The Geological Society

Careers Day

6 November 2024

The Geological Society

A message from the President

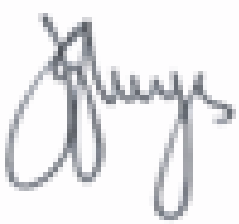
I would like to welcome you to the Geological Society's Careers Fair 2024.

From manufacturing flint tools in the Early Stone Age; to deciphering how the Earth and solar system work; to providing humankind with the energy and resources needed for us as a species to move from abject poverty to affluence and of critical importance not trash our planet, rests on the shoulders of geoscientists in industry, in governments, in environmental protection and in academia. The employment landscape for geoscientists is very exciting, yet undoubtedly challenging and changing rapidly.

However, don't worry, the basic qualities employers look for are covered today. Employers will be interested in people they see as well grounded in the fundamental concepts of the natural sciences and are able to use that knowledge and background to analyse and solve problems with new and innovative solutions.

The geosciences are vital to solving so many of the challenges that we are facing, and will be central to delivering the energy transition and meeting net zero targets, helping reverse environmental degradation, soil loss, water resources security and more. I hope that during the course of today's event you will see the many exciting career options available, and that you will feel inspired about the future of your vocation. Do attend all the subject sessions, even for subjects that you hadn't really considered. Please don't be afraid to ask the speakers as many questions as possible.

I hope that today will be useful and is an influential step in developing your careers paths. I wish you all the very best in completing your studies and taking the next steps towards employment. And of course do join the Society and we will be with you every step of the way, helping you gain skills and knowledge as your career develops.



Jon Gluyas

President of The Geological Society

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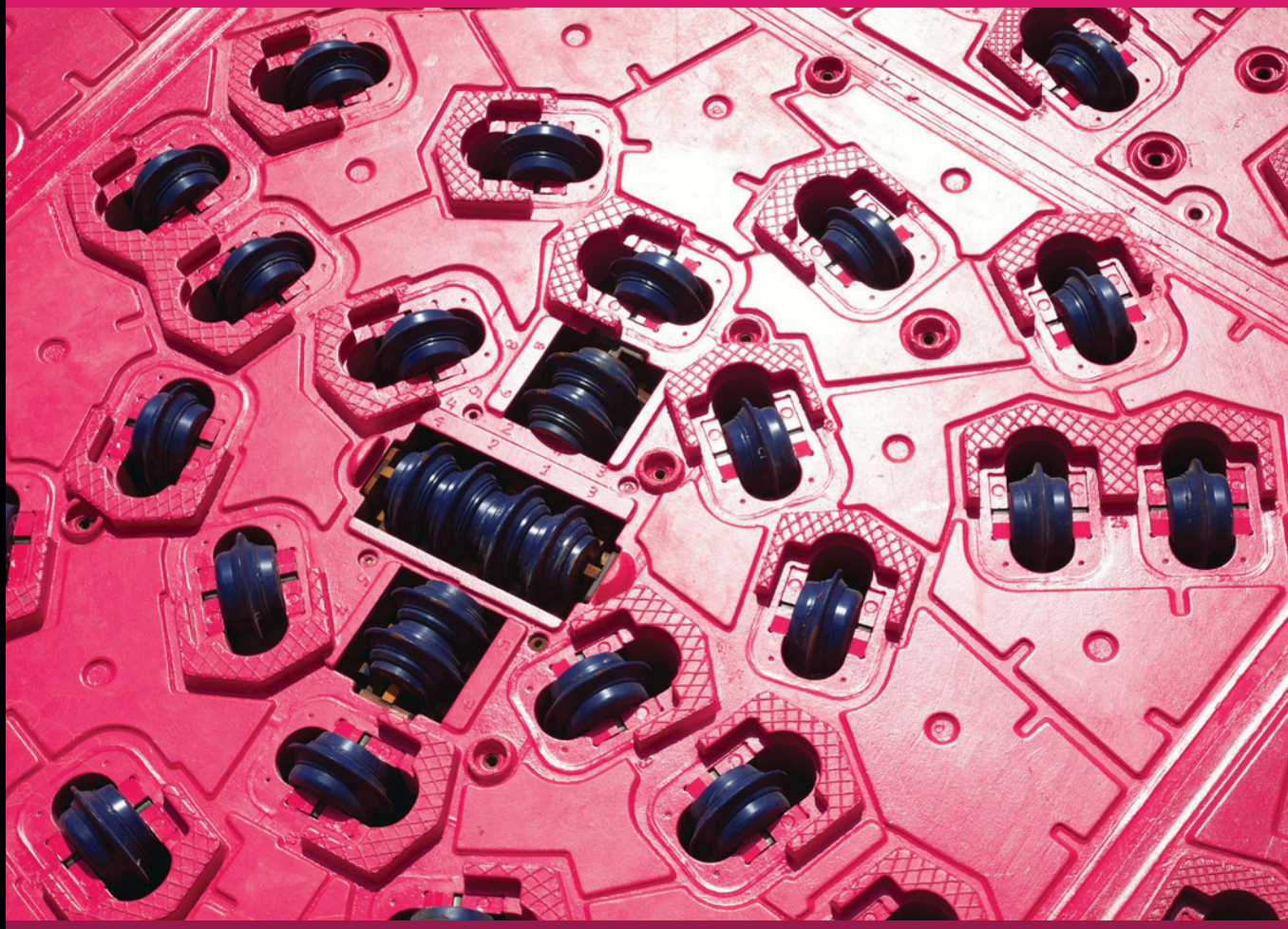

