

## **Prof. MARK R. COOPER FGS, GGeol**

**Google Scholar - Citations: 488, H index: 12, i10 index: 16 (as of 23-01-18)**

### **Scientific Peer Reviewed Papers:**

#### **In prep, submitted, under review and correction:**

33. ROBERSON, S., **COOPER, M.**, DAVIS, B. & HUGHES, D. (in prep). Physical properties of tills derived from contrasting parent lithology. **Engineering Geology**.
32. HOLLIS, S.P., **COOPER, M.R.**, CONDON, D.J., ROBERTS, S., DALY, J.S., HERRINGTON, R.J. & EARLS, G. (in prep). Evolution of the Tyrone arc system during the Grampian orogeny: field, geochemical, U-Pb zircon and isotope (Sr, Nd) constraints from the Irish Caledonides. **Journal of Petrology**
31. **M. R. COOPER** & D. DOHERTY (in prep). Pulsed magma injection into the Portrush Sill Northern Ireland to account for pseudo-sedimentary structures in it and extreme contact metamorphism of enclosing bedding planes. **Journal of Petrology**.
30. **MARK R. COOPER**, JOHN G. KELLY, LES BROWN, KYLE HUNTER & PAUL WILSON, (in prep). Geological Controls on Turlough Formation and Operation, Co. Fermanagh, Northern Ireland. **Quarterly Journal of Engineering Geology and Hydrogeology**.
29. CHARLIE KIRKWOOD, **MARK COOPER**, ANTONIO FERREIRA, DAVID BEAMISH (under correction). Unmixing and mapping components of Northern Ireland's geochemical composition using FastICA and Random Forest. **International Journal of Applied Earth Observation and Geoinformation**.
28. HUGH ANDERSON, JOHN J. WALSH & **MARK R. COOPER** (under correction). The geometry and growth of Palaeogene conjugate strike-slip faults in the north of Ireland; the far-field effects of Alpine collision. **Journal of Structural Geology**.
27. MERRITT, J., ROBERSON, S. & **COOPER, M.** (under correction). Subglacial deposition, deformation and erosion beneath a grounded ice sheet in the Irish Sea Basin followed by glaciomarine sedimentation and glacial readvance: A reappraisal of coastal exposures between Kilkeel and Derryoge, Northern Ireland. **Proceedings of the Geological Association**.
26. **M. R. COOPER**, S. BENETTI, S. P. HOLLIS, I.D. SOMERVILLE, J. S. DALY AND I. MEIGHAN (under correction). Onshore provenance of clasts from offshore glacial deposits, NW Irish continental margin.
25. **COOPER, M.R.**, NI LAUCHRAIN, C., ROBERSON, S. L., MEIGAN I. & LEMON, K. (under correction). Geoarchaeology of the Ballynoe Stone Circle, Northern Ireland. **Archaeological Sciences**.

#### **Published/In Press:**

24. HERRINGTON, R.J., HOLLIS, S.P., **COOPER, M.R.**, TAPSTER, S., STOBBS, I., RUSHTON, A., MCCONNELL, B., & JEFFRIES, T. **2018**. Age and geochemistry of the

Charlestown Group, Ireland: implications for the Grampian orogeny, its mineral potential and the Ordovician timescale. **Lithos**.

23. P. E. ANDERSON, C. T. STEVENSON, **M. R. COOPER**, I. G. MEIGHAN, C. HURLEY, R. J. REAVY J. INMAN, & R. M. ELLAM **2017**. Refined model of incremental emplacement based on structural evidence from the granodioritic Newry igneous complex, Northern Ireland. **Geological Society of America Bulletin**.

22. **M. R. COOPER** & V. R., TROLL AND K., LEMON **2017**. The 'Clay-with-Flints' deposit in Northern Ireland: reassessment of the evidence for an early Palaeocene ignimbrite. **Geological Magazine**.

21. P. E. ANDERSON, **M. R. COOPER**, C. T. STEVENSON, A. R. HASTIE, M. HOGGETT, J. INMAN, I. G. MEIGHAN, C. HURLEY, R. J. REAVY & R. M. ELLAM **2016**. Zonation of the Newry Igneous Complex, Northern Ireland, based on geochemical and geophysical data. **Lithos**.

20. HOLLIS, S.P., **COOPER, M.R.**, HERRINGTON, R., ROBERTS, S., EARLS, G., VERBEETEN, A., PIERCEY, S.J. & ARCHIBALD, S.M. **2015**. Distribution, mineralogy and geochemistry of silica-iron exhalites and related rocks from the Tyrone Igneous Complex: implications for VMS mineralization in Northern Ireland. **Journal of Geochemical Exploration**.

19. J. M. MCKINLEY, C.V. DEUTSCH, C. NEUFELD, M. PATTON, **M. COOPER**, & M. E. YOUNG **2014**. Using geostatistical Bayesian Updating to integrate airborne radiometrics and soil geochemistry to improve mapping for mineral exploration. **Journal of the Southern African Institute of Mining and Metallurgy**.

18. JENNIFER M. MCKINLEY, SAM ROBERSON, **MARK COOPER**, RAIMON TOLOSANA-DELGADO **2014**. Discriminant Analysis of Palaeogene Basalt Lavas, Northern Ireland, Using Soil Geochemistry. **Mathematics of Planet Earth**, Lecture Notes in Earth System Sciences.

17. HOLLIS, S. P., ROBERTS, S., EARLS G., HERRINGTON R., **COOPER, M.R.**, PIERCEY, S. J. , ARCHIBALD, S. M. & Moloney, M. **2014**. Petrochemistry and hydrothermal alteration within the Tyrone Complex, Northern Ireland: implications for VMS mineralization in the British and Irish Caledonides **Mineralium Deposita**. 49, Issue 5, 575-593.

