

Elsbeth Wallace<sup>1,2</sup>, Emma Morris<sup>1,2</sup>, Maria McNamara<sup>1,3</sup>, Jodie Fisher<sup>4</sup>,  
Aoife Blowick<sup>1,2</sup>, Sarah J. Boulton<sup>4</sup>, Amanda Owen<sup>5</sup>, Fergus McAuliffe<sup>1,2</sup>

1. Irish Centre for Research in Applied Geosciences, 2. University College Dublin, 3. University College Cork  
4. University of Plymouth, 5. University of Glasgow

## Rationale

The geosciences are an undeniably male-dominated sector (80/20 male/female in 2008<sup>1</sup>). This has led to a loss of female talent and lack of diversity within the sector. Retention of female students in the geosciences is highest where students can identify with same gender career/industry leaders<sup>2</sup>, yet with few obvious female role models, poor female student retention has become a self-perpetuating problem. Girls into Geoscience was instigated at the University of Plymouth, UK in 2014 to interrupt this cycle (figure 1). Girls between the ages of 16-17 and with any level of geoscience knowledge or interest were invited to the University of Plymouth to be introduced to the subject by leading females in the geoscience field. The annual event has proven so successful that it has now been taken up in Ireland (figure 2).



Figure 1: Attendees of Girls into Geoscience, UK on a field trip.



Figure 3: A- Girls into Geoscience - Ireland in University College Cork, 2018  
B- Girls into Geoscience - Ireland in National University of Ireland Galway, 2018  
C- Girls into Geoscience - Ireland in University College Dublin, 2019

Figure 2: Attendees of the inaugural Girls into Geoscience - Ireland event in University College Cork examine rocks in the geology garden, 2018.



## Girls into Geoscience - Ireland

### Event days

Girls into Geoscience – Ireland (GiGie) is now at the end of its second year, having run three successful events across Ireland. These events have been hosted in academic institutions and rotate annually to reach multiple areas of Ireland which often have limited access to STEM activities. So far, events have been hosted in Cork, Galway and Dublin (figures 3a, 3b, 3c). GiGie has taken the form of day-long events which incorporate workshops, talks, networking and field-trip style elements (figures 4a, 4b, 4c).



Figure 4a, 4b, 4c: Images from workshops and talks at the Girls into Geoscience - Ireland event days

### Field Trip

As a new addition to the 2019 programme, a day long field trip was held in addition to the main event day. Attendees were taken to Loughshinny, a site of geological excellence in North Dublin (figures 5, 6). Here, they were treated to a fieldtrip led by experts in the geology of Loughshinny, along with lunch provided on the beach.



Figure 5: fieldtrip attendees take in the excellent folds at Loughshinny beach.



Figure 6: Field trip leader, Prof. John Walsh, explains the dynamic processes that formed the geomorphology of Loughshinny

## Evaluation and Outcomes

Girls into Geoscience - was evaluated using surveys which were filled in by both participants and speakers. The attendee surveys covered a spectrum of topics, attendees were asked their level of agreement with statements, and asked to rate sections of the day. They were given space to leave comments after each question. Most notably, 100% of all attendees to each event (Cork, Galway and Dublin) said that they now had an improved knowledge of geoscience careers. 100% of Cork attendees, 83% of Galway attendees and 62% of Dublin attendees also said that they were now more likely to consider studying the geosciences at university.

Speaker surveys were more general than the attendee surveys, but collated important information in the form of long answer questions. In the surveys, speakers were asked their thoughts on sections of the day, whether they would like to see the event run again and if so, where, and asked for general comments. Importantly, 100% of those filling in the surveys said that Girls into Geoscience should run again.

### Selected quotes

"I loved (that) it was for girls. (It) made me feel more confident and that it's possible to do science as a girl" – Participant, Cork.

"Very interactive with a great networking opportunity" - Participant, Cork

"I wasn't aware of how many careers in mining/mineral exploration are focused on renewables/green energy as opposed to oil and gas." - Participant, Dublin

## What's next?

A planned expansion of the programme could lead to its most successful year yet. The introduction of a local element to the programme will be a new feature for 2020. GiGie also plans to work with schools and female students to co-develop its future events.

Across in the UK, expansion is also in action with further events taking place in Scotland, and a junior event being developed in Leicester. Gender balance is far from equal yet, but change is happening. We look forward to seeing Girls into Geoscience flourish.

## References

- Holmes et al., 2008. Gender imbalance in US geoscience academic. *Nature Geoscience*. **1**. 79-82.
- Hernandez et al., 2018. Role modeling is a viable retention strategy for undergraduate women in the geosciences. *Geosphere*. **14**. 2585-2593.

## Project Partners and Funders