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Careers Day programme
6 November 2024

Main talks will be taking place in Lecture Theatre A in the Roscoe Building, and also livestreamed via Zoom.

For those joining us in person, tea and coffee will be available from 12:30 and pizza from 13:00.

Wednesday 6th November 2024	
1300-1305	Welcome Address - Prof. Jon Gluyas, GSL President
Session one – Planetary Science	
1305-1355	Prof. Katherine Joy, *University of Manchester* Dr Rhian Jones, *University of Manchester*
Session two – Climate & Ecology	
1355-1445	Benedict Robbins, *ERM* Dr David Schultz, *University of Manchester*
Session three – Geohazards, Geoengineering & Georesilience	
1445-1535	Helen Reeves, *Jacobs* Charity Rose, *AtkinsRéalis*
1535-1605	Break & Networking
Session four – Energy Transition	
1605-1700	Dr Benedikt Steiner, *University of Exeter* Dr Robert Fitzpatrick, *University of Exeter*
Session five – Digital Geoscience	
1700-1750	Jade Fawcett, *University of Manchester* *Emma Mailey, AtkinsRéalis*
1750-1800	CLOSING

CV Workshop

For our in person attendees, a CV workshop will be taking place from 15:00 - 16:00 in room 1.007.

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Company Profile: Jacobs

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Session 1 - Planetary Science

Planetary science is an interdisciplinary field that encompasses geology as a fundamental component, focusing on the study of celestial bodies such as planets, moons, asteroids, and comets. Geology is essential in deciphering the complex geological histories and processes that have shaped these celestial bodies over billions of years. By analyzing impact craters, surface features, and geological formations, planetary geologists can unravel the evolution of planetary bodies and their geological dynamics. This knowledge not only helps us better understand the origins and development of other worlds in our solar system and beyond but also provides insights into Earth's own geological history and processes.

In addition to understanding the geological aspects of celestial bodies, planetary geologists contribute to the search for signs of past or present life beyond Earth. They study the composition and potential habitability of planets and moons, identifying locations where life might exist or have existed. For example, missions to Mars aim to explore its geology to ascertain whether it ever had conditions suitable for life. The field of planetary science and geology is thus at the forefront of scientific exploration, expanding our knowledge of the cosmos and our place within it.

Meet the speakers

Prof Katherine Joy
Professor of Lunar and Planetary Science
University of Manchester

Dr Rhian jones
Reader in Isotope Geo
University of Manchester

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Session 2 - Climate & Ecology

Geology serves as a foundational science in understanding the intricate relationship between climate and ecology. By examining the Earth's geological history, geologists can decipher past climatic conditions and their impact on ecosystems. The study of sedimentary rock layers, fossils, and isotopic records provides valuable insights into ancient climates and how they influenced the distribution of flora and fauna. This historical perspective enables scientists to make more accurate predictions about how current and future climate changes may affect biodiversity and ecosystems, informing strategies for conservation and adaptation.