16. HOLLIS, S. P., **COOPER, M.R.**, ROBERTS, S., EARLS G., HERRINGTON, R & CONDON, D. J. **2013**. Stratigraphic, geochemical and U–Pb zircon constraints from Slieve Gallion, Northern Ireland: a correlation of the Irish Caledonian arcs. **Journal of the Geological Society, London**. 170, 737-752. doi: 10.1144/jgs2012-104

15. HOLLIS, S. P., **COOPER, M.R**, ROBERTS, S., EARLS G., HERRINGTON, R & CONDON, D. J. **2013**. Evolution of the Tyrone ophiolite, Northern Ireland, during the Grampian–Taconic orogeny: a correlative of the Annieopsquotch Ophiolite Belt of central Newfoundland? **Journal of the Geological Society, London**, 170 (6), 861-876.

14. **COOPER, M. R.**, CROWLEY, D. J., HOLLIS, S. P., NOBLE, S. R, & HENNEY, P. **2013**. A U-Pb age for the Late Caledonian Sperrin Mountains minor intrusions suite in the north of Ireland: timing of slab break-off in the Grampian terrane and the significance of deep-seated,

crustal lineaments. *Journal of the Geological Society, London*. 170, 603-614.

13. MICHAEL DEMPSTER, PAUL DUNLOP, ANDREAS SCHEIB & **MARK COOPER 2013**. Principal Component Analysis of Geochemistry of Soils Developed on Till in Northern Ireland. *Journal of Maps*. doi:10.1080/17445647.2013.789414

12. HOLLIS, S. P., ROBERTS, S., **COOPER, M.R**, CONDON, D. J., EARLS G., HERRINGTON, MATTHEW, R, COOPER, 1., ARCHIBALD, S. M. & PIERCEY, S. J. **2012**. Episodic arc-ophiolite emplacement and the growth of continental margins: Late accretion in the Northern Irish sector of the Grampian-Taconic orogeny. *Geological Society of America Bulletin*, v. 124, no. 11-12, p. 1702-1723. doi: 10.1130/B30619.1

11. **COOPER, M. R**, ANDERSON, H., WALSH, J. J., VAN DAM, C. L., YOUNG, M. E., EARLS, G. & WALKER, A. **2012**. Palaeogene Alpine tectonics and Icelandic plume-related magmatism and deformation in Ireland. *Journal of the Geological Society, London*, 169; p. 29-36. doi: 10.1144/0016-76492010-182.

10. LEDEVIN, M., ARNDT, N., **COOPER, M. R**, EARLS, G., LYLE, P., AUBOURG, C., & LEWIN, E. **2011**. Intrusion history of the Portrush Sill, County Antrim, Northern Ireland: evidence for rapid emplacement and high-temperature contact metamorphism. *Geological Magazine*, Vol. 149; 1 p. 67-79. doi:10.1017/S0016756811000537.

9. FETTES, D.J., MACDONALD, R, FITTON, J.G., STEPHENSON, D. & **COOPER, M. R. 2011**. Geochemistry of Dalradian metavolcanic rocks: implications for the breakup of the Rodinia supercontinent. *Journal of the Geological Society, London*. 168; p. 1133-1146. doi: 10.1144/0016-76492010-161.

8. **COOPER, M. R**, CROWLEY, Q. G., HOLLIS, S. P., NOBLE, S. R., ROBERTS, S., CHEW, D. M., MERRIMAN, R. J., EARLS, G. & HERRINGTON, R. **2011**. Age constraints and geochemistry of the Ordovician Tyrone Igneous Complex, Northern Ireland: implications for the Grampian orogeny. *Journal of the Geological Society, London*, Vol. 168; p. 837-850. doi: 10.1144/0016-76492010-164.

7. LUSTY, P. A J., GUNN, A.G., MCDONNELL, P. M., CHACKSFIELD, B. C., **COOPER, M. R.** & EARLS, G. **2009**. Gold potential of the Dalradian rocks of northwest Northern Ireland: prospectivity analysis using Tellus data. *Applied Earth Science: IMM Transactions section B*, Volume 118, Numbers 3-4, pp. 162-177.

6. McFARLANE, J. A S., **COOPER, M. R.** & CHEW, D. M. **2009**. New geological and geophysical insights into the Dalradian Lack Inlier, Northern Ireland: Implications for lithostratigraphy and gold mineralisation. In: *IAEG Annual Review*.

5. CHEW, D.M., FLOWERDEW, M.J., PAGE, L.M., CROWLEY, Q.G., DALY, J.S., **COOPER, M. R.** & WHITEHOUSE, M.I. **2008**. The tectonothermal evolution and provenance of the Tyrone Central Inlier, Ireland: Grampian imbrication of an outboard Laurentian microcontinent? *Journal of the Geological Society, London*, 165, 675-685.

4. **COOPER, M. R.**, CROWLEY, Q. G. & RUSHTON, A W. A. **2008**. New age constraints for the Ordovician Tyrone Volcanic Group, Northern Ireland. *Journal of the Geological Society London*, Vol. 165; p. 333-340. doi: 10.1144/0016-76492007057

3. **COOPER M.R.**, EVANS J., FLINT S.S., HOGG A. J.C. AND HUNTER R.B. **2000**: Quantification of detrital, authigenic and porosity components of the Fontainebleau

Sandstone: a comparison of conventional optical and scanning electron microscope-based methods of modal analyses. In: Quartz cementation in Sandstones, **Special publication Number 29 of the International Association of Sedimentologists**. Edited by R.B. Worden and S. Morad. 89-101.

2. MITCHELL W.I., **COOPER M.R.**, HARDS, V. AND MEIGHAN, I.G., **1999**: An occurrence of silicic volcanic rocks in the early Palaeogene Antrim Lava Group of Northern Ireland. **Scottish Journal of Geology**, Vol. 35, (2), 179-185.

1. **COOPER M.R.** AND HUNTER R.H. **1995**: Precision serial lapping, imaging and three-dimensional reconstruction of minus-cement and post-cementation intergranular pore-systems. **Mineralogical Magazine**, Vol. 59, pp. 213-220.

