



# THE G(e)OSSIP

*The official newsletter of the Geology Department*

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## WELCOME

This month marks a year since life as we know it was flipped on its head and we became stuck in endless cycles of zoom calls and lockdowns. It's been a whole year since we were all together in the office, so the little birdies with the gossip might fly a bit slower nowadays.

Therefore, we would like to invite you to share your news with us so we can deliver these messages to the Geology Department.

We hope you will all read and enjoy *The G(e)ossip* from now on. We promise we will do our very best to summarise the most important happenings at the Museum Building.

Extra materials and newsletter archives will be available on our website soon. Check back at <https://geosiptcd.wordpress.com>.

Please feel free to send us news, announcements, or feedback so we can improve our newsletter in the future. If you have anything to be added, please email us at [geossip.tcd@gmail.com](mailto:geossip.tcd@gmail.com).

XOXO,

The G(e)ossip Girls

## NEW DEPARTMENT CHAIR



We are so very happy to welcome our new department chair and professor of geology and mineralogy, Jerry Dickens! Gerald (Jerry) Dickens was born and raised in the San Francisco Bay Area. He received a BSc in 1989

from the University of California, Davis in Chemistry, and a PhD 1996 from the University of Michigan, Ann Arbor in Oceanography. Between the two, he worked as croupier in Lake Tahoe, Nevada. Since, he has been a lecturer and senior lecturer from 1997 to 2001 at James Cook University, and an Associate Professor and Full Professor from 2001 to 2020 at Rice University. He arrived with us in 2020 as the new Professor of Geology and Mineralogy (1843), but you probably have not seen him much during lock-down. He has authored or co-authored over 150 peer-reviewed papers that are collectively cited more than 18,000 times. He became a Wenner-Gren Fellow in Stockholm in 2010, a Fellow of the Geological Society of America (GSA) in 2013, and a Fellow of the American Geophysical Union (AGU) in 2017. He gave the "Perspectives Lecture" at the International Conference of Paleoceanography (ICP) in 2016, and was chief scientist for IODP Expedition 371, his seventh ocean drilling cruise among numerous other expeditions on land and sea. He was the chief editor of *Paleoceanography* from 2005 to 2009 and chief editor of *GSA Today* from 2014 to 2018. He is now the editor of *GEOLOGY*. He also helped set-up and run the Urbino Summer School of Paleoclimatology for 13 years. Other than geoscience, he likes art, cooking, walking, a wide range of music, and getting hit by trucks (okay the last is not so funny, as he is now partly cyborg with titanium plates). He promises to get a nice **cappuccino machine** and put it outside his office as a gesture to maintain collegiality amongst students, staff and faculty.

## NEW ARRIVALS

We are delighted to welcome our new MSc and PhD candidates as well as our new postdoctoral researchers into the Geology department.

### MSc

Lydia Whittaker

### PhD

Fermin Alvarez

Luca Terribili

Melanie Maddin

Vitor Azevedo

### Postdoc

Elliot Carter

Zoe Roseby

## LYDIA WHITTAKER



MSc

I am working with Dr M Stock to investigate magmatic processes at Campi Flegrei caldera using novel petrological techniques, and then applying timescales to these processes via diffusion chronometry. In 2020 I graduated from The University of Manchester with a Bachelors degree in Geology. Alongside my studies I enjoy hiking and horse riding, and I am currently taking part in the Marchathon as I attempt to train for my upcoming Three Peaks challenge (U.K).

## FERMIN ALVAREZ



PhD

I am Fermin Alvarez, PhD student in Sea Level Change. My PhD is focused on the reconstruction of the Common Era (~ last 2000 years) relative sea-level variations by analyzing saltmarsh sediments, where I will be working with Dr. Robin Edwards and Dr. Zoe Roseby. I am a basque geologist, back in science after a period of working in the renewable energy industry, and I am passionate about the ocean and climate change. I am really happy to be part of the TCD Geology department and I hope to share many nice experiences soon with all of you.

