

THE G(e)OSSIP

The official newsletter of the Geology Department

29 April 2021 | Issue 2

WELCOME

April feels like it has flown by and big things are happening around campus!

Congratulations to our department chair Jerry Dickens on recently being elected to Professorial Fellowship at TCD!

The Museum Building is getting a facelift! Renovations have begun on the outside of the building and the roof (hooray)! Please be aware that noise levels have increased during peak working hours.

The Geology Department is looking for a new logo. Get your creative juices flowing and send your design submissions to geossip.tcd@gmail.com.

Our newsletters are archived and uploaded on the Geology website. You can find them [here](#).

The G(e)ossip will be released on the last Thursday of each month. If you have anything to be added, please email us at geossip.tcd@gmail.com.

XOXO,

The G(e)ossip Girls

STAFF MEMBER IN THE SPOTLIGHT



Dave Chew was born in Aberdeen, Scotland, but grew up in south County Dublin. He received a BSc in 1996 from University College Dublin, where he also obtained his PhD in structural and metamorphic geology in 2001. From 2001 to 2003 he was a temporary lecturer in the department before undertaking a postdoc for three years at the University of Geneva on a research

project in the Peruvian Andes. He returned to the TCD Geology Department as a lecturer in 2006, was made a fellow of TCD in 2012, and a Professor in Geology in 2019. Since 2017 he has been Head of the Geology Department. He teaches structural geology and tectonics, and his research interests involve investigating the timing of mountain building and exhumation, and more recently blasting things with lasers. He has published over 120 peer-reviewed papers and has a research group of four postgraduate students and two post-doctoral researchers. He is a co-PI in the SFI-funded iCRAG Research Centre where he also leads the research of the Geochemistry platform. Outside of geology his interests include watching rugby, choral singing, listening to music, and hiking, along with his new lockdown hobbies of gardening, DIY, and borrowing his brother's dog. Get to know Dave's team on the following page!

COVID-19 UPDATE

Please don't forget to sign in on the Geology Google Doc and check in on the [SafeZone app](#) if you're on campus. This is very important for contact tracing in the event of a positive COVID-19 case on campus. As always, wash your hands, practice social distancing and wear a mask. You can stay up-to-date on all TCD statements [here](#).



Kerstin Drost

I graduated in Geology/Palaeontology from Mining Academy Freiberg and obtained a PhD in Geology from the University of Potsdam (both Germany) before taking on different roles in several international LA-MC/SF/Q-ICP-MS labs. I've been working in Dave's SFI-funded carbonate dating project for the last four years. We have developed an imaging approach to U-Pb dating of carbonates that is well suited to extract meaningful ages from such in regard of history and composition of often complex materials. Currently we are working on establishing a reference material for U-Pb dating of calcite. Apart from research I enjoy nature/landscape/being outdoors, cooking, good conversations and a nice ale.

Hilde Koch

I have expertise in trace-element analysis using solution quadrupole ICP-MS and zircon and apatite characterisation by U-Pb LA-ICP-MS. The purpose of my PhD is to establish a geochemical tephrostratigraphy for the Irish Midlands, which will refine the regional Lower Carboniferous stratigraphy and its relationship to the timing of mineralisation of Irish Zn-Pb deposits using highly weathered volcanic ashes. I submitted my PhD thesis in March and I am currently waiting for my viva. In the meantime, I enjoy the sunny days and work on publishing papers.



Remi Rateau

Hi all, I'm Remi. I'm finishing a PhD using low temperature thermochronology (apatite fission tracks and U-Th/He) and geochronology (apatite and zircon U/Pb) offshore Ireland to constrain past exhumation events. Before this PhD I worked for five years as a petroleum exploration geologist for a Danish company in London, interpreting seismic and not finding any oil in the offshore of NW Scotland. I'm based in the groundfloor PhD/postdoc room next to Quentin/J-D offices, with most of the rest of Dave's team. Don't hesitate to pass by to say hi and have a chat!