### **Geological Textbooks and Chapters:**

16. HOLLIS, S.P., **COOPER, M.R.**, EARLS, G., ROBERTS, S., HERRINGTON, R.J. AND PIERCEY, S.J., **2016** 'Using Tellus data to enhance targeting of volcanogenic massive sulphide mineralisation in the Tyrone Igneous Complex' in M.E. Young (ed.), **Unearthed: impacts of the Tellus surveys of the north of Ireland**. Dublin. Royal Irish Academy. 157-168

15. Palumbo-Roe, B. Ander, E.L., Cave, M.R., Johnson, C.C. and **Cooper, M.R.** **2016** 'Stream sediment background concentrations in mineralised catchments from Northern Ireland: assessment of "pressures" on water bodies in fulfilment of Water Framework Directive objectives' in M. E. Young (ed.), **Unearthed: impacts of the Tellus surveys of the north of Ireland**. Dublin. Royal Irish Academy, 293-302.

14. DEMPSTER, M., **COOPER M.R.**, DUNLOP, P. and SCHEIB, A. J. **2016** 'Using soil geochemistry to investigate gold and base metal distribution and dispersal in the glaciated north of Ireland' in M. E. Young (ed.), **Unearthed: impacts of the Tellus surveys of the north of Ireland**. Dublin. Royal Irish Academy, 89-99.

13. **COOPER, M. R.**, FLOYD, J. D., BARKER G. J., TURE, M. D., HODGSON, J. A., McCONNELL, B. J. & WARKE, M. R., **2016** 'The geological significance of electrical conductivity anomalies of the Ordovician—Silurian Moffat Shale Group, Northern Ireland' in M. E. Young (ed.), **Unearthed: impacts of the Tellus surveys of the north of Ireland**. Dublin. Royal Irish Academy, 169-178.

12. **COOPER, M. R.**, ANDERSON, P., CONDON, D. J., STEVENSON, C.T.E., ELLAM, R.M., MEIGHAN, I. G. and CROWLEY, Q. G., **2016** 'Shape and intrusion history of the Late Caledonian, Newry Igneous Complex, Northern Ireland' in M. E. Young (ed.), **Unearthed: impacts of the Tellus surveys of the north of Ireland**. Dublin. Royal Irish Academy, 145-155.

11. Anderson, H., Walsh, J.J. and **Cooper, M.R.**, **2016** 'Faults, intrusions and flood basalts: the Cenozoic structure of the north of Ireland' in M. E. Young (ed.), **Unearthed: impacts of the Tellus surveys of the north of Ireland**. Dublin. Royal Irish Academy, 179-189.

10. **COOPER, M.R.** & MITCHELL, W.I. **2013**. Geology. In: A guide to the Tellus data. Young,

M. E. & Donald A.W. (eds), Geological Survey of Northern Ireland, Belfast. 5-20.

9. MITCHELL, W.I., **COOPER, M.R.**, McKEEVER, P.J., & McCONNELL, B. **2010**. Classic Geology of the North of Ireland. Geological Survey of Northern Ireland, Belfast.

8. GEOLOGICAL SURVEY OF NORTHERN IRELAND **2004**. The Geology of Northern Ireland - Our Natural Foundation. Mitchell, W. I. (ed.). (Second Edition), Geological Survey of Northern Ireland, Belfast.

7. **COOPER, M.R.** & JOHNSTON, T.P. **2004**. Chapter 2, Central Highlands (Grampian) Terrane - Metamorphic Basement. In: The Geology of Northern Ireland - Our Natural Foundation. Mitchell, W. I. (ed.). (Second Edition), Geological Survey of Northern Ireland, Belfast. 9-24.

6. **COOPER, M.R.** & MITCHELL, W.I. **2004**. Chapter 3, Midland Valley Terrane. In: The Geology of Northern Ireland - Our Natural Foundation. Mitchell, W. I. (ed.). (Second Edition), Geological Survey of Northern Ireland, Belfast. 25- 40.

5. **COOPER, M.R.** & JOHNSTON, T.P; **2004**. Chapter 5, Late Palaeozoic Intrusives. In: The Geology of Northern Ireland - Our Natural Foundation. Mitchell, W. I. (ed.). (Second Edition), Geological Survey of Northern Ireland, Belfast. 61-68.

4. **COOPER, M.R.** **2004**. Chapter 14, Palaeogene Extrusive Igneous Rocks. In: The Geology of Northern Ireland - Our Natural Foundation. Mitchell, W. I. (ed.). (Second Edition), Geological Survey of Northern Ireland, Belfast. 167-178.

3. **COOPER, M.R.** & JOHNSTON, T.P. **2004**. Chapter 15, Palaeogene Intrusive Igneous Rocks. In: The Geology of Northern Ireland - Our Natural Foundation. Mitchell, W. I. (ed.). (Second Edition), Geological Survey of Northern Ireland, Belfast. 179-198.

2. **COOPER, M.R.** & McCONVEY, P. **2004**. Chapter 20, Hydrogeology. In: The Geology of Northern Ireland - Our Natural Foundation. Mitchell, W. I. (ed.). (Second Edition), Geological Survey of Northern Ireland, Belfast. 249-254.

1. **COOPER, M.R.** **2004**. Chapter 23, Geohazards. In: The Geology of Northern Ireland - Our Natural Foundation. Mitchell, W. I. (ed.). (Second Edition), Geological Survey of Northern Ireland, Belfast. 291-298.

### **Geological Models and Maps:**

16. Bedrock Geology of the United Kingdom and Ireland **2017**. British Geological Survey, Nottingham.

15. UK3D\_v**2015** bedrock model Northern Ireland (Region 20).

14. Mineral Resource Map of Northern Ireland **2012** - County Armagh. PITFIELD, P.E.J., MANKELOW, J.M., **COOPER, M.R.**, CAMERON, D.G., LUSTY, P.A.J., SHAW, RA. AND LINLEY, K.A. OR/12/019.

13. Mineral Resource Map of Northern Ireland **2012** - County Down and Belfast County Borough PITFIELD, P.E.J., MANKELOW, J.M., **COOPER, M.R.**, CAMERON, D.G., LUSTY, P.A.J., SHAW, RA. AND LINLEY, K.A. OR/12/018.