## LUCA TERRIBILI



PhD

The research project in which I am involved is SEleCTOR (SEparating Critical metals ThrOugh mineRAl crystallization) and its main objective is to develop novel, clean, and cheap methods to separate rare earths elements from wastewaters through mineral crystallization. My starting date was 1 September 2020, and my supervisor is Dr. Rodriguez-Blanco. I got both my bachelors and masters degrees at the University of Trieste (Italy) where I had been working as a research assistant for the past two years. I really like geochemistry, but my research interests range also in hydrogeology, geomorphology, and applied geology. In my spare time I like playing volleyball, volunteering, reading books, and doing historical research.

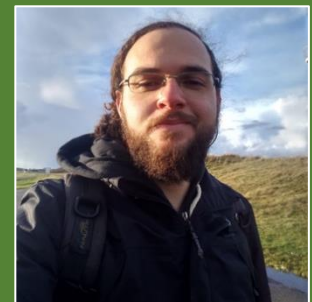
## MELANIE MADDIN



PhD

I started my PhD in September 2020 with Juan Diego Rodriguez-Blanco. The aim of my research is to determine the effect of rare earths during the crystallisation of carbonates from solution at various physicochemical conditions. I am a 2020 Earth Science graduate from Trinity College Dublin. I am originally from Canada but have been living in Ireland since 2006. When I am not studying, I am usually creating something. I love painting, drawing and embroidery and have just started making and selling jewellery.

## VITOR AZEVEDO



PhD

I'll be working with Prof. Emma Tomlinson and Prof. Andrew Parnell, from Maynooth University. I started on 1 March 2021. We'll test the hypothesis that the timing and tempo of past volcanism at Campi Flegrei (Italy) is controlled by orbitally-forced climatic variations. I'm a Brazilian student with a Bachelor in Geology from Universidade Federal do Ceara and Master in Geochemistry from Universidade Federal Fluminense, Brazil. My main objective is to pursue an international academic career in order to better tackle relevant geochemical and isotopic problems in geosciences. Whenever I'm not working, I try to spend most of my time closer to nature.

## ELLIOT CARTER

Postdoc



Hi my name's Elliot Carter and I've recently started an IRC postdoctoral fellowship working with Mike Stock to re-evaluate the geochemistry of the Antrim Lava Group, part of the North Atlantic Igneous Province. Before moving to Dublin, I completed my PhD in Manchester on halogen and noble gas geochemistry of ophiolites, and retain a strong interest in volatiles, serpentinisation and carbonation. Outside work I can mostly be found cycling or sipping strange beers, sometimes both. I'm really looking forward to a time when we can all meet up again in the department and I can say hello properly!

## ZOE ROSEBY

Postdoc



Hi! I am a postdoctoral researcher working with Professor Robin Edwards and the A4 (Aigéin, Aeráid, agus athrú Atlantaigh) project. I am interested in reconstructing palaeoenvironmental change using a range of sedimentological and micropalaeontological techniques. The A4 project covers three areas of physical oceanography and climate research, with my work focussing on advancing knowledge of Irish sea level change in an Atlantic context. Prior to my appointment at Trinity College, I carried out a PhD at the University of Southampton, Durham University and British Antarctic Survey. My PhD project was based on the deglacial and palaeoenvironmental history of Anvers-Hugo Trough, western Antarctic Peninsula. I look forward to meeting everyone!

## HELP WANTED

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](mailto:MULVEYLE@tcd.ie).

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

## TRAININGS



Are you an iolite user? Do you have files scattered around various folders on your computer? iolite will be hosting a Database webinar on April 14<sup>th</sup> to cover the basics of database usage and more advanced topics including scripting. Register [here](#).

## 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!

### [Geology Department Friday Lunch Seminar Series](#)

**19 March** - Daniela Rubatto, *Diachroneity of metamorphism and fluid mobility within a subduction system: the example for the Alps*.

### [Ore Deposits Hub](#)

**24 March** - Frances Wall, *Responsible sourcing of metals in the circular economy*.

### [Seds Online Weekly Webinar Series](#)

**24 March** - Dorrik Stow, *The contourite-turbidite controversy after 50 years*.

### [EGU GMPV Campfire Talks](#)

**25 March** - Philippe Schmutz & Liselotte Hagedoorn, *Mental Health for Early Career Scientists*.

### [NARI Spring Lunchtime Seminar Series](#)

**25 March** - Robert Lynch, *title TBA*

### [UN Sustainable Development Goals Action Campaign](#)

**25 & 26 March** - *SDG Global Festival of Action*

### [IGA Lecture Series](#)

**14 April** - Jennifer Scully, *There and back again: A geologist's tale of planetary exploration*.

## PUBLICATIONS

We sure have been busy, and a number of papers have been published over the past months. Here are just a few of the recent publications from our Geology students and staff.