Geological processes also play a vital role in shaping present-day ecologies. The movement of tectonic plates, for instance, influences topography, which in turn affects climate patterns and habitat diversity. Volcanic activity can lead to nutrient-rich soils that support thriving ecosystems, while geological structures like aquifers and fault lines influence water availability and the sustainability of ecosystems. Geologists work in collaboration with ecologists to assess these geological factors and their implications for ecological health. Their combined efforts are essential in the face of climate change, as they help us better understand the Earth's past, present, and future, and develop strategies for preserving biodiversity and maintaining ecological balance.

Meet the speakers

Benedict Robbins
Senior Geoscience Consultant - Marine
ERM

Dr David Schultz
Professor of Synoptic Meteorology
University of Manchester

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Session 3 - Geohazards, Geoengineering & Georesilience

Geohazards, georesilience, and geoengineering are interconnected aspects of geology that address the dynamic and often perilous nature of the Earth's processes. Geohazards encompass natural phenomena like earthquakes, volcanic eruptions, and landslides, posing significant threats to human communities and the environment. Geologists are central to the identification and assessment of these hazards, contributing to early warning systems, disaster preparedness, and strategies to minimize their impacts. Georesilience, on the other hand, emphasizes building the resilience of ecosystems and infrastructure to withstand and recover from geohazards. It leverages geological insights to create resilient urban plans, sustainable land-use practices, and more effective disaster response mechanisms. Georesilience ultimately aims to enhance the adaptability of communities and ecosystems in the face of geological challenges, fostering long-term sustainability.
Geoengineering, a field within geology, explores the intentional modification of geological and environmental systems to address global issues such as climate change. Geologists play a vital role in assessing geological formations for carbon capture and storage (CCS), examining underground reservoirs' stability, and mitigating the impacts of geohazards. However, geoengineering efforts must be approached cautiously, with careful consideration of geological processes to prevent unintended consequences.

Meet the speakers

Helen Reeves
Director & Head of Discipline for Geoscience & Engineering Geology (Europe)
Jacobs

Charity Rose
Engineering Geologist
AtkinsRéalis

What is the Early Career Network?

A Specialist Group of the Geological Society aimed at geoscientists of **any specialism** within the **first 10 years** of their **geoscience career**.

Group Aims

- Promote and support professional development and chartership of its members.
- Improve value for money for early career fellows of GSL.
- Promote diversity, inclusion, and equality across geoscience.
- Organise events and activities across the UK, including the annual ***Early Career Geologist Award***
- Help with work placements, skill development and other aspects of employability.
- Be **your voice** with the wider Society and support **early career geoscientists**

Group Activities

- Free-to-attend webinars and lectures
- Career development support
- Professional Networking Events
- Chartership Information, Support, and Mentor Connection

Access and/or preferential rates will be given primarily to Fellows or Candidate Fellows of the Geological Society.

Who Can Join the Network?

Open to all interested in the ECN activities, free of charge.

Who are the Committee?

We are a volunteer group of 12 geoscience professionals, academics, and students with representation across engineering, mining, quarrying, hydrogeology, economics, and general geoscience academia.

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Session 4 - Energy Transition

Geology plays a crucial role in the ongoing global energy transition. Geologists are at the forefront of identifying and assessing energy resources critical to this shift. They investigate the feasibility of renewable energy projects, such as geothermal, wind, and solar energy, by examining subsurface conditions and potential energy reservoirs. Their expertise in understanding the Earth's subsurface structures and resource distribution is invaluable for making informed decisions in the transition to cleaner and more sustainable energy sources.

Geologists also play a pivotal role in mitigating environmental impacts associated with energy production. They conduct environmental assessments and geological studies to identify potential risks, such as groundwater contamination or induced seismicity, associated with activities like hydraulic fracturing (fracking) and carbon capture and storage (CCS). By providing insights into geological hazards and suggesting measures for their mitigation, geologists contribute to safer and more sustainable energy practices. In essence, geology is an indispensable component of the energy transition, guiding resource development, minimizing environmental risks, and ultimately promoting a more resilient and sustainable energy future.

