

DR STEPHEN RIPPINGTON

Consultant and Research Geoscientist

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Core skills and interests:

- integrated interpretation of seismic, gravity, magnetic, well, satellite and field data
- structural geology
- tectonics and geodynamics
- petroleum geology
- remote fieldwork
- synthesis and review
- science communication

User of: ArcGIS, Petrel, Opendtect, XField, Global Mapper, MOVE.

DIRECTOR (ASTUTE GEOSCIENCE)

2015-PRESENT

Company Director, Manager and Consultant, providing integrated geological and geophysical interpretation services for oil exploration companies, service companies and governments.

HONORARY RESEARCH FELLOW (UNIVERSITY OF LEICESTER)

2015-PRESENT

Research on Atlantic Margins and Mongolia. Provide student support and advice. Involved in fostering closer industry/academia relations.

SENIOR GEOSCIENTIST (ARKEX)

2013-2015

Led multi-client interpretation services and provided technical consultations on the interpretation of FTG, gravity and magnetics for oil companies. Worked on strategic business development and technical marketing.

GEOLOGIST (CAMBRIDGE ARCTIC SHELF PROGRAMME)

2008-2013

Field-based structural geology and sedimentology, and lab-based geochemistry and geochronology research to constrain the geological evolution of the circum-Arctic.

PHD IN STRUCTURAL GEOLOGY (UNIV. OF LEICESTER)

2004-2007

Thesis Title: The crustal evolution of Nemegt and Altan Uul, southern Mongolia.

Field mapping and structural transecting; remote sensing image analysis, petrography, petrology, geomorphology, structural geology and tectonics.

M.GEOL IN GEOLOGY - 1ST CLASS HONS (UNIV. OF LEICESTER)

1999-2003

Thesis title: A tectonic evaluation of cleavage-transected folds in the Neoproterozoic-Cambrian rocks of Charnwood Forest, Leicestershire, UK

PEER-REVIEWED PUBLICATIONS

Rippington, S., Mazur, S., Warner, J., 2015. The crustal architecture of the Faroe–Shetland Basin: insights from a newly merged gravity and magnetic dataset, In Richards, F., Richardson, N., **Rippington, S.**, Wilson, W (Editors), Industrial Structural Geology: principles, techniques, and integration, Geological Society, London, Special Publications, 421.

Rippington, S., Cunningham, W.D., England, R.W., Hendrix, B., 2013. The crustal assembly of southern Mongolia: New structural, lithological and geochronological data from the Nemegt and Altan ranges, Gondwana Research.

Rippington, S., Cunningham, W D., England, R W., 2008, The structure and petrology of the Altan Uul ophiolite, Journal of the Geological Society, London, 165, 711-723.

TEACHING EXPERIENCE

ARKeX (2013-2015): Mentored junior members of staff and provided training in structural geology, petroleum geology and seismic interpretation.

CASP (2010): BSc supervisor for Chris Hachowski (Carleton University), including fieldwork supervision in the Arctic. Thesis title: "Geochemistry and Isotopic Analysis of Mafic Dykes from the Raanes Peninsula, Ellesmere Island, Nunavut, Canada."

CASP (2010): MSc supervisor for Dan Slidel (Royal Holloway University), including fieldwork supervision in the Arctic. Thesis title: "Sedimentological evolution of the Ordovician to Devonian strata of the Franklinian Basin, Raanes Peninsula, Ellesmere island."

St. John's College, University of Cambridge (2008): Supervised Part 1A Natural Science students (Geological maps, rock identification and scientific essay writing).

University of Leicester (2004-2007): Demonstrated to undergraduates during practical classes in mineralogy, igneous petrogenesis, geological mapping and structural geology (including structural field classes in Anglesey, UK).

AWARDS

2016: Awarded seed funding from the UK Government Exploration License Competition to undertake a multi-dataset review of the Rockall Trough, UKCS.