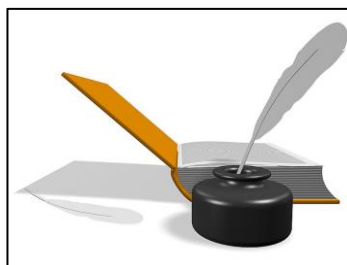
Dr. Emma Tomlinson (TCD) and Prof. Balz Kamber (QUT) recently published *Depth-dependent peridotite-melt interaction and the origin of variable silica in the cratonic mantle*. You can access their paper [here](#).

The fourth and final paper from Damien Mooney's PhD, *An analysis of the spatio-temporal occurrence of anthelmintic veterinary drug residues in groundwater*, was published in January 2021 and can be found [here](#).

Adrienn Szucs has published her first paper with Alexandra Stavropoulou, Claire O'Donnell, Seana Davis and Juan Diego Rodriguez-Blanco. Their paper titled *Reaction pathways toward the formation of bastnäsite: Replacement of calcite by rare earth carbonates can be accessed in Crystal Growth & Design* [here](#) along with a news release in [The Irish Times](#).

Sina Mousavi has published his final paper from his PhD, *A study of natural radioactivity levels and radon/thoron release potential of bedrock and soil in southeastern Ireland*, in the International Journal of Environmental Research and Public Health. You can find his paper on the IJERPH website [here](#).

## VIVAS



There have been several successful MSc and PhD defences since the onset of the pandemic and the move to online vivas. A huge congratulations to everyone!

**Aodhan O Gogain**, Application of micro-computed tomography towards a taxonomic and palaeobiological reassessment of Huxley and Wright's (1867) tetrapods from the Jarrow Assemblage (Langsettian, Pennsylvanian), Co. Kilkenny, Ireland.

**Foteini Drakou**, Geochemical and mineralogical characterisation of the Caribou Zn-Pb VMS deposit, Bathurst Mining Camp, New Brunswick, Canada.

**Maria Isabel Freitas da Silva Vucinic**, Jurassic Evaporites and diapirism along the southern Tanzanian continental margin: Implications for petroleum exploration.

**Leona O'Connor**, Development of a SEM-EDS method for quantifying free mica in building materials.

**Ross McCabe**, Geochemistry & Stratigraphy of the Mesozoic & Cenozoic Sedimentary Rocks Encountered in the Mandawa Basin, South Eastern Tanzania.

**Damien Mooney**, Investigating veterinary antiparasitic drugs as emerging contaminants in Irish groundwater.

**Tadhg Dornan**, Fingerprinting and assessing the reactivity of past and future aggregates.

**James Stratford**, The petrography and geochemistry of pyrite-hosted orogenic gold deposits in the Grampian Terrane of north-west Ireland and Scotland.

**Maurice Brodbeck**, The distribution of precious and energy-critical elements at the scale of a porphyry copper deposit.

**Sina Mousavi**, Modelling of geogenic radon in Sardinia and health risk assessment.

## LAB UPDATES



New improvements have been made to the SEM instrument in the iCrag Lab at TCD. The SEM has Colour CL, BSE, in-lens detectors and a Deben tensile stage completed the package. An EBSD detector will be added in the near future. More photos and information about the installation can be found [here](#).

## FIELD WORK



Caught on camera: Lucy Blennerhassett and Emma Tomlinson coring peat at Fallahogy Bog, Co. Derry, with some excellent helpers (Niamh Faulkner, Tadhg Dornan, Jack Masterson, and Gill Plunkett with her student Chungqing Sun from Queens University Belfast). August 25, 2020. *Note: No bog bodies were found, but we did reach some late glacial clay!*

## STUDENT SOCIAL

Mark your calendars! We will be hosting a student social night over Zoom on Friday, March 26. Join us for a casual chat and drinks starting at 5 PM, followed by a game night beginning at 6 PM. Check your inbox for more details!



