

Accomplishments

Welcome to **Eamonn Cooper**, who will conduct a research on the **genetic basis and inheritability of plus crop native oak trees** within the **Future Trees Trust (FTT) project**. Eamonn has a degree in **Genetics** and a master in **Computational Biology** and **Bioinformatics**. He will be working under the supervision of **Dr Trevor Hodkinson** (TCD), **Dr Colin Kelleher** (National Botanic Gardens in Glasnevin) and **Dr Jo Clark** (Head of Research at FTT).

Oak trees have been selected for specific traits that lend themselves to make **brilliant lumber quality** and will hopefully be used in the development of a oak lumber industry in Ireland and the UK. **Over the last century oak populations across the British isles have been in almost consistent decline**. Oak are a keystone species and are essential for a healthy forest ecosystem. **Their preservation is essential** if we're to overcome the challenges that climate change will bring. **It is my view that the**



only way we can do this is by the integration of native Oak (*Q. robur* and *Q. petraea*) into our lumber industry. However this comes with many challenges as the slow growing tree will not readily integrate itself into our current forestry regime. It is here where the plus crop native oaks come into play. These trees have shown all the expected traits that will allow for this integration. However it is not known exactly what genetic characteristics underpin these more is it known the heritability of these traits. It is here where my research will begin.

[The Trinity College Dublin Botany Department Newsletter](#)

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Welcome to **Saté Ahmad**, who will conduct research on the **impact of elevated CO₂ levels and past vegetation changes on evapotranspiration and streamflow in Irish catchments**. He will be working within the *Plant-Climate Interactions* and *Environmental Engineering* research groups. Additionally, he is also responsible for coordinating and managing the **Earth System Change research programme** within the SFI Research Centre in Applied Geosciences (iCRAG).



Welcome to new **PhD student Kathleen Conroy**. Kathleen did her Bachelors degree in **Environmental Science** at the University of Massachusetts in Boston, her MSc in **Biodiversity and Conservation** in Trinity, and research work for West Virginia University in the forests of Sierra Nevada. She has just started a PhD as part of the [For-ES project](#), under the joint supervision of **Jane Stout** and **Yvonne Buckley**, working with **Coillte**. Kathleen's project will involve **developing natural capital accounts and decision-support tools for Irish foresters**.

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Welcome to new **Post-doctoral researcher Fabio Delle Grazie**. Fabio has a degree in **Applied Geology** from Chieti University, Italy, an MA in **Integrated Environmental Management** from Pavia University, MSc in **Environmental Biogeochemistry** from Newcastle University, MSc in **Agriculture, Plants and Environment** from Copenhagen University, and has just completed his PhD thesis here at Trinity on *“Ecosystem services provided by ground water-based habitats in West Irish karst”*,



supervised by **Laurence Gill** in Engineering. Fabio joins the **Farm Zero C** team, working with **Jane Stout**, **Cian White** and **John Connolly** at Trinity, and with **Lars Hein** from Wageningen, to assess ecosystem service flows for farm-level natural capital accounts.



Welcome to **Ally Couchman**, who is currently doing a Masters in **Global Environmental Economics** at NUI Galway, who **will be working as an intern on Farm Zero C project** with Jane Stout, Fabio Delle Grazie and Cian White from 9th May to 31st July. Ally has a background in **accounting and economics**, and will contribute to the natural capital accounting aspect of the project, and complete her MSc dissertation on a related topic.

Accomplishments

Jane Stout has been appointed as **Trinity's Vice President for Biodiversity and Climate Action** from 1st May. This is a new role, which aims to embed sustainability as a key priority in Trinity's operations, research and teaching. Sustainability traditionally encompasses the three pillars of people, planet and profit (or social, environmental and economic sustainability). Jane's main role will be around the 'planet' aspect of sustainability, but the 'people' part will be incorporated with the Healthy Trinity initiative becoming embedded within the new sustainability office. This is a full-time role and so Jane's position in Botany will be back-filled with a new Assistant Professor.- See more on the Trinity's website ([here](#)).



Publications

Jane Stout, in collaboration with leading pollination expert **Lynn Dicks** from Cambridge University, contributed an article to a **collection of papers on bee health**, recently published in the **prestigious**, and world's longest running, scientific **journal *Proceedings of the Royal Society***. They argue that most pollinator conservation initiatives (except of course our own *All-Ireland Pollinator Plan*) fall short of thinking broadly enough in pollinator conservation, across research, regulation, monitoring, engagement and management. Specifically, the wider benefits of conserving pollinators should be articulated; and the role of socio-political, economic, technical and cultural issues need to be better considered. See the full paper [here](#).

