

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

Accomplishments



Welcome to **Jordan Chetcuti**, who will be working as a Post Doc on the **PoshBee project**, aiming to develop an agent-based model for *Bombus* within the [ALMaSS framework](#).

Jordan is just completing his PhD at CEH in the UK, supervised by **James Bullock** and **Bill Kunin**. He worked for the UK Forestry Commission and did a Masters degree in Hawaii, and has strong GIS and modelling skills. He will be working remotely until restrictions are lifted, and he can join us in Dublin.

Another welcome to **Ceri Green**, who will be doing a PhD with **Jane Stout** on “Enhancing pollinator diversity through biodiversity-friendly management actions”, sponsored by IRC and Enterprise Partner, Kepak.

Ceri did her undergraduate degree at Trinity, in Environmental Sciences, and is coming back to start her 4 year PhD project in April 2020. She will also be working remotely until restrictions are lifted and she can join us in Dublin!



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There are other postdoc changes, with **Simon Hodge** moving from the **PoshBee project** to the **Farm-Ecos project** (to replace **Steph Maher**) from April-July 2020, and **Aoibheann Gaughran** officially joining Botany for 60% of her time from April-September 2020, to manage the **OPW/Aras Biodiversity audit**.



Publications

Environmental Research Letter: **Matt Saunders** and **Ana López-Ballesteros** had a paper published entitled "*Harmonised observations of climate forcing across Africa: An assessment of existing approaches and their applicability*", available [here](#). The paper identifies methodological protocols that can be used to measure, attribute, verify and report the drivers of climate change across Africa.

New Phytologist: A new paper on the extraordinary physiology of carboniferous plants has been published.



The paper is part of an ongoing debate on the capacity of non angiosperms to shape the terrestrial biosphere via their ecophysiology. There are strongly differing viewpoints between a Stanford team and an international group that **Jennifer McElwain** collaborates with.

"Carboniferous plant physiology breaks the mold" available [here](#).

Ecology: Botany Post Doc **John Devaney** was the lead author of "*Tree diversity promotes growth of late successional species despite increasing deer damage in a restored forest*" available [here](#). Using data from the **BioDiversiTree experiment**, the article shows that more diverse forest plots promote growth of late successional tree species despite increased damage by white-tailed deer.

The [BioDiversiTree forest experiment](#) is part of the [TreeDivNet](#) global network of forest diversity experiments.

Journal of Ecology: **John Devaney** was also a co-author of a new article led by **Dr Matt Hayes** from Griffith University in Australia. The article "*Foliar water uptake by coastal wetland plants: a novel water acquisition mechanism in arid and humid subtropical mangroves*", available [here](#), demonstrates that both humid and arid zone mangrove trees acquire atmospheric water through their leaves during periods of soil water stress.

European Union: **Mike Williams** is the lead author of two EU reports on the environmental, nutri-economic assessment of diets that have been published online – These are part of the deliverables for the [EU Project TRUE](#) ("TRansition paths to sUustainable legume based systems in Europe"). Both reports are freely available:

- [A combined environmental and nutri-economic assessment of diets](#)
- [The environmental assessment of diets](#)

Key findings are:

- As countries get 'richer', meat consumption increases and the 'healthfulness' of diets declines
- It is almost the case that no Mediterranean country has a 'Mediterranean diet' anymore – traditionally comprising of lots of fruits, vegetables, whole grains and some seafood
- The European diet is particularly unsustainable given the dependency on red meat, cereals, dairy and animal fats
- Alcohol consumption is almost five times the calorie intake of legumes
- Adopting the EAT-Lancet 'planetary healthy' reference diet could result in per capita per day decreases of up to 50% in reduction in diet associated Global Warming Potential (GWP) and Eutrophication (EP) scores

Events and Activities

Mexico and more: Update on February fieldwork in Tabasco

The February issue of Phytobytes included a piece about coring a lake in Tabasco, Mexico, in progress at the time of publication. Working with a Japanese team, Adjunct Professor **Henry Lamb** successfully retrieved replicate 7 metre sediment cores, in 67 overlapping sections, from Lago San Claudio, a perfectly circular limestone solution lake close to the Guatemala border. The varied section of the core should provide precise dates for Maya's impact on the local environment; several Maya pyramids are adjacent to the lake. A camera crew from NHK, the Japanese national broadcaster, followed their every move!



With a local farmer to provide indigenous names, **Henry** made a plant collection with a view to identification in the TCD herbarium. However, because of the current restraints, both herbarium work and lab work on the core have had to be deferred. Similarly, plans to go coring in the Irish midlands with Fraser Mitchell are postponed. Instead, he's ideally isolated in rural Co Offaly, with plenty of time to attempt the rescue of the many species of Cyclamen, Erythronium, Trillium, Fritillaria and more in his long-neglected garden near Clara.