Vincent Monchal

I'm Vincent, 25 years old, in 2nd year of my PhD on U-Pb dating on carbonates by LA-ICP-MS image mapping technique. I'm involved in popularisation and communication of science in the widest audience possible. My scientific interest is turned on direct dating with different minerals to date multiple phases on magmatic or metamorphic process. I'm also interested in Precambrian cratons and the theory of supercontinents. Otherwise I love hiking especially in mountains, and I hate big cities.



Shannon Dennehy

My name is Shannon Dennehy, and I'm studying the Porcupine High in order to better understand the Atlantic basement of offshore Ireland. I am also interested in science communication and literacy (especially in regards to climate change).

DEPARTURES

We would like to say farewell to postdoc **Claire Ansberque**.



After four years spent in the department as an iCrag postdoc research fellow, Claire is now leaving. She will be joining the School of Earth Sciences at University College Dublin as a research associate at the beginning of May for new geological adventures.

NEW ARRIVALS

We would like to welcome new MSC student **Talha Ucar** who will be working with Sean McClenaghan.



I graduated from Firat University in 2012 in Turkey. Following my graduation, I worked as a geological engineer for six years in a drilling company. I took an active role in different types of engineering structures such as dams, bridges, and tunnels. In 2018, I was awarded with a scholarship from the Turkey Ministry of National Education to be an expert on Epithermal Type Mineralization subject. When I complete my master's successfully, I will come back to Turkey and work as an exploration geologist in General Directorate of Mineral Research and Exploration.

TEACHING RESOURCES

How do you build a lecture course? Elliot Carter has recently taken on the small side roll of an EGU Higher Education Fellowship, helping the EGU Education Committee to look at how they can collate and disseminate resources to aid teaching in higher education. Two of the pressing issues we are particularly keen to look at are the pressures that the pandemic has brought on lecturers and the difficulties faced in delivering courses outside one's specialist area. To help in this, Elliot would like to hear from people in the department. What resources do you use when developing courses? What resources do you wish were out there? Where do you currently go looking for support when you need it? If you've got answers to any of these questions or any other insights and suggestions, please email him at elcarter@tcd.ie.

IN THE KNOW

Did you know there are two bicycle repair stations on campus? Head on over to the Buttery or the Sports Centre if you are in need of some tools, a pump, or a pressure dial.

SOFTWARE

DataGraph is a handy software for MacOS users for data visualisation



Check out their website where they offer free webinars for learning the software, a 30 day trial and \$36 for student annual licence.

<https://www.visualdatatools.com/DataGraph/>

FIELD WORK

During the week of 8 March, Fermin Alvarez and Zoë Roseby visited Co. Kerry for a week of fieldwork. They are working on a project (A4: Aigéin, Aeráid, agus athrú Atlantaigh), that aims to advance the knowledge of historic Irish Sea level change using a 'geological tide gauge' approach.



The geological tide gauge approach reconstructs past sea level changes using sediments (and the microfossils within them) recovered from saltmarshes around Ireland. During their trip, Fermin and Zoë collected surface sediments along marsh transects to determine the relationship between elevation and foraminifera species abundance, and recovered several sediment cores with the hopes of producing a 'geological tide gauge' record for Co. Kerry. Overall, it was a highly successful trip, despite the very wet and windy weather!



HERSTORY HAS BEEN MADE



Trinity College has elected its first female Provost in 429 years, Professor Linda Doyle. She will begin her term on 1 August 2021. Read the full article [here](#).

CONFERENCES

vEGU21: Gather Online

EGU General Assembly 2021 was moved to an online platform this year from 19-30 April. Presenters from our department included:

26 April - Vincent Monchal, *Shallow deformation kinematic history, a new insight from carbonates U-Pb direct dating by LA-ICP-MS imaging technique*. Read the abstract [here](#).

26 April - Juan Diego Rodriguez-Blanco, *From poorly-ordered precursors to crystals: Factors contributing to spherulitic growth of dolomite*. Read the abstract [here](#).

29 April - Adrienn Maria Szucs, *Mechanisms of bastnasite formation: replacement of calcite by rare earth carbonates*. Read the abstract [here](#).

