

Education

University of Aberdeen

PhD Geophysics

Aberdeen, UK

Sep 2021 - Current

- **Project:** "Using seismology to image subduction termination in northern Borneo"
- Data management, analysis, visualisation and interpretation via Python (Pandas, ObsPy and more).
- Contributor to seismological methods utilizing receiver functions in python3 (Python package).

Durham University

MPhys Physics (2:1)

Durham, UK

Oct 2017 - Jul 2021

- **Project:** "Searching for Extra-Terrestrial Intelligence with the Cherenkov Telescope Array" (2021).

The Royal Latin School

A-Levels

Buckingham, UK

Sep 2015 - Jul 2017

- Physics: A*, Chemistry: A, Mathematics: A, Further Mathematics: A.

Experience

University of Aberdeen

Demonstrator (MSc Geophysics & BSc Geology)

Aberdeen, UK

Sep 2021 - Present

- Subjects covered include Python, Linux/UNIX, Bash scripting, Generic Mapping Tools (GMT), field skills and geophysical concepts.
- Provided real-time problem solving and programming support to students, catering to different levels of scientific literacy.

British Geophysical Association Postgraduate Research in Progress Meeting

General Chair (Volunteer)

Edinburgh, UK

Feb 2023 - Sep 2023

- Oversaw and delegated to committee, contacted speakers, led branding and publicity (social media, website design etc.), maintained planning documents, set meeting agendas, took minutes and convened sessions.
- Led development of equality, diversity and inclusion (EDI) framework, authored the EDI Statement and Code of Conduct, and was a primary point of contact for conference attendees regarding accessibility requests.

MyTutor

GCSE Maths Tutor

Online, UK

Sep 2021 - Apr 2022

- Teaching small groups GCSE Maths.

STFC Rutherford Appleton Laboratory

Public Engagement Department (Placement)

Harwell, UK

Aug 2016

- 2-week placement collaborating with particle physicists to accessibly inform the public of their research, teaching on a programming outreach course for children, and giving campus tours to a diverse range of visitors on General Public Access Day.

University of Cambridge

BP Institute and Department of Chemistry (Placement)

Cambridge, UK

Jul 2016

- 2 days shadowing PhD students, preparing chemical samples and learning good lab practice.

The Open University

Planetary Sciences Department (Placement)

Milton Keynes, UK

May 2014

- A week with PhD students performing data analysis via Python and Excel; used GIS, attended talks, and experienced academia.

Skill Highlights

Programming & IT	Python (including Pandas & Matplotlib), Microsoft Office (including Excel), LaTeX, UNIX, scripting, SQL.
Further Technical	Working with large data sets. Practical and analytical research skills. Flexible writing & communication style (technical report writing, presentations & posters, grant applications, public outreach, teaching).
Other	Project management, team leadership & supervision. Organisation, initiative & self-discipline. Creativity.

Awards, Grants and Achievements

2024	Outstanding Student Presentation Award , American Geophysical Union (AGU) Fall Meeting	San Francisco, USA
2024	Gray-Milne Travel Bursary , British Geophysical Association	London, UK
2023	Austin Endowment for Student Travel , AGU Fall Meeting	San Francisco, USA
2023	Conference/Meeting Travel Subsistence Award , Royal Astronomical Society	London, UK

Publications and Presentations

S. Baker, A. Gilligan, D. G. Cornwell, J. Jenkins, T. Greenfield, N. Rawlinson, F. Tongkul, S. Pilia. “Mantle transition zone variations and recent seismicity highlight ongoing deep subduction-related deformation beneath northern Borneo”. In preparation for submission to GRL, 2024.

J. Jenkins, **S. Baker**, A. Curtis. “British Geophysical Association – Learning how to run an Accessible meeting”. To appear in A&G, Aug 2024.