**#SorryStaff - This one's not for you!**

## TALKS & AWARDS

There have been plenty of talks given over the past few months online by department members. Damien Mooney gave an outreach presentation on his research findings to the National Federation of Group Water Schemes. Hilde Koch, Niamh Faulkner, and Maurice Brodbeck were selected to take part in the EIT Raw Materials Science Communication workshop "Talk Nerdy To Me". Hilde won a prize for telling one of the best stories during that workshop.

Adrienn Maria Szucs recently gave a talk for the 64th Irish Geological Research Meeting and was awarded the prize for Best Student Talk by the IGA.



Hilde Koch took part in *The Journey Begins*, the first episode of Transformation's virtual hackathon series. Hilde and her team presented a possible solution for the energy transition. Their idea is to reuse the whole infrastructure of old offshore oil and gas platforms and transform them into floatable sustainable islands, generating green hydrogen and lithium from geothermal energy.

For staff, Mike Stock, Juan Diego Rodriguez-Blanco, and Robin Edwards all gave IGA evening lectures in late 2020 and early 2021.

Juan Diego Rodriguez-Blanco was awarded an SFI Frontiers for the Future project to develop green methods to separate rare earths from wastewaters using innovative crystallisation techniques.

Michael Stock was awarded the Provost PhD Award 2021 titled 'Determining the impact of mush dynamics on the style of volcanic eruptions at the active Campi Flegrei caldera, Italy'.

Quentin Crowley received funding from EIT Climate-KIC to host an international [summer school](#) in Climate Innovation and to participate in a pilot project in [Climate Innovation Leadership](#). 15 Masters-level TCD students have been recruited to participate in both of these, starting later this month. He was also recently invited to speak at the TCD School of Business seminar series on February 18<sup>th</sup> (recording available [here](#)) and the first TCD webinar on the Sustainable Development Goals (Climate Action) on January 27<sup>th</sup>.

## 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](#).

## MEET THE EDITORIAL TEAM

### ADRIENN MARIA SZUCS



Adri is in the 2nd year of her PhD project working with REE carbonates. She is really good at gathering and spreading info but beware of the person's name in the subject (she has minor difficulties with remembering names, but the info is correct). Adri took over Friday Beers from Hilde before Covid but since that cannot happen for a while, she needed a platform to get the gossip. She would never say no to a coffee, pint, quick chat, quiz- or karaoke night so let her know if you have any of these in mind.

Link to bio [here](#).

### HILDE ANNA KOCH



Hilde is in the final year of her PhD project. Her work provides a tephrostratigraphic framework that contributes to an increased understanding of the genesis of the Irish Zn-Pb deposits. Hilde is always happy to help you; if you cannot find her at her desk, she is most likely outside in the rose garden enjoying a cup of tea in the sun as she is a real sun worshipper. You are always welcome to join her.

Link to bio [here](#).

### NIAMH FAULKNER



Niamh is a 3rd year PhD researcher (in denial). She is the Postgrad/doc rep, so if you have any issues don't hesitate to reach out. Her research interests are carbonate synthesis for carbon capture and storage (CCS) and science communication. She is the co-host of the iCRAGorama podcast and is a phenomenal chef. Niamh is pure sunshine and is always down for a coffee run and a sea swim.

Link to bio [here](#).

### LUCY BLENNERHASSETT



Lucy is a 3rd year PhD student. Her research is focused on developing a new method for detecting volcanic aerosols and altered tephra horizons in peat, to help further understand the climate-volcanism relationship. Outside of her research, she is passionate about science communication and volunteers with the Cool Planet Experience, a climate change educational programme for all ages. Lucy loves a good laugh, a nice coffee, a great hike and of course, a cold pint. Most likely found at her new desk in M7 or chatting to Frank. Up the Dubs!

Link to bio [here](#).

### ERICA TERESE KRUEGER



Erica is a 2nd year postgrad student from south Florida. Her research focuses on cold-water coral biomineralisation, anthropogenic stressors, and developing novel geochemical temperature proxies. She goes by many names including *E*, *Florida*, and *Erica from America*, but will usually answer to anything shouted her way. If you ever need something, she most likely has it in her office in M7. Erica serves as the postgraduate representative on the School of Natural Sciences Executive Committee and is the co-chair for iGEO2022. She's never met a dog or a pint she didn't like.

Link to bio [here](#).