ACS Spring 2021

Dr. Juan Diego Rodriguez-Blanco gave an invited talk in April at ACS Spring 2021. His presentation titled *New insights into the mechanisms of bastnäsite formation* was co-authored by Adrienn Maria Szucs, Alexandra Stavropoulou, Claire O'Donnell, and Seana Davis.

PRIDE in Research 2021

On 17 June 2021, the work of Trinity College LGBTQ+ researchers will be celebrated via an online event run by PRIDE in Research at TCD. Abstract submissions are closed but you can still register through this [Google Form](#). Check out their [Twitter](#) page for updates!

iCRAGorama RETURNS

Niamh Faulkner has gone full lockdown and joined the [iCRAGorama](#) podcast for Season 3! Tune in to their latest episodes, released every fortnight on your favourite streaming platform.



Here are some other science/geology podcasts that our editors recommend:

Common Descent Podcast

Completely Arbortrary

Ologies

Show Me the Science

LAB UPDATES

The iCRAG Lab @ TCD may be rebranded to reflect the research covered. They are open to suggestions and the best name wins a prize! They are searching for a name that reflects the research and analysis done in iCRAG Lab @ TCD including Geology / Geoscience / Engineering / Environmental. If you have a name in mind, please contact Leona O'Connor at mulveyle@tcd.ie.

Dr. Paul Guyett can be contacted regarding the Scanning Electron Microscope in iCRAG Lab, CMA. If you would like to use SEM or take part in SEM induction, send a email to Paul at guyett@tcd.ie

WEBINARS

Many seminars and lecture series have been moved online as we are still living and adapting to life during a global pandemic. See below for what's coming up and don't forget to register!

[Seds Online Weekly Webinar Series](#)

5 May - Jacob Covaul, *Submarine-channel meandering and salt-basin filling*

[IGA Lecture Series](#)

12 May - Bill Sheppard, *Geoheritage and geological outreach: Waterford Harbour as a local template*. Email irishgeologicalassociation@gmail.com to register!

[Ore Deposits Hub](#)

19 May - Dina Klementieva, *Massive sulfides in the Bor porphyry Cu - epithermal Cu-Au system*

[Seds Online Weekly Webinar Series](#)

19 May - Elda Miramontes, *How, when and where do ocean currents control sedimentation in deep-water environments?*

INNOVATION IN TRINITY

Quentin Crowley and Alexandra Verbinschi (TCD Tangent) are leads for a Climate Innovation Leadership programme with EIT Climate-KIC and a consortium of 10 universities (linked [here](#)). Fifteen students from different post-graduate courses in Trinity are participating and will join a community of systemic change-makers to create real solutions for climate change mitigation and adaptation.

The Innovation Hub at Trinity East was recently renamed **Portal**. Out of 321 entries, Portal was chosen as the winning name submitted by Quentin Crowley and School of Natural Sciences (Geography) alumni, Alexandra Owens. Read the full article [here](#).

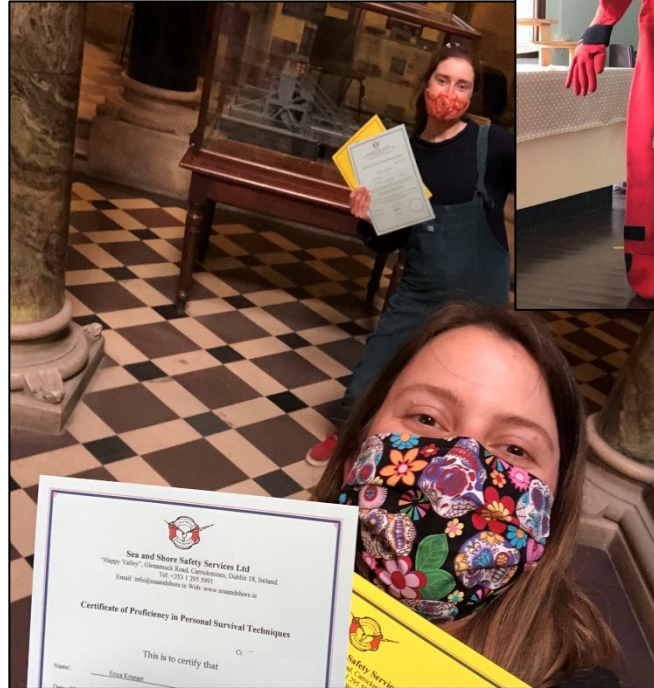


PhD candidate Meabh Hughes, post-doc Gary Bradley, and Quentin Crowley contributed to an EcoEye TV Series on radon. This was broadcast on RTE in January and is now available to view on the [EcoEye YouTube](#) channel.