12. Mineral Resource Map of Northern Ireland **2012** - County Antrim and Belfast County



Borough. LUSTY, P.A.J., MANKELow, J.M., **COOPER, M.R.**, CAMERON, D.G., PITFIELD, P.E.J., SHAW, RA. AND LINLEY, K.A. OR/12/017.

11. Mineral Resource Map of Northern Ireland **2012** - County Londonderry and Londonderry County Borough. PITFIELD, P.E.J., MANKELow, J.M., **COOPER, M.R.**, SHAW, RA. LUSTY, P.A.J., CAMERON, D.G., AND LINLEY, K.A. OR/12/016.

10. Mineral Resource Map of Northern Ireland **2012** - County Fermanagh. SHAW, R.A., MANKELow, J.M., **COOPER, M.R.**, CAMERON, D.G., LUSTY, P.A.J., PITFIELD, P.E.J AND LINLEY, K.A. OR/12/015.

9. Mineral Resource Map of Northern Ireland **2012** - County Tyrone. SHAW, R.A., PITFIELD, P.E.J., MANKELow, J.M., **COOPER, M.R.**, LUSTY, P.A.J., CAMERON, D.G. AND LINLEY, K.A. OR/12/014.

8. **COOPER, M. R.**, LESLIE, G., MCCONNELL, B., ARKLEY, S. L. B., MATHERS, S. J., WOOD, B., & KESSLER, H. **2011**. A 3D Crustal-scale, geological Model of the north of Ireland - VI, GSNI, Belfast.

7. GEOLOGICAL SURVEY OF NORTHERN IRELAND **2008**. Newtownstewart. Northern Ireland sheet 25. Bedrock Geology. 1:50000 (Keyworth, Nottingham; British Geological Survey).

6. GEOLOGICAL SURVEY OF NORTHERN IRELAND **2008**. Newtownstewart. Northern Ireland sheet 25. Bedrock and Superficial Geology. 1:50 000 (Keyworth, Nottingham; British Geological Survey).

5. GEOLOGICAL SURVEY OF NORTHERN IRELAND **2007**. Dungiven. Northern Ireland sheet 18. Bedrock Geology. 1:50 000 (Keyworth, Nottingham; British Geological Survey).

4. GEOLOGICAL SURVEY OF NORTHERN IRELAND **2007**. Dungiven. Northern Ireland sheet 18. Bedrock and Superficial Geology. 1:50 000 (Keyworth, Nottingham; British Geological Survey).

3. GEOLOGICAL SURVEY OF NORTHERN IRELAND **2001**. Ballymena. Northern Ireland sheet 20. Solid and Drift Geology. 1:50 000 (Keyworth, Nottingham; British Geological Survey).

2. GEOLOGICAL SURVEY OF NORTHERN IRELAND **1998**: Causeway Coast Solid Geology (Third Edition) 1:50 000 (Keyworth, Nottingham; British Geological Survey).

1. GEOLOGICAL SURVEY OF NORTHERN IRELAND **1997**: Northern Ireland Solid Geology (Second Edition) 1:250 000 (Keyworth, Nottingham; British Geological Survey).

### **BGS/GSNI Technical Reports:**

4. WATERS, C. N. TERRINGTON, R., **COOPER, M. R.**, RAINE, R. B. & THORPE, S. **2015**. The construction of a bedrock geology model for the UK: UK3D\_v2015. British Geological Survey Report, OR/15/069 22pp.

3. SCHEIB A J, DUNLOP P AND **COOPER M R 2010**. Investigating glacial sediment provenance in Northern Ireland using principal component analysis of Tellus soil geochemical data. British Geological Survey Report OR/10/017.

2. GEOLOGICAL SURVEY OF NORTHERN IRELAND **2001**. Sand and Gravel Resource Maps and report for the Strabane and Omagh LGDs. Planning Documents on behalf of DoENI. GSNI, Belfast.

1. **COOPER M.R. & JOHNSTON T.P. 2000**: Caledonian Igneous Complexes of Northern Ireland. Earth Science Conservation Review on behalf of DoENI. GSNI technical report.

### **Awards:**

8. **Award for best postgraduate presentation**. MICHAEL DEMPSTER, PAUL DUNLOP, **MARK COOPER**, & ANDREAS SCHEIB. **2012**. A geochemical approach to glacial sediment provenance in Northern Ireland. IQUA Spring Meeting, Queen's University of Belfast.

7. **GOLD MEDAL and runner up best postgraduate poster**. S. HOLLIS, **M. COOPER**, S. ROBERTS, G. EARLS, D. CONDON AND R. HERRINGTON. **2012**. Evolution and emplacement of the Northern Irish, Tyrone Ophiolite during the Grampian-Tectonic phase of the Caledonian-Appalachian orogen. 55th Irish Geological Research Meeting & Lithosphere Workshop.

6. **GOLD MEDAL and best undergraduate poster**. C. NI LUACHRAIN, I. MEIGHAN, **M. COOPER**, A. BURL & A. DONALD. **2012**. Preliminary Geoarchaeology of the Late Neolithic - Early Bronze Age Ballynoe Stone Circle, Northern Ireland: geological stone provenance and feedback into glacial flow paths. 55th Irish Geological Research Meeting & Lithosphere Workshop.

5. **SILVER MEDAL graduate poster**. J. INMAN, P. ANDERSON, **M. COOPER**, D. CONDON, Q. CROWLEY, I. MEIGHAN & C. STEVENSON. **2012**. New insights into the emplacement of the Seeconnell Complex within the Newry Igneous Complex, Northern Ireland. 55th Irish Geological Research Meeting & Lithosphere Workshop.

4. **JUDGES COMMENDATION for poster**. J. INMAN, P. ANDERSON, **M COOPER**, D. CONDON, Q. CROWLEY, I. MEIGHAN & C. STEVENSON. **2012**. New insights into the emplacement of the intermediate-ultramafic Seeconnell Complex within the Newry Igneous Complex, Northern Ireland. Volcanic & Magmatic Studies Group Meeting, Durham.