S. Baker. “Planning an Accessible Academic Conference”. The Institute for Particle Physics Phenomenology’s Annual Equality, Diversity and Inclusion Seminar, Jun 2024, Durham, UK. (Invited talk)

S. Baker, D. G. Cornwell, A. Gilligan, J. Jenkins, T. Greenfield, N. Rawlinson, F. Tongkul and S. Pilia. 2023. Imaging northern Borneo’s Complex Mantle Transition Zone with P-to-S Receiver Functions. AGU Fall Meeting, Dec 2023, San Francisco, USA. (2 Presentations)

S. Baker, D. G. Cornwell, A. Gilligan, J. Jenkins, T. Greenfield, N. Rawlinson, F. Tongkul and S. Pilia. 2023. Receiver Function Imaging of Sabah’s complex mantle transition zone. BGA Postgraduate Research in Progress Meeting, Sep 2023, Edinburgh, UK. (Presentation)

A. Gilligan, E. Watt, D. Hawthorn, R. Clark, **S. Baker**, D. G. Cornwell, L. G. Inuwa, H. Kennedy, K. Löer, and A. Madani. 2022. Probing Into the Crust Through eastern Scotland: seismological constraints on the Highland Boundary Fault. EGU General Assembly, Apr 2023, Vienna, Austria. (Poster)

J. R. Morris, L. R. Schurmeier, N. L. Wagner, **S. Baker**, C. Bill, S. Mohanna, N. Roth, H. Sanderson, S. Sridhar, S. Woodley, I. J. Daubar, B. Fernando, C. Newman, and M. Panning. 2023. InSightSeers: Peering Into Invited Student Participation of a Mission Science Team Meeting. LPSC, Mar 2023, Houston, USA. (Poster)

S. Baker, D. G. Cornwell, A. Gilligan, J. Jenkins, T. Greenfield, N. Rawlinson, F. Tongkul and S. Pilia. 2023. Receiver Function Imaging of Sabah’s complex mantle transition zone. University of Aberdeen School of Geosciences PGR Conference, Jan 2023, Aberdeen, UK. (Poster)

A. Gilligan, E. Watt, D. Hawthorn, R. Clark, **S. Baker**, D. G. Cornwell, L. G. Inuwa, H. Kennedy, K. Löer, and A. Madani. 2022. Probing into the crust through eastern Scotland. British Seismology Meeting, Sep 2022, Cambridge, UK; AGU Fall Meeting, Dec 2022, Chicago, USA. (Poster)

S. Baker, D. G. Cornwell, A. Gilligan, J. Jenkins, T. Greenfield, N. Rawlinson, F. Tongkul and S. Pilia. 2022. Unveiling Sabah’s complex mantle transition zone with nBOSS. British Seismology Meeting & BGA Postgraduate Research in Progress Meeting, Sep 2022, Cambridge, UK. (Poster)

Interests

Arts, Crafts and Creative Pursuits

I enjoy creative challenges, and have previously recorded an audiobook, taken an online puppetry course, and started a casual heritage crafts preservation group. I am a self-taught seamstress and have a strong interest in fashion and textile history (modern to prehistoric). I write for leisure and am published in The Gaudie (University of Aberdeen’s student newspaper). My artwork, recently acquired by Durham University, is displayed at Josephine Butler College, Durham.

Outdoor activities

I am at ease outdoors and proficiently use a variety of DIY tools. Member of Secret Garden Society (Social Media Officer 2022-23) and Conservation Society at the University of Aberdeen, and Josephine Butler College (JB) Allotment Society (President 2019-21), JB Mixed Lacrosse (2018-20), and the Astronomical Society (Treasurer 2018-19) at Durham University.

Other Clubs and Activities

Durham University (DU) Physics Society (Publicity Officer 2018-19), DU Art and Life Drawing Society (2019-20), JB Freshers Rep (2018), DU Archery (2017-19), JB Women’s Basketball (2020-21).

References Available

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Dr Amy Gilligan

Lecturer in the School of Geosciences

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