Project updates

After one year and a half since the beginning of his PhD, **Diego Bianchi** has officially started with the **screening of 30 selected fungal isolates on barley** to assess any potential improvement in **nutrient use efficiency, insect and disease resistance**. The first set of isolates that will be tested in 2022 consist of 10 fungi and these candidates have already been inoculated on a group of **160 plants** in Trinity College's growth chambers and on **400 plants** in UCD's glass-house. The first preliminary results should be available by the end of August.

*I will be forever and deeply grateful for being part of this project and a soul of the Botany department. When I moved to Dublin in January 2021, the pandemic was hitting at its highest rate with a strict Level 5 and a limitation of 5 km radius from home. At that time I felt so lucky to be in possess of a permission that was letting me go around the Dublin County to sample the plants that I needed, without any restriction. I cycled roughly 400 kms to find (first) and then get the plants. Now, the time to explore has run out and a new very thrilling stage has started. Many of you already know that **I have recently suspended my PhD**, but I have no intention to quit with it.*

*From the 1st of June I will be a full-time **Process technician** in **CropBiome** (based in NOVA UCD) with a fixed contract of 10 months. I will be working always on the isolation of endophytes from wild relatives of crops (including potato, barley, wheat, oat, etc.), with the purpose to develop commercial biostimulants and biopesticides. What can I say, I would have never expected all this, but life acts unexpectedly... I'll see you soon!*



Save the date!

- **Postgraduate Symposium**
- **9th June (13:30-16:00), 10th June (10:00-16:00) @Botany Lecture Theatre**

The **11th edition** of the TCD Botany-Zoology Postgraduate Research Symposium is almost ready to go! Check your inbox, you should have received the timetable and booklet. You are all invited and feel free to share the invitation with whom may be interested in participating. It will be an *in-person* event.

Meet the keynote speakers:

Dr Anthony Heijenga holds a Masters degree in animal biochemistry, and a Doctorate degree in plant biochemistry, biotechnology. He has an extensive record in the design and development of commercial bio-technology systems, focused on the delivery of plant natural products and bio-remediation. This work includes the development of advanced Human life support systems for the aero space industry, utilized on satellite, the U.S. Space Shuttle and the Russian and International Space stations. Dr. Heijenga has been the principal investigator of six space flight science missions. His work on the large scale phyto-remediation of air and water has particular relevance to present day global pollution and issues such as climate change.

Dr Katie O'Dwyer is a lecturer at the Atlantic Technological University and a researcher at the Marine and Freshwater Research Centre. Her current research involves studying host-parasite relationships. With her team she works on a diverse suite of hosts and parasites, examining hosts such as birds, fish and crustaceans, and parasites including microscopic single celled protozoa and isopod parasites the size of a fingernail. They are interested in how parasites affect their hosts and the strategies used by them to continuously adapt towards successfully infecting their host and getting transmitted between hosts. To understand these relationships better they also examine the ways in which hosts defend themselves against parasite infections.

Athena SWAN/EDI Newsletter

School of Natural Sciences Equality Diversity and Inclusion committee

2022 Trinity College Dublin Equality, Diversity and Inclusion (EDI) Survey

All staff have been invited to participate in the **2022 Trinity College Dublin Equality, Diversity and Inclusion (EDI) Survey**. This survey offers an opportunity to share your views and experiences, to help the College ensure a supportive and inclusive university culture and identify areas where improvements could be made. Your contributions will further inform the School of Natural Sciences Athena SWAN silver award application. We would like to ask **all staff to participate** (it only takes 15 minutes!) so that we can build an action plan that champions a fair and equal working environment (link [here](#)).

Pride in Research

On the 16th June **#TCDPrideInResearch** is hosting their first ever in-person event to celebrate this pride month by showcasing the great diversity of research carried out at Trinity College Dublin by LGBTQ+ people. Pride in Research will take the form of an academic conference and is open to researchers of all levels and faculties to present their work. Registration is open to all fellow LGBTQ+ staff, students and allies (link [here](#)).

Resources

Let's Talk About Race in the Higher Education Sector: This programme aims to develop greater awareness of the nature of racism, and in particular provide an understanding of how racism may take the form of inequality and bias that is embedded in our universities in a systemic way. It provides insights to enable the conversation about racism, and calls us to action to take responsibility to reduce racism in our university (link [here](#)).

PHYTOBYTES needs your input!



Whether you are student or staff, please send any news you have, big or small, to Diego D. Bianchi (dbianchi@tcd.ie) with the subject heading “Phytobytes”.