Meetings and Conferences

Jane Stout took part in the Trinity Long Room Hub series "*Behind the Headlines*", on the topic of Climate and Pandemics. Four speakers (**Jane**, **Katharine Hayhoe**, **Michael Cronin** and **Darragh McCullough**) gave their views and virtual Q&A was chaired by **Jane Ohlmyer**. The whole event is available [here](#).

Subsequently, **AgriLand**, the online farming news portal, published an article based on Jane's presentation, "Disease linked to climate change and biodiversity loss", available [here](#).

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TCD NERD Club: Program for the remaining "Former Members Series" (title of talks TBA)

- **05.05.2020 12pm Aoife Delaney**, Coastal specialist at National Parks and Wildlife Service
- **12.05.2020 12pm Jesko Zimmermann**, Data technologist at Teagasc, Rural Economy & Development Centre
- **19.05.2020 12pm Thomas Guillerme**, postdoc, University of Sheffield, UK, [website](#)
- **26.05.2020 12pm Anna Csergö**, Associate Professor, Department of Botany and Soroksár Botanical Garden, Budapest, Hungary, [website](#)

Contact **Caroline** (mckeonc2@tcd.ie) or **Maude** (baudrazm@tcd.ie) to subscribe or if you have any questions!

Projects – Special Lockdown



As part of the rapid transition to online teaching **Jennifer McElwain** learned how to shoot, edit and produce short videos on her iPhone using iMovie. Actually, she learned how to direct iMovies because her daughter did the professional editing!

[Here](#) is a link to one of the short films they shot, prior to the 2km lockdown, in the Wicklow mountains with bryophyte expert **Dr Jo Denyer**.

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Jane Stout and around 50 other pollination ecologists, as a community, have started a project to collect data on garden pollinators – See [here](#) for more information.

There is also the **All-Ireland Pollinator Plan Flower Interaction Timed (FIT)** counts – see [here](#).

Everyone welcome to contribute to that!

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Beard-On Challenge

As they noticed during a video meeting that there are some lockdown beards appearing, some gentlemen decided to share their hair adventure in a botanical background... and they challenge you to do the same!



Marcus Collier stopped shaving on his last day in TCD. This is his first beard and his family is as bemused as he is!

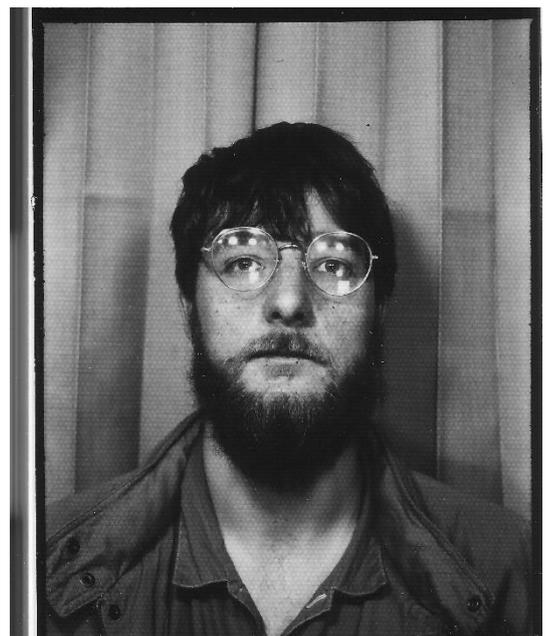


Fraser Mitchell taking a Shakesperian pose

and his goal - his own 1987's beard!



Stephen Waldren taking a "grass roosty" horticultural pose



Blog Posts

Sustainable Development: Catherine Farrell posted 4 linked blog posts on the [INCASE project website](#).

- [Can Natural Capital accounting help?](#)
- [What policies support Natural Capital accounting?](#)
- [Applying SEEA \(Environmental Economic Accounting\) to natural systems](#)
- [Working towards better water quality](#)

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Want to learn more? Check out the [EcoEvo Blog](#), where Trinity's Botany and Zoology departments discuss their work and reflections in research. The latest posts include ...



[A Field Season in New Zealand:
One Mesocosm Experiment to Rule them All](#)
by Jacinta Kong



[Staying Sane in the Insanity](#)
by the EcoEvo community



[Ecofiction: The Journey](#)
By Fionn Ó Marcaigh

PHYTOBYTES needs your input! Whether you are student or staff, please send any news you have, big or small, to Marine Valmier (valmiern@tcd.ie) with the subject heading "Phytobytes". Let's share the latest news and always be aware of what is happening at Botany!