2006: Awarded student bursary from the Tectonic Studies Group to attend and present at EGU, Vienna.

2005: Awarded funding under the European Science Foundation COST Action-625 to attend the International School of Active Tectonics in Trieste, Italy.

2003: Awarded funding from the John Whittaker award at the University of Leicester, to aid funding of fieldwork in Rogerson Graben, Idaho.

PROFESSIONAL MEMBERSHIPS AND ACTIVITIES

2015-Present: Member of the Petroleum Exploration Society of Great Britain.

2008-Present: Fellow of the Geological Society of London (FGS).

October 2015: Abstract reviewer for potential field geophysics session at 2016 AAPG ICE, Barcelona.

December 2014: Session convener for Continental Volcanic Rifted Margins, American Geophysical Union Fall Meeting, San Francisco.

2012-2015: Volume editor for Industrial structural geology: principles, techniques and integration, Geological Society of London, Special Publication 421.

28-30th November 2012: Conference convener, Industrial structural geology: principles, techniques and integration at Burlington House, Geological Society, London.

2008-2012: Treasurer for the Tectonic Studies Group, Geological Society, London.

ADDITIONAL EXPERIENCE AND QUALIFICATIONS

2017: Training in 2D and 3D MOVE, provided by Midland Valley, Glasgow, UK.

2013: "Gravity and Magnetics for Explorationists" taught by Michal Ruder, Wintermoon Geotechnologies Inc.

2013: Petrel Fundamentals, short course taught by Schlumberger.

2009-2013: Part of development team for the integrated GIS digital field collection system at CASP.

2004-2007: Postgraduate representative on the computer committee for the Department of Geology, University of Leicester.

2003: Field assistant for a PhD student in Rogerson Graben, Idaho, USA.

CONFERENCE PRESENTATIONS

Ripington, S., 2016. An Exploration-focused Assessment of Interpretations and Data (EXAID): Rockall Trough. PETEX, Excel Centre, London, UK.

Ripington, S., 2016. The role of long-lived fault zones on rift structure in the North Atlantic and Barents Shelf. Wilson Cycle Conference, Geological Society of London, UK.

Ripington, S., Poujardieu, R., Liszczyk, A.M., and N. Dyer, 2015. Regional Structure of the Southeast Barents Sea - Applying FTG to Exploration Challenges in Frontier Areas, At European Association of Geoscientists and Engineers, 77th Conference and exhibition. Madrid, Spain.

Ripington, S., 2015. The application of broadband gravity data in frontier areas: de-risking exploration in the Southeast Barents Sea, At Finding Enough Oil and Gas in NW Europe, Finding Petroleum, Geological Society of London, UK.

Ripington, S., 2015. Using Broad Bandwidth Gravity Data measured by Full Tensor Gradiometry: Integration and Applications of FTG on the Southeast Barents Shelf, At Recent Advances in Exploration Technology & NCS Prospect Fair. Oslo, Norway.

Ripington, S., Warner, J., Rands, J and H. Herbert, 2014. Ireland's Atlantic Margin: An investigation of the Structure of Magma-rich and Magma-poor Margins using Gravity, Magnetic and Seismic Data, At American Geophysical Union Fall Meeting, San Francisco, USA.

*Mazur, S., **Ripington, S.** and P. Houghton, 2014. Magma-Assisted Continental Break-Up Encroached on Previously Stretched Continental Lithosphere – the NE Greenland Composite Passive Margin, At American Geophysical Union Fall Meeting, San Francisco, USA.

Ripington, S., Warner, J. and Rands, J, 2014. A new Tectonic Atlas of Ireland, Atlantic Ireland Conference. Dublin, Ireland.

Ripington, S., Mazur, S., and C. Anderson, 2014. The Crustal Architecture of the Faroe-Shetland Margin: insights from newly merged high resolution gravity and magnetic data, At European Geoscience Union AGM 2014. Vienna, Austria.

