THE G(e)OSSIP
The official newsletter of the Geology Department

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WELCOME

We hope you are all keeping warm and dry after storms Dudley, Eunice and Franklin blew through last week. Let’s hope March brings some sunnier (and calmer) weather for those heading out into the field in the next few weeks!

The news that most remaining Covid measures will be lifted at the end of the month takes us a further step out of the pandemic, and hopefully brings with it chances for more departmental social events and activities in the near future. We will keep you updated with exciting things to come!

Our newsletters are archived and uploaded on the Geology website. You can access them [here].

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

-The G(e)ossip Team

GEOLOGY IN THE NEWS

Perseverance’s year on Mars: what has it achieved?

February 18th marked a year since NASA’s Perseverance rover touched down just north of the Martian equator. Launched in July 2020, it travelled ~305 million km to Mars and landed six months later in the Jezero crater. Its mission is to seek signs of ancient life, as well as collect samples of rock for potential return to Earth, with researchers intending the rover to visit an ancient delta to look for the signs of ancient life. However, it hasn’t yet reached the delta, and has been roaming the crater floor since landing. So, what has it achieved in its first year on Mars?

The rover has travelled more than 3km across the crater, and collected six rock samples from drilling cores. Researchers expected these rock formations to be sedimentary, but Perseverance’s sampling revealed they were igneous, and much of Jezero’s floor is composed of igneous rocks which shows signs of interacting with water. Some samples have visible layers, which were initially thought to be sedimentary features, but chemical analysis performed by the rover showed the are the result of a layered igneous intrusion forming in cooling magma. Salt-rimmed holes suggest water flowed through the rock in the past, indicating a life-friendly environment has existed on Mars. In total, the rover is aiming to collect 30 samples of rocks, soil and atmosphere, which will be collected by another rover and brought to Earth, probably not arriving until 2031. You can follow the Perseverance rover’s progress on Twitter on both its [official] and [unofficial] accounts.

Source: Nature; NASA

Photo taken by Perseverance rover. Source: NASA/JPL-Caltech/ASU/MSSS
In 1856 James Robinson, a photographer of Grafton Street, was commissioned to photograph the Museum Building then being erected in Trinity College Dublin. His photograph (top) captures a number of people on site including one of the celebrated O’Shea brothers who is carving a metope high up just beneath the cornice. Around the building blocks of Caen Stone from France are being worked for use for the internal walls of the central hallway. Stone was brought to the site in cars pulled by horses. The 1856 scaffolding looks quite flimsy being made of timber when compared with the modern day variety that surrounded the building when it was reroofed recently (bottom). Another major difference is the large crane which is being used today to lift Welsh slate being fitted to the roof. This material is replacing similar stone that has come to the end of its natural life after 165 years. When the building was being built stone was probably winched into place using ropes, chains and pulleys rather than with a large crane. Today all personnel on site wear appropriate safety gear including hard hats; note the headgear of the gentleman in the right foreground of Robinson’s view!

Images: Top, Christine Casey and Patrick Wyse Jackson. The Museum Building of Trinity College Dublin (Four Courts Press, 2019, fig. 10.7); Bottom, Patrick Wyse Jackson. Written by Patrick Wyse Jackson.
ATHENA SWAN

Updates
The Athena SWAN/Equality Diversity and Inclusion (EDI) committee is in the process of working towards silver accreditation. We are currently collating information and working through the application process. This is a sizable project and will span the next few months onwards. During this time we will provide updates and insight into the current work being done within the School to promote equality and inclusion, through newsletter contributions.

News
The 11th of February was International Day of Women and Girls in Science. Designated by the UN, the day serves to spotlight females in STEM. Although it is a day to celebrate their successes, it is also an opportunity to draw attention to the gender inequality that still exists within science and what we can do to improve it. If you missed it there were some great highlights over on twitter using #womeninscience, including on the TCD Twitter account.

Resources
Speak Out was launched in November 2021, a tool to anonymously report bullying, violence, and harassment. You can find the Speak Out tool and relevant supports on the new webpage here. If you would like more information, please view our website. You can contact the Athena SWAN/EDI committee at fraser.mitchell@tcd.ie.