3. **JUDGES COMMENDATION for poster**. S. HOLLIS, S. ROBERTS, G. EARLS, R. HERRINGTON, **M.R. COOPER**, S.M. ARCHIBALD & S.J. PIERCY. **2011**. Volcanogenic massive sulphide exploration within County Tyrone, Northern Ireland. 54th Irish Geological Research Meeting, Galway.

2. **GEOGRAPHICAL ASSOCIATION PUBLISHERS AWARD Highly Commended 2010**. 'Climate through time' poster (2009). Poster has now been incorporated into the new specification for the **OCR "21st Century Science" GCSE syllabus**.

1. **INVITATION TO BUCKINGHAM PALACE to meet the Queen** as 'One of the UK's Outstanding Young People' **1998**.

### **Successful Research Funding Applications and Collaborations:**

9. NERC CASE PhD **2017**. University of Leeds.

8. GSI Short Call Award **2015**. £10K for all Ireland Quaternary map.

7. NIGFSC Research Grant **2015**. £70K for isotopic dating.
6. GSI Short Call Award **2013**. £20K for Tellus Border research, University of Ulster.
5. NIGFSC Research Grant **2011**. £30K for isotopic dating.
4. DEL PhD **2010-13**, University of Ulster.
3. NERC PhD **2010-13**, University of Birmingham/University of Glasgow (SUERC).
2. BUFI/PAD PhD, **2008-2011**, University College Dublin.
1. BUFI PhD **2008-2011**, University of Southampton.

### **Completed Research and Undergraduate Student Theses:**

10. Anderson, P. **2015**. Unpublished **PhD** thesis, Birmingham University, UK.
9. Dempster, M. **2014**. Soil geochemistry applied as a proxy for till geochemistry in the northern sector of the Irish Ice Sheet: provenance, dispersal patterns and drift prospecting. Unpublished **PhD** thesis, University of Ulster, UK.
8. Anderson, H. **2014**. Cenozoic Faulting in North-East Ireland and the Irish Sea. Unpublished **PhD** thesis, University College Dublin, Ireland.
7. Warke, M. **2013**. Fault bounded tracts of the Southern Uplands-Down-Longford terrane as exposed in counties Down and Armagh, Northern Ireland. **BSc** Geology Honours Degree, University of St Andrews, March **2013**.
6. Stobbs I. **2013**. The Charlestown Inlier, Co. Mayo: mineralisation, geochemistry and regional correlation with allochthonous Caledonian island arcs across Ireland. Unpublished **MSci** thesis, Imperial College, UK.
5. Hollis, S.P. **2012**. Evolution and mineralization of volcanic arc sequences: Tyrone Igneous Complex, Northern Ireland. Unpublished **PhD** thesis, University of Southampton, UK.
4. Parker, K. **2012**. The relationship between the geomorphological and hydrogeological factors which influence landslides on the eastern margin of the Antrim Plateau and the implications of the management of the effects and risks posed. Open University, **BSc** Project Module SXG390, September 2012.
3. B Lemann, **2011**. Caracterisations de la source des magmas de la Province Ignee Nord Atlantique. **Master** de 2eme annee, Sciences de la Terre de l'Univers et de l'Environnement, specialite Terre Solide.
2. M. Ledavin, **2009**. Interaction magma-sediment et impact environnemental d'une intrusion doleritique Antrim, Irlande du Nord. **Master** de 2eme annee, Sciences de la Terre de l'Univers et de l'Environnement, specialite Terre Solide.
1. R. Boyle, **2007**. Towards the creation of a Glacial Landform GIS for Ireland: a discussion and review of methodologies. **MSc**, Faculty of Life and Health Sciences, University of Ulster.

### **PhD Thesis examined:**

1. Southall, D. **2012**. Characteristics and age of rock-slope failures on the western edge of



the Antrim Plateau. University of Ulster. PhD awarded.

### **Conference Abstract Volumes and Fieldtrips Led:**

16. Mineral Exploration in the Sperrin Mountains. Presentation and fieldwork leader for Leeds University undergraduate fieldtrip, March **2017**.
15. Roberson, S., Barr, I. and **Cooper M. (eds) 2016**. The Quaternary Glaciation of the Mourne Mountains Field Guide, Quaternary Research Association.
14. Mineral Exploration in the Sperrin Mountains. Presentation and fieldwork leader for Leeds University undergraduate fieldtrip, March **2016**.
13. Geological Society Engineering Group field excursion 5-7<sup>th</sup> June **2015**. Presentation and field excursion leader.
12. IGRM, **2015**. Co-organiser 58<sup>th</sup> Irish Geological Research Meeting, Belfast.
11. Mineralisation of the Tyrone Igneous Complex. Field excursion leader for Leicester University student SEG, April **2014**.
10. Mineral Exploration in the Sperrin Mountains. Presentation and fieldwork leader for Leeds University undergraduate fieldtrip, March **2014**.
9. Basic Bedrock and Superficial deposits. Training workshop and field excursion leader for NIEA, March **2013**.
8. Mineral Exploration in the Sperrin Mountains. Presentation and fieldwork leader for Leeds University undergraduate fieldtrip, March **2013**.
7. Geology of County Antrim. Excursion leader for Conjugate Margins Dublin, preconference fieldtrip, August **2012**.
6. Leeds, **2012**. 'Mineral Exploration and Environmental Geology in the Sperrin Mountains.' Fieldwork leader for Leeds University undergraduate fieldtrip.
5. Leeds, **2011**. 'Mineral Exploration and Environmental Geology in the Sperrin Mountains.' Fieldwork leader for Leeds University undergraduate fieldtrip.
4. VMSG, **2010**. 'In the Footsteps of Giants: Irish Legends and Palaeogene Magmatism.' Fieldtrip leader.
3. GSNI, **2010**. 'Classic Geology of the North of Ireland Field Camp.' Fieldwork leader for Carlton University, Ottawa undergraduate fieldtrip.
2. **COOPER, M. R**, CHEW, D. M., CROWLEY, Q. G., DALY, J. S. & FLOWERDEW M. J. **2009**. "Ophiolite generation, arc volcanism, metamorphism and terrane accretion along the Fair Head - Clew Bay line." Highland Workshop Abstracts & Field Guide. GSNI, Belfast.
1. **COOPER, M. R**, & MOLES N. **1997**. 40th Irish Geological Research Meeting. Programme and abstracts volume. GSNI, Belfast.