Mazur, S., **Ripington, S.**, Silva, M., Houghton, P, and Helwig, J., 2014. Deep crustal structure of magma-rich passive margin as revealed by the Northeast Greenland SPAN™ 2D seismic survey and airborne Full Tensor Gradiometry, At European Geoscience Union AGM 2014. Vienna, Austria.

*Smyth, H., **Ripington, S.**, and Huelse, P., 2014. Challenges and rewards of fieldwork in frontier hydrocarbon provinces: Canadian High Arctic, At Reducing Subsurface Uncertainty through Field-based studies. Geological Society of London, UK.

Ripington, S., H. Smyth, and R. A. Scott., 2012. The Eurekan Orogeny: a transpressional fold-and-thrust belt, At GeoHannover. Hannover, Germany.

Ripington, S., H. Smyth, and R. A. Scott., 2012. The Eurekan Orogeny: the tectonic culmination of the Sverdrup Basin, Canadian Arctic Islands, At Tectonic Studies Group AGM. Edinburgh, UK.

*Scott, R. A., **Ripington, S.**, Smyth, H. and A. G. Whitham., 2011. Caledonian and Ellesmerian tectonism in northern Greenland, and their implications for the Wandel Sea Basin, At 3P Arctic - The Polar Petroleum Potential. Nova Scotia, Canada.

Ripington, S., Smyth, H., and R. A. Scott., 2011. Ellesmerian tectonism in the Canadian Arctic Islands: the end of the Franklinian Passive Margin. At Tectonic Studies Group AGM. Durham, UK.

Ripington, S., Scott, R. A., Smyth, H., Bogolepova, O. K. and A. P. Gubanov., 2010. The Ellesmerian Orogeny: fact or fiction? At GeoCanada. Calgary, Alberta, Canada.

Ripington, S., Scott, R.A., Smyth, H. and S. R. A. Kelly., 2010. Polyphase deformation in the Lake Hazen region, at 82° north on Ellesmere Island: implications for the tectonic evolution of the High Arctic, At Tectonic Studies Group AGM. Birmingham, UK

Ripington, S., and R. A. Scott., 2009. Ellesmerian tectonism: a critical appraisal from a circum-Arctic perspective, At GSA Penrose Conference: "Tectonic development of the Amerasia Basin". Banff, Alberta, Canada.

Ripington, S., Cunningham, D., and R. W. England., 2006. Polyphase deformation and intraplate mountain building at the Nemegt Uul restraining bend in the Gobi Altai Mountains, Mongolia, At European Geoscience Union AGM 2006. Vienna, Austria.

Ripington, S., Cunningham, D., and R. W. England., 2005. Architecture and evolution of Nemegt Uul, Mongolia: polyphase deformation and intraplate mountain building at a restraining bend in the Gobi Altai Mountains, At Restraining and Releasing Bends. Geological Society of London, UK.

OUTREACH PRESENTATIONS

2018. "The Road to Consultancy" Careers Day Seminar. Department of Geography, Geology and the Environment, University of Leicester, UK.
2011. "Highs and Lows: the tectonic evolution of the Canadian Arctic Islands". Sedgewick Club Talk, University of Cambridge, UK.
2010. "Dances with Wolves: Geological Investigations in the Canadian Arctic". Cambridge Geology Club, Cambridge, UK.
2010. "CASP's 2009 Geological expedition to Lake Hazen, Quttinirpaaq National Park, Ellesmere Island". Talk given to Parcs Canada and the people of Iqaluit, Baffin Island, Nunavut, Canada.
2009. "Geological investigations in the Canadian Arctic: New insights from CASP fieldwork on Ellesmere & Axel Heiberg islands". Logan Club Lecture, Geological Survey of Canada, Ottawa, Canada.
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ARTICLES AND EDITORIALS