POROCLIM

Two of our editors are heading to sea next month! Niamh Faulkner and Erica Krueger will be participating in a three-week research cruise (PORO-CLIM) on the R/V Celtic Explorer. They will be investigating the deep structure of the Porcupine and Rockall margins in order to answer a big palaeo-climate question: Did the North Atlantic Igneous Province (NAIP) alone drive Paleocene-Eocene Thermal Maximum (PETM) global climate change event?

Follow along with the adventures of the PORO-CLIM crew on their [website](#), [Twitter](#), [Instagram](#), and [Facebook](#)!



Above: Niamh donning a standard survival suit during training.
Left: Erica and Niamh with their Personal Survival Techniques & Security Awareness Training certificates.

FOR UNDERGRADUATES



Sustainable Earth Scientist
Exploring solutions to climate change



An international collaboration platform
for Earth science students
...do you want to take part?



Who we are

The Sustainable Earth Scientist (SES) initiative is a non-profit organisation made up of Geoscience students, passionate about decarbonising industry and sustainable energy solutions, including wind farms, hydrogen and CO₂ storage, and geothermal energy

Our aim

To bring together the next generation of Earth scientists to discuss ideas and explore the various solutions that achieve Net Zero GHG emissions, addressing the dual challenge of climate change and growing energy demand



Get involved with a '3MT'



Students are invited to submit videos (Three Minute Talks) exploring the energy transition and solutions to climate change.

Prizes are available for outstanding video submissions. Watch videos at:
www.sustainableearthscientist.org

For more
information



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PUBLICATIONS

Vitor Alvarez has published a paper from his master's thesis titled *Paleovegetation seesaw in Brazil since the Late Pleistocene: A multiproxy study of two biomes*. You can read it [here](#) in Earth and Planetary Science Letters.

VOLUNTEERING

Are you looking for a volunteer opportunity? The Geochemical Society continues to thrive thanks to the commitment of volunteers who support all of their programs.

A number of committees and working groups are seeking new members now. If you would like to get more involved in the society, let them know!

You can fill out the volunteer form [here](#).

The last few months have been eventful for volcanologists, with two eruptions that notably hit mainstream media in March/April. The eruption of Fagradalsfjall on Iceland's Reykjanes Peninsula sparked media attention as previous activity had been restricted to the last glaciation/early Holocene. Mount Fagradalsfjall itself is a tuya, formed in subglacial conditions. However, the ongoing eruptions are dominated by fissure swarms. Due to the effusive nature of the eruption, tourists, hikers, and scientists got the chance to get up close and personal with the lava flows and take some amazing pictures!



People get up close to the Fagradalsfjall fissure eruptions in March 2021. Source: [BBC News](#).

Differing in eruptive style and immediate risk significantly, La Soufrière volcano in the Caribbean was the second eruption to get the media buzzing. It began on the 9 April and was the first explosive event after months of effusive behaviour and seismic activity. It has been measured as 4 on the volcanic explosivity index (VEI), a level not seen since 1979. Ash plumes from the eruption have risen approximately 8 km, with sulphur dioxide plumes reaching India. The effect on the local community has been and continues to be significant, with widespread displacement and evacuation due to ash fall and pyroclastic debris.



The ash plume from La Soufrière on April 9th 2021. Source: [Forbes](#).

Check out Niamh Faulker's blog with EGU's GMPV [here](#) where she draws on memories of the 2010 Eyjafjallajökull eruption in Iceland 11 years on, in light of the Fagradalsfjall event this year.

Article Sources

Smithsonian Institution Global Volcanism Programme (2021): <https://volcano.si.edu>

NASA Earth Observatory (2021): <https://earthobservatory.nasa.gov/images/148176/eruption-at-la-soufriere>