### **Outreach - Science Publications & Activities:**

14. **The Geological Society**. Vice Chair of Northern Ireland Regional Group committee.
13. **President of Belfast Geologists' Society 2015/16 & 2016/17**.
12. **BBC Radio Ulster**. Interview and article related to REEs in Mourne, December **2014**.
11. **GeoSocNI**. A potted geology of Northern Ireland. Lunchtime lecture series, November **2014**.
- 10 **SEG**. The role of deep crustal lineaments. Presentation to Leeds University Student Chapter November **2014**.
9. **The Geological Society**, Northern Ireland Regional Group committee member.
8. **Royal Geographical Society**. Presentation Between rocks and hard places: a visualisation of Northern Ireland's geology , Belfast. September **2014**
7. **BBC 1 Countryfile**. Gold in the Sperrins. August **2014**.
6. **UTV Business News Roundup** interview related to Tellus Border Results and Research Conference. October **2013**.
5. **Capital 1 Radio** interview related to Tellus Border Results and Research Conference. October **2013**.
4. LESLIE G, **COOPER M. R.** & MCCONNELL B. **2013**. Solid Achievement. **Geoscientist Magazine**, Feature Article, April, 10-15.
3. MANKELOW J., **COOPER M. R.** & IRWIN K. **2012**. The New Mineral Resources Map of Northern Ireland. In **QUARRY'12**, QPANI, 40-42.
2. MEADE, F., TROLL, V., CHEW, D., MEIGHAN, I., **COOPER, M.** & EMELEUS, H. **2010**. Caldera Controversy at the Ring of Gullion, County Down. **Earth Science Ireland** 8, 12-15.
1. **COOPER M.R. 1998**: Foundations of science: engineering geology reports and databases. **The Irish Scientist Year Book 1998**. Samton. Dublin.

#### **Outreach - Popular Publications:**

18. **Marble Arch Caves Global Geopark map**– exploring the landscape of Fermanagh and Cavan
17. **Spurs of Rock** – a visitor's guide to the geology of the eastern Sperrins. Sperrins Gateway and GSNI.
16. **From Rocks to Ridges 2015**. the formation of the mountain landscapes of the north of Ireland. Leaflet for walkers and climbers for Mountaineering Ireland in collaboration with GSNI and University of Ulster.
15. **COOPER M. R. 2013**. Ammonite. Poem. **Earth Science Ireland**, 12.
14. **COOPER M. R. 2013**. Ammonite. Poem published in **Community Arts Partnership Poetry Anthology**, Belfast.
14. **COOPER M. R. 2016**. Early Glow. **Earth Science Ireland**, 18, p 2.

13. KELLY, C, **COOPER, M** & MCKEEVER, P. **2012**. Rockin' the Causeway Coast and Glens Visitors Guide to the Geology of the Causeway Coast & Glens. *Causeway Coast and Glens Heritage Trust*.
12. **COOPER M. R. 2012**. Portrush Rocks. Volcano Live guide. *Radio Times*, 7-13 July, P.22-23.
11. **COOPER M. R. 2012**. The Giant's Causeway. Volcano Live guide. *Radio Times*, 7-13 July, P.20-21.
10. **COOPER M. R. & DONALD A. 2012**. Palaeo-globe exhibit, **Giant's Causeway Centre**.
9. **COOPER M.R. 2012**. Inheritance. Poem published on *Geological Society of London website: <http://www.geolsoc.org.uk/>*
8. **COOPER M.R. 2012**. Revelations. Poem published on *Geological Society of London website: <http://www.geolsoc.org.uk/>*
7. **COOPER M. R. 2012**. Tread Polished Layers. *Earth Science Ireland*, 11, p 37.
6. KING, M., MEIGHAN, I., **COOPER, M.** & MOORE, S. **2011**. An afternoon of Geoarchaeology and Down County Museum. *Archaeology Ireland*, Autumn 2011.
5. MEIGHAN, I. G., TURKINGTON, P. & **COOPER, M. R., 2011**. Detective work on the ancient stones of Newgrange. *Earth Science Ireland* 9 p. 8-9.
4. Castle Espie **2010**. Visitors Centre introduction video.
3. CLIMATE THROUGH TIME POSTER **2009**. BGS/GSNI/GSI, Nottingham.
2. BUILDING STONES MAP **2009**. GSNI/GSI, Belfast/Dublin.
1. **COOPER M.R. 2009**. Poetry Landscape Dublin with Michael Longley. *Earth Science Ireland* 5, 34-35.

#### **Public Understanding of Science Activities:**

14. Mourne Heritage Trust field course for geo-tour guides, May **2017**.
13. Geology of the Antrim Coast, Excursion leader OUGS, July **2015**.
12. A Tale of Two Oceans. Public Lecture, Mourne Cooley Gullion, June **2014**.
11. Classic Geology of the North of Ireland. Long Excursion fieldtrip leader for Edinburgh Geological Society, May **2014**.
10. Let's Get Geophysical Graptolites. Day excursion leader for Belfast Geologists' Society, May **2014**.
9. Geological Exploration of Slieve Gallion. Fieldtrip Leader for Sperrins Gateway Landscape Partnership. **2013**.
8. Fieldtrip Secretary, Belfast Geological Society. **2013-14**
7. Rockin the Sperrins Public presentation for Sperrins Gateway Landscape Partnership. **2013**.