- Richardson, N. J., Richards, F. L., **Ripington, S.J.**, Bond, C. E and R. W. Wilson., 2015. Industrial structural geology: principles, techniques and integration: an introduction, Geological Society of London, Special Publications, 421.
- Ripington, S.**, and Anderson, C., 2015. New Perspectives on the Barents Sea, GeoExpro Magazine, 12, 42-44.
- Ripington, S.**, Dyer, N., Anderson, C., 2015. Barents Sea FTG, Offshore Engineer, January.
- Ripington, S.**, and Liszczyk, A.M., 2014. FTG survey helps derisk Barents Sea exploration, Hart Energy E&P, April.
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ASTUTE GEOSCIENCE PROJECTS

- Ripington, S.**, and R. Whittaker., 2017. 3D structural Development of the Loppa High, Barents Sea: Phase 2. Client withheld.
- Ripington, S.**, and Archer, T., 2017. Integrated interpretation of FTG, HRAM and seismic data for the BT-1 prospect, southern Mongolia. Client withheld.
- Ripington, S.**, and R. Whittaker., 2016. Structural Development of the Loppa High, Barents Sea. Client withheld.
- Ripington, S.**, 2016, An Exploration-Focussed Analysis of Interpretations and Data: Rockall Trough. Oil and Gas Authority, UK.
- Ripington, S.**, 2015. Review of the Geological Evolution of West Madagascar and the Davie Fracture Zone. Client withheld.

ARKEX PROJECTS

- Ripington, S.**, Murphy, F. and B. Spurgeon, 2015. Integration of FTG and geological datasets to interpret subsurface structure of the Papuan Fold Belt, Papua New Guinea. Proprietary project. Client withheld.
- Poujardieu, R., Murphy, F. and **S. Ripington.**, 2015, Interpretation of FTG data from Agadem, Niger. Proprietary project. Client withheld.
- Dutch, M. and **S. Ripington.**, 2015, Consultancy project using SE Barents FTG and additional gravity and magnetic data. Proprietary project. Client withheld.
- Warner, J. and **S. Ripington.**, 2015, An interpretation of ARKeX FTG data, southern Trinidad. Multiclient project.
- Ripington. S.**, 2015, Application of broadband gravity to exploration in the SE Barents, Norway. Consultancy project. Client withheld.
- Ripington. S.** and R. Poujardieu., 2014, An interpretation of ARKeX FTG data, SE Barents, Norway. Multiclient project.
- Ripington. S.**, 2014, Investigation of deep structural features in the SE Barents region, Norway. Consultancy project. Client withheld.
- Ripington. S.** and S. Mazur., 2014, A Tectonic Atlas of the West of Shetlands. Multiclient project. Mazur. S.,
- Ripington, S.**, and M. Silvia., 2013, An interpretation of ARKeX FTG data and ION GreenlandSPAN data over NE Greenland. Multiclient Project.

CASP REPORTS

Lopez-Mir, B., Morton, A.C., Hülse, P., Schneider, S., **Ripington, S.** and M. Biszczuk., 2015. Heavy mineral analyses of Late Triassic and Early Jurassic samples from the Sawtooth Range and Vendom Fiord, Ellesmere Island.

Lopez-Mir, B., Morton, A.C., Hyden, F.M., Kaye, M.N.D., Hülse, P., Schneider, S., **Ripington, S.** and M. Biszczuk., 2015. Petrography, heavy mineral and Rock Eval analyses of Cretaceous and Paleogene sediments from the Sawtooth Range and Vendom Fiord, Ellesmere Island.

Ripington, S., de Ronde, A.A. and M. Limoncelli., 2015. Vendom Fiord field report: structural and sedimentological data & observations.

Smyth, H., **Ripington, S.**, Whitham, A.G., Beranek, L., Kelly, S.R.A., Miles, N., Sinclair, S. and L. Walker., 2013. Lake Hazen Synthesis: Summary of field, geochemical and provenance data.