Meet the speakers

Dr Benedikt Steiner
Senior Lecturer in Exploration and Mining Geology
University of Exeter

Dr Robert Fitzpatrick
Programme Director MSc Minerals Processing Lecturer in Mineral Processing
University of Exeter

Library Services

The Geological Society Library is a specialised research resource which holds a unique collection of geoscience books, maps and journals, dating from the 16th century to the present day

- Explore our extensive library and map collections through our library catalogue and discover our archives through the dedicated archives catalogue
- Access a wide range of e-books and e-journals
- Benefit from postal loans, digital document delivery from our own collections, or an inter-library loan from a worldwide network of libraries
- Find out about the latest research through our GeoRef search service
- Visit the library at Burlington House, browse the open shelves and study in our beautiful reading rooms
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Session 5 - Digital Geoscience

Digital Geoscience is a transformative and rapidly evolving field within geology that leverages technology and data analysis to enhance our understanding of the Earth's complex processes. Geologists now have access to an abundance of geospatial data, satellite imagery, remote sensing tools, and advanced modeling techniques that allow them to explore the Earth's dynamic systems with unprecedented detail and accuracy. Through the use of Geographic Information Systems (GIS), machine learning, and high-resolution imaging, digital geoscientists can create highly detailed 3D models of geological features, analyze seismic activity, study soil composition, and monitor environmental changes. This wealth of information aids in hazard assessment, resource exploration, and environmental management, providing crucial insights to address pressing global challenges.

In addition to its scientific applications, Digital Geoscience is vital for sustainable resource management and urban planning. It enables us to evaluate geological hazards, such as landslides and subsidence, that can impact infrastructure and human safety. Furthermore, it plays a key role in locating valuable resources like minerals, water, and energy reserves. The integration of data science and geology fosters interdisciplinary collaboration, allowing geoscientists to work hand-in-hand with environmental scientists, engineers, and policymakers to make informed decisions about land use, conservation, and disaster preparedness.

Meet the speakers

Jade Fawcett
GIS Technical Specialist
University of Manchester

Emma Mailey
Senior Engineering Geologist
AtkinsRéalis

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North West Regional Group

GSL Careers Fair

University of Manchester

The North West Regional Group of the Geological Society of London – Who We Are and What We Do

About Us: The NWRG covers the Cumbria, Cheshire, Lancashire, Greater Manchester and Merseyside areas and includes North Wales and parts of North Derbyshire. We aim to provide lectures, field trips and meetings, amongst other events, which count towards Continued Professional Development (CPD). We attract a wide range of professional geologists from industry and academia; from students to those now retired.

Lectures / Meetings: We aim to have at least eight meetings and / or lectures per year, including our AGM which includes a geologically themed pub quiz. Our other lectures typically involve guest speakers from a wide range of industry and academic backgrounds covering a broad range of fascinating earth science and engineering related topics.

Field trip attendees taking in a talk given during a tour of the Williamson Tunnels, Liverpool, 2024.

Field Trips: We host field trips all year round which recently have included trips to Alderley Edge Mines in Cheshire, Anglesey and Llandudno North Wales, The Williamson Tunnels in Liverpool and Lymm, with plans to run future trips to other localities both within and outside of the North West of the UK. The trips are run by the society with the valued support of knowledgeable speakers and guides who provide informative talks on the geology of the localities visited. **Getting Involved in the Committee:** We are always looking for enthusiastic members of the earth sciences community to join the committee so please get in touch if you would be keen to join the committee!

Photo of the lighthouse at South Stack, Anglesey, taken during our summer 2024 field trip to North Wales.

The Current Committee:

Chair – Rob Hunt

Secretary – Nick Smith

Treasurer – Marie Convery

Committee Members – Tom Woolley, Gabriella Manning, Carrie Hancock, Catarina Lima, Joe Foster, Phillip Morris.

Our LinkedIn:

https://www.linkedin.com/groups/2737408/

Visit to Pary's Mountain, Anglesey during our summer 2024 field trip to North Wales.

Enquiries and Suggestions: If you have any suggestions for future events you would like the NWRG to hold or if you require any further information please contact the group secretary, Nick Smith at: Geologicalsociety.northwest@gmail.com

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Thank you to our brilliant volunteer speakers & sponsors









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