6. Rock Detectives **2012**. Launch and workshop for children using rock detective kits. NIEA Coastal Zone.
5. Nuffield Foundation **2011** - Science Bursary Programme supervisor of successful project 'Quarry Database: Building and Application' Poster Presentation at Science Festival Queen's University, Belfast.
4. OUGS **2011** - 'Landslip Phenomenon of East County Antrim' Fieldtrip leader.
3. OUGS **2010** - Winter Field Course 'Geology of the Mourne Mountains' Fieldtrip leader.
2. IGA **2010** - Spring Field excursion 'Gold in the Sperrins!' Fieldtrip leader.
1. IYPE **2008** - Regional coordinator for Northern Ireland. Co-ordinate and organized a portfolio of events to mark IYPE, including an exhibition, geological walks with experts series, and poetry landscape reading.

In addition to the above, I contribute at least 1 lecture and 1 field excursion to the local geological societies (BGS and BNFC) on a yearly basis.

#### **Conference Abstracts Published:**

20. JON MERRITT, SAM ROBERSON, AND **MARK COOPER 2017**. A Late-Glacial sedimentary sequence at Killkeel, Northern Ireland: implications for the glaciation of the Irish Sea Basin. Geophysical Research Abstracts, Vol. 19, EGU2017-14360, **EGU** General Assembly 2017.
19. R. J. HERRINGTON, S. P. HOLLIS, **M. R. COOPER**, I. STOBBS, A. RUSHTON, B. MCCONNELL, T. JEFFRIES & S. TAPSTER **2017**. Age and geochemistry of the Charlestown Group, Ireland: implications for the Grampian orogeny, its mineral potential and the Ordovician timescale. **Applied Earth Science . Transactions of the Institutions of Mining and Metallurgy**: Section B. Volume 126, 2017 - Issue 2.
18. JAVIER ELIO, QUENTIN CROWLEY, RAY SCANLON, JIM HODGSON, **MARK COOPER**, AND STEPHANIE LONG **2016**. Radon monitoring and hazard prediction in Ireland. Geophysical Research Abstracts Vol. 18, EGU2016-2965, **EGU** General Assembly 2016.
17. HERRINGTON, RICHARD J. , HOLLIS, STEVEN, **COOPER, MARK**, STOBBS, IAIN, RUSHTON, ADRIAN, JEFFRIES, TERESA, **2015**. Age and Geochemistry of the Charlestown Group, Ireland: Implications for the Grampian-Taconic Orogeny and Regional Mineral Potential. **GSA, Abstracts with Programs**. Vol. 47, No. 7.
16. JENNIFER M. MCKINLEY, SAM ROBERSON, **MARK COOPER** AND RAIMON TOLOSANA-DELGADO **2013**. Discriminant analysis of Palaeogene basalt lavas, Northern Ireland, using soil geochemistry. **IAMG**, Madrid.
15. PAUL ANDERSON, CARL STEVENSON, **MARK COOPER**, ROB ELLAM, IAN MEIGHAN, COLM HURLEY, JOHN REAVY, JAMES INMAN, DAN CONDON, AND QUENTIN CROWLEY **2013**. Magnetic fabrics and petrology of the Newry Igneous Complex, Northern Ireland reveals a

new emplacement model. *Geophysical Research Abstracts* Vol. 15, EGU2013-11600, 2013  
**EGU** General Assembly 2013.

14. DEMPSTER, M.; DUNLOP, P.; SCHEID, A.; **COOPER, M. 2012.** Unravelling glacial sediment provenance through soil chemistry in the north of Ireland. *Mineralogical Magazine*, 76(6), 1642.
13. HOLLIS, S., ROBERTS, S., EARLS, G., HERRINGTON, R, **COOPER, M.R., AND PIERCEY, S. 2012.** Peri-Laurentian volcanogenic mineralization within Northern Ireland: an extension of the Buchans arc system. **GAC-MAC**, May 27th-29th 2012, Delta Hotel and Conference Centre, St. John's, Newfoundland, Canada. Oral Presentation.
12. **COOPER, M. R.,** LESLIE, G., MCCONNELL ARKLEY, S. L. B., MATHERS, S. J., WOOD, B., & KESSLER, H. **2011.** A 3D Crustal-scale, geological Model of Northern Ireland - VI, **PIP-ISPSG Atlantic Ireland**, Dublin. Poster Presentation.
11. HOLLIS, S. P., ROBERTS, S., **COOPER, M.R.,** EARLS G., HERRINGTON, CROWLEY, Q. G., CHEW, D. M., NOBLE, S. R., CONDON, D. J., ARCHIBALD, S. M. & PIERCEY **2011.** Evolution of an early Ordovician peri-Laurentian arc-ophiolite complex within the Caledonian-Appalachian orogen: New constraints from Northern Ireland. **GAC-MAC-SEG-SGA 2011**, May 25th-27th, University of Ottawa, Canada. Oral Presentation.
10. HOLLIS, S. P., ROBERTS, S., EARLS G., HERRINGTON, R. **COOPER, M.R.,** ARCHIBALD, S. M. & PIERCEY **2011.** An integrated approach to VMS exploration in ancient collision zones: Buchans-style mineralization in Northern Ireland? **GACMAC- SEG-SGA 2011**, May 25th-27th, University of Ottawa, Canada. Poster Presentation.
9. HOLLIS, S., ROBERTS, S., EARLS, G., HERRINGTON, R., ARCHIBALD, S.M., **COOPER, M.R., AND PIERCEY, S. 2011.** A multi-disciplinary approach to VMS exploration in ancient collision zones: The Ireland - Newfoundland Connection. Mineral Deposits Studies Group Annual Meeting 2011, January 5th-7th, Natural History Museum, London. Oral Presentation. **Applied Earth Science (Trans. Inst. Min. Metall. B) 2010**, v. 119(2), p.89-90.
8. GRAHAM LESLIE, **MARK R. COOPER & BRIAN MCCONNELL 2011.** Toward a 3D crustal-scale, onshore and offshore, geological model of Britain and Ireland. **Geophysical Research Abstracts**, Vol. 13, EGU2011-7544, **EGU** General Assembly Vienna. Oral Presentation.
7. LARSEN, M., ZIMMERMANN, U., BERTOLINO, S., GUSTAVSEN, H., UTVIK, C., MADLAND, M.V., **COOPER, M.,** MITCHELL, I., TAIT, J., CAYCEDO, A. **2011.** Chemostratigraphy, facies determination and mechanical properties of Upper Cretaceous chalk deposits in Northern Ireland. Vinterkonferansen 2011, **NGF Abstracts and Proceedings**, 1,58. Poster Presentation.
6. HOLLIS, S. P., EARLS, G., ROBERTS, S., HERRINGTON, R. & **COOPER, M. R. 2010.** Ordovician volcanism within Northern Ireland and its potential to host a world class metal mining district. Poster Presentation. **Earthwise** 26, British Geological Survey, 78.
5. **COOPER, M. R.,** WALSH, J. J., VAN DAM, C. L., YOUNG, M. E., EARLS, G., ANDERSON, H. & WALKER, A. **2010.** Paleogene Alpine tectonics and Icelandic plume-related magmatism and deformation in Ireland: Evidence from the regional, high resolution Tellus geophysical survey. **EGU** Abstract Vienna. Oral Presentation.



