

# Bex (Rebecca) V M Robertson

Address: 39 Old Elvet,  
Durham, DH1 3HN

Telephone: +44 7772611319  
Email: gcxl85@durham.ac.uk

Twitter: @RebVMRob

---

## Education

---

### **Durham University, PhD, 2020 – present**

*“Fluid chemistry and earthquake rupture - Investigate and characterise co-seismic chemical reactions that modulate pore fluid chemistry and mineralogy of fault zones”.*

Supervisors: Prof. Stefan Nielsen, Dr Nicola De Paola (Durham University), Prof. Adrian Boyce (University of Glasgow/ SUERC), Dr Andre Niemeijer (Utrecht University), Dr Carolyn Boulton (Victoria University of Wellington, NZ)

### **University of Aberdeen, Degree of Master of Geology (MGeol), First Class 2014 – 2019**

*Courses completed include:* Structural Geology and Tectonics; Geophysics; Sedimentology; Surface and Subsurface Digital Imaging; Field Mapping Techniques; GIS; Geological Models; Integrated Sedimentary Basin Systems; Geoscience Research Skills and Data Analysis; The Basin Fill.

*5<sup>th</sup> Year Research Project:* Relating slip morphology and kinematics of a liquefaction event to flow evolution. *Supervisor:* Prof. Rob Butler. Graded A (91%). Palu Mw 7.5 EQ applied seismic cyclic loading to unconsolidated alluvial deposits, resulting in sediments flowing pseudo-plastically. Kinematic and morphological study of liquefaction was conducted through development of a new displacement vector picking methodology. *Currently under preparation for submission to J Struct Geol.*

*4<sup>th</sup> year project* Graded A (95%): 35 day mapping of the Ord Window, Skye, compiling structural and depositional data to generate a new interpretation of thrust sheet relations seen through a nappe window.

### **The Open University, S186 Volcanoes, Earthquakes and Tsunamis, 2013 – 2014**

### **Portobello High School, Edinburgh, 2008 – 2014**

---

## Lab Experience and Field Work

---

### **Carnegie Trust Vacation Scholarship (£2,500), Summer 2018**

Designed and wrote summer scholarship proposal to the Carnegie Trust for Scotland titled: *Using Raman spectroscopy as a geothermometer to distinguish tectonically generated thermal gradients on the Greek Isle of Syros (Cyclades)*. Worked on high pressure, low temperature samples from the Cycladic Blueschist Unit, Syros. Methods used: Raman Spectroscopy; backscatter electron microscopy (BSE), cathodoluminescence (CL), and energy-dispersive X-ray spectroscopy (EDS) using Aberdeen University's SEM; fluid inclusion analysis; and TOC measurements using acid digestion and a Leco CS744. Data under preparation for publication (in collaboration with supervisors Dr Clare Bond, Dr David Muirhead).

### **5<sup>th</sup> year field work:**

- **French Alps** (Sept. 2018) studying basin forming (and deforming) processes and architectural framework of key basin types
- **Spanish Pyrenees** (Oct. 2018) Relating depositional systems to underlying tectonic and climatic processes.

### **Undergraduate field work (Scotland):**

- **Arran** (April 2016 & April 2017) Implementing mapping and observation skills in the field;
- **Torridon** (June 2017) Advanced mapping skills with a focus on structural geology;
- **Ord Window, Skye** (June – August 2017) 35 day mapping project;
- **Thurso** (Oct. 2017) field course focusing on geochemistry, biomarkers and geofluids;

### **British Exploring: Data collection on the Drang-Drung Glacier, Ladakh, India, Summer 2016**

Collected glacial moraine data and debris sorting data on a 5 week expedition to the Indian Himalayas at high to very high altitudes.

### **Edinburgh University Meteorology Department, March 2012**

Programmed, installed, calibrated and synced a radiometer to Edinburgh University's meteoric log.

## Public Outreach

---

### **Edinburgh University Science Festival Team, 2011 - 2014**

Worked with members of the Edinburgh University Geoscience Department annually at the Edinburgh Science festival, discussing and explaining geological concepts and processes to interested members of the public.

### **Undergraduate Digitization Tips Poster, Summer 2018**

Developed a guidance poster for students on digitisation of undergraduate mapping field slips, field sketches and 3D diagrams. Currently displayed in Aberdeen's geoscience department and is part of undergraduate online resources.

## Professional Memberships

---

Candidate Fellow of the Geological Society; Student member of the European Association of Geoscientists and Engineers; Royal Geographical Society Membership; British Exploring Society Membership;

## Practical Research Skills

---

- Petrological descriptions of rocks in hand specimen and thin section
- Preparation of fluids and rocks for geochemical analyses (major and trace elements/ ions; stable and radiogenic isotopes);
- Fluid inclusion microthermometry
- Whole rock preparation for SEM EDS elemental mapping, CL & BSE
- Rock grinding, powdering and dissolution for HCl, HF digestion for TOC & Raman analysis
- Field mapping specialising in structurally complex areas
- Data analysis and presentation in ArcGIS
- Experience with the Zeiss Gemini SEM 300 using SmartSEM v06.01; Nikon SMZ25 Zoom Stereomicroscope with Nikon Elements D software; petrographic microscopes with Infinity 1

## Professional Skills

---

- Full clean UK driver's licence and valid British passport
- Extensive knowledge of the MS package, Adobe Illustrator Cs6 and, Lime by VOG
- Proficiency in Schlumberger's Petrel E&P; Move 2017.2; AgiSoft PhotoScan Professional; Data analysis and presentation in ArcGIS 10.4; EndNote; LaTeX; MicMac
- Full degree accreditation with 'Geological Society of London'
- 5+ years of academic collaboration experience including writing proposals and conference abstracts, as well as presenting research at academic conferences

## Additional Work Experience

---

**Tectonic Studies Group, 2021 – present.** Committee member (postgraduate representative)

**Structural Geology Research group (Durham University), 2020 to present -** Committee member

**Safari Research Group (University of Aberdeen), 2020 –** Working extensively with Lime (a 3D outcrop viewer) and graphics packages to expand the Safari virtual outcrop database and create teaching materials for online courses.

## Awards & Conferences

---

**TSG Mike Coward Prize Runner-Up (2020), Best student presentation**

**MGeol Prize for Excellence, Awarded for graduating top of the UoA 2019 MGeol class (2019)**

**Tectonic Studies Group AGM -**

**Robertson, R. V. M.** & Menzies, C. D. Fluid chemistry and earthquake rupture - Investigation of co-seismic chemical reactions: an experimental approach. *TSG AGM, 5<sup>th</sup> – 8<sup>th</sup> January, 2021, Poster*

**Robertson, R. V. M.,** Butler, R. & Bond, B. Relating slip morphology and kinematics of a liquefaction event to flow evolution. *TSG AGM, 7<sup>th</sup> – 9<sup>th</sup> January, 2020, Oral Presentation (awarded the Mike Coward Prize)*

**Robertson, R. V. M.** Review of proposed Ord Window Structures: Thinking in three dimensions. *TSG AGM, 13<sup>th</sup> – 16<sup>th</sup> January, 2020, Poster (awarded a travel bursary (£500))*

**British Sedimentological Research Group AGM attendance, Herriot-Watt University, 17<sup>th</sup> – 20<sup>th</sup> December 2019**

**Aberdeen Geological Alumni Fieldwork Prize (£200), 3<sup>rd</sup> year undergraduate (2017)**