Ripington, S., Smyth, H., Morton, A.C., Scott, R.A., Kelly, S.R.A. and Walker, L., 2013. Raanes Peninsula Synthesis: Summary of field, geochemical & provenance data from the southeastern Sverdrup Basin.

Ripington, S., Smyth, H. and Scott, R.A., 2012. A Review of the Eurekan Orogeny. Scott, R.A., Ripington, S., Bogolepova, O., De Ronde, A.A. and B. P. H. Vautravers., 2011, Structural and tectonic evolution of Severnaya Zemlya.

Ripington, S., Smyth, H., Kaye, M.N.D., Marshall, J.E.A. and L. Walker., 2011. TOC and vitrinite reflectance analyses DATA RELEASE from Lake Hazen (Triassic-Paleocene) and the Raanes Peninsula (Silurian and Cretaceous), Ellesmere Island, Canadian Arctic Islands.

Smyth, H., **Ripington, S.**, Slidel, D., Kelly, S.R.A., Melchin, M., Sinclair, S. and B.P.H. Vautravers., 2011. Raanes Peninsula, Ellesmere Island: Fieldwork 2010 Literature review, CASP measured sections & microfossil identifications from the Franklinian & Sverdrup basins.

Ripington, S., Smyth, H., Sinclair, S. and B.P.H. Vautravers., 2011. Raanes Peninsula, Ellesmere Island: Fieldwork 2010 Structural transects around Troid Fiord and a GIS-based structural map review.

Smyth, H., **Ripington, S.**, Vautravers, B.P.H., de Ronde, A.A. and S. Sinclair, S., 2010. Raanes Peninsula, Ellesmere Island: Fieldwork 2010 Preliminary field report & GIS sample database (2010).

Scott, R.A., **Ripington, S.**, and Sinclair, S., 2010. Ellesmerian and Caledonian tectonism in northern Greenland, and their implications for adjacent basins: a GIS map and structural database.

Smyth, H., Kelly, S.R.A., **Ripington, S.**, Morton, A.C., Braham, B., Gregory, F.J., Jolley, D.W., Kaye, M.N.D., Marshall, J.E.A., Sinclair, S. and B.P.H. Vautravers., 2010. Slidre Fiord Review: Summary of field data, biostratigraphy & provenance data from the southeastern Sverdrup Basin.

Ripington, S., Scott, R.A., Smyth, H., Kelly, S.R.A., Vautravers, B.P.H. and S. Sinclair, S., 2010. Lake Hazen (Ellesmere Island) fieldwork 2009: Structural transects along the Gilman and Snow Goose Rivers.

Scott, R.A., Smyth, H., **Ripington, S.**, Kelly, S.R.A., Vautravers, B.P.H. and S. Sinclair, S., 2009. Lake Hazen (Ellesmere Island) fieldwork 2009: initial field report and GIS sample database. Ripington, S., Scott, R.A. and Sinclair, S., 2009, A circum-Arctic zircon database – 3.

Smyth, H., **Ripington, S.** and A. Carter., 2009. New U-Pb detrital zircon ages from the Sverdrup Basin: Data release.

Ripington, S., Scott, R.A., Sinclair, S. and B.P.H. Vautravers., 2009. Ellesmerian tectonism on Svalbard: a GIS map and database of structures.

Ripington, S. and R.A. Scott., 2008. The Late Devonian to Early Carboniferous tectonostratigraphy of the Arctic Caledonides: Evidence for the Ellesmerian Orogeny.

Smyth, H., **Ripington, S.**, Vautravers, B.P.H. and S. Sinclair., 2008. Preliminary Field Report, including photographs & sample details.

Meinhold, G., **Ripington, S.**, Sinclair, S. and B.P.H. Vautravers., 2008. A North Africa zircon age database.

Ripington, S., Omma, J.E., Scott, R.A. and S. Sinclair., 2008. A circum-Arctic zircon database – 2.