4. LUSTY, P A J, MCDONNELL P M, A G, GUNN, BC CHACKSFIELD AND **COOPER, M. 2009**. Gold potential in the Dalradian rocks of NW Northern Ireland: GIS-based prospectivity analysis using Tellus data. **Geophysical Research Abstracts**, Vol 11, Proceedings of the **EGU General Assembly 2009**,5922.
3. **COOPER, M. R.**, CROWLEY, Q. G, CHEW, D. M., HOLLIS S. P. & NOBLE, S. R. **2009**. Age constraints and Grampian orogenesis of the Lower to Middle Ordovician Tyrone Igneous Complex, Northern Ireland. Extended Abstract In: **Proceedings of the 24th IAGS** Fredericton, New Brunswick, Canada. Edited By David R. Lentz, Kathleen G. Thorne & Kristy-Lee Beal. pp. 499-502. Oral Presentation.
2. MEIGHAN, Ian G., HAMILTON, Mike A., GAMBLE, John A., ELLAM, Rob M. And **COOPER, Mark R. 2003**. The Caledonian Newry Complex, NE Ireland: New U-Pb Ages, A Subsurface Extension and Magmatic Epidote: In **GSA Abstracts with Programs** Vol. 35, No.3. 46th Irish Geological Research Meeting, abstract. **Irish Journal of Earth Sciences** 21, 156-7. Poster Presentation.
1. BURT, C. Elaine and **COOPER, Mark R. 2002**. Basinal models for Tayvallich subgroup and southern Highland Group Dalradian sequences in Northern Ireland: In: **Irish Journal of Earth Sciences** v.20, p.89. Poster Presentation.

#### **Conference Abstracts:**

53. Hollis, S.P., Menuge, J.F., Doran, A.L., Piercey, S.J., **Cooper, M.R.**, Daly, J.S., Badenszki, E., Unitt, R., Turner, O. & McConnell, B. **2018**. Pb isotope mapping of the pre-Carboniferous basement of Ireland: implications for Zn-Pb mineralization. Resources for Future Generations. 16th-21st June, Vancouver Conference Centre, Vancouver, B.C., Canada. Poster Presentation.
52. Hollis, S.P., Menuge, J.F., Doran, A.L., Piercey, S.J., **Cooper, M.R.**, Daly, J.S., Turner, O. & McConnell, B. (2018) Sm-Nd and Pb isotope mapping of the pre-Carboniferous basement of Ireland: implications for Zn-Pb mineralization. Mineral Deposits Studies Group Annual Meeting. 3rd-5th January, University of Brighton, UK. Poster Presentation.
51. Hollis, S.P., Menuge, J.F, Doran, A., **Cooper, M.R.**, Piercey, S.J., Daly, J.S., McConnell., B. & Kamber, B. (2017) Using Sm-Nd and Pb isotope mapping to delineate the pre-Carboniferous basement of Ireland: implications for Zn-Pb mineralization. Geoscience 2017. 7th November, 2017. Dublin Castle, Dublin, Ireland. Poster Presentation.
50. R.J. Herrington, S.P. Hollis, **M.R. Cooper**, I. Stobbs, A. Rushton, B. McConnell, T. Jeffries and S. Tapster **2016**. Age and geochemistry of the Charlestown Group, Ireland: implications for the Grampian orogeny, its mineral potential and the Ordovician timescale. Mineral Deposits Studies Group, Bristol.
49. **M. R. Cooper** & D. J. P. Doherty **2016**. Evidence for pulsed magma injection into the Portrush Sill Complex, Northern Ireland. 59<sup>th</sup> Irish Geological Research Meeting, Galway. Poster Presentation.
48. **Mark R. Cooper**, Valentin R. Troll and Kirstin Lemon. **2015**. Up-Down with some Flying Around: reassessment of the Northern Ireland Clay with Flints deposits. 58<sup>th</sup> Irish Geological Research Meeting, Belfast. Oral Presentation.

47. R.J. Herrington, S.P. Hollis, **M.R. Cooper**, I. Stobbs, A. Rushton, B. McConnell and J.S. Daly. **2015**. Age and geochemistry of the Charlestown Group, Ireland: Implications for the Grampian orogeny, its mineralization potential and the Ordovician timescale. 58<sup>th</sup> Irish Geological Research Meeting, Belfast. Poster Presentation.
46. Steven Hollis, **M.R.Cooper**, R.Herrington, S.Roberts and G.Earls. **2015**. Distribution and geochemistry of chemical sedimentary rocks from the Tyrone Igneous Complex: implications for VMS mineralization in Northern Ireland. 58<sup>th</sup> Irish Geological Research Meeting, Belfast. Poster Presentation.
45. Tom McIntyre, Rob Raine and **Mark Cