Mountains, and peat restoration in general. Read more [here](#).

- On 16th October 2025, ForES team members Kathleen Conroy, Owen Small, and UCD's Dr. Matheus Fragoso Etges enjoyed connecting with others working in ecosystem accounting at the National Botanic Gardens of Ireland, for the Central Statistics Office (CSO) Ecosystem Accounts Stakeholder Forum.

The day included presentations from various experts, the CSO and Statistics Netherlands on recent publications, as well as updates on plans for Ecosystem Accounting in Ireland and the European Union.



- Also in October, Morad Mirzaei presented his research, Drone-Based Mapping of Urine Patch Distribution in Intensively Managed Grasslands, at the Johnstown Castle Teagasc Environmental Research Station for the Nitrogen Pillar workshop hosted by the Teagasc Climate Centre.

This workshop covered the latest research related to nitrogen emissions (including nitrous oxide, ammonia, nitrate leaching, and nitrogen use efficiency, NUE) from across the various research centres and programmes within Teagasc.

In this research, he used Unmanned Aerial Vehicle (UAV) technology to map livestock urine patches in intensively managed Irish grasslands. These patches are major sources of nitrous oxide (N<sub>2</sub>O) emissions, and the study showed that drone-based mapping provides a cost-effective, high-resolution method to capture their distribution. By integrating drone data with field measurements, the research enables more accurate upscaling of N<sub>2</sub>O emissions, reducing uncertainty in Ireland's agricultural greenhouse gas (GHG) inventory and supporting sustainable agricultural management.

Morad also presented a poster, Assessing the role of multi-species swards in mitigating carbon and nitrous oxide emissions from intensively grazed grasslands, at the Integrated Carbon Observation System (ICOS) Ireland Launch and Science Conference.

The EcoPhys team (Chris, Peter, and Morad) conducted field-based gas, soil, and biomass sampling and separation at the Teagasc Environmental Research Centre on 28–29 October as part of ongoing research activities within the GRADIENT project, led by Matt Saunders.

Morad's research image also won the Trinity Climate Gateway Photo Competition 2025. Well done!



- Speaking of which, a good delegation of Botany's staff and student took part in the ICOS Ireland Launch on the 2<sup>nd</sup> and 3<sup>rd</sup> of December. The science meeting on the 2<sup>nd</sup> of December in particular saw a stream of presentation and posters on different aspects of ICOS related work and application across atmospheric, terrestrial and ocean domains in the beautiful Grand Hotel Malahide. We only have pictures of the PEM group as your editor Midori was caught in chats and didn't manage to chase all the participants for a group photo. Next time! You can't hide from me forever.



- In November, Midori also took part of the Climate+ Co-centre public workshop for science week using poems, collages and zines to explore feelings about climate and the environment. The workshop was held in the whimsical Bettystown Library, Co. Meath, and was very touching. Midori wants to share that she is officially obsessed with Zines.



• The 2025 Botany Bake Off was an absolute blast! With 11 participants, the bar reached new heights and competition was fierce. Congratulations to Josua Seitz for winning the prize for best cake, Diogo Ferreira for the cake most relevant to research and Ian Palk for best presentation. Thanks also to Luke for organising the competition. Until next year! 🍪🍪



Well done!



• Last but not least, here are some memories from Botany's Christmas Party 2025. The editors carefully selected the most representative pictures of the night for the entire Botany community to rejoice. Despite being on a Thursday, the party was as lively as ever, the drinking game struck the perfect balance of targeting, and the White Elephant game was chaotic, as it should be. Fair play to Emily for organising!



*'Twas three weeks before Christmas, when all through Botany,  
Many creatures were stirring, to a cheerful melody;  
The White Elephants were placed on the ladder with care,  
In hopes no pics were taken for Phytobytes to share;*



*Happy holidays and see you all in the  
new year!*

# Publications

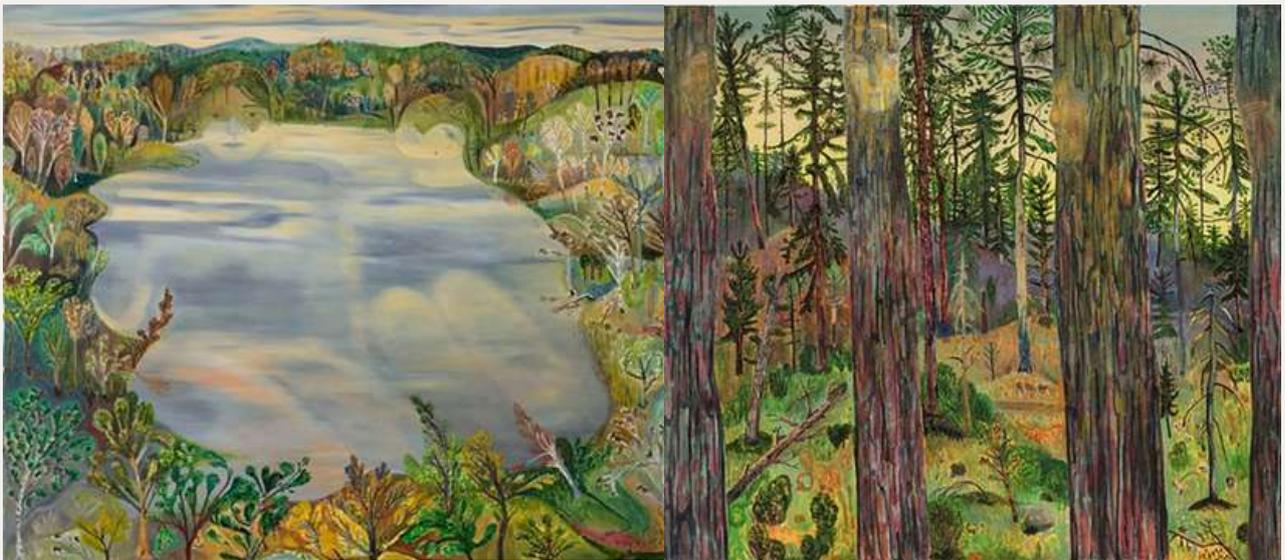
MMatthaeus, W. J., Macarewich, S. I., Montañez, I. P., Richey, J. D., White, J. D., Wilson, J. P., & McElwain, J. C. (2025). Vegetation Turnovers Reduced Water Availability During the Last Icehouse. *Global Ecology and Biogeography*, 34(9). <https://doi.org/10.1111/geb.70117>

O'Donnell, M. Future novel ecologies: exploring multispecies futures in urban places through a co-design workshop. *Urban Ecosyst* 28, 234 (2025). <https://doi.org/10.1007/s11252-025-01846-9>

# Phytoart

Sophia Heymans is a Brooklyn based artist, making a mission of portraying a feeling of connection to the physical environment in opposition of western conception of nature as separate from humans. She paints people as physically and psychologically intertwined with their environment so they cannot be Differentiated. The land itself dominates her painting instead of being relegated to a backdrop, so that — as she says — there is “no place for humans to claim dominance or steal the show.”

Find more of her works at: <https://sophiaheymans.com>





# Thanks for reading!

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## Call for cover art

We are looking for different art (preferably related to botany) for the cover every issue. Please do not hesitate to send us a photo of your drawing/arts! There is no deadline for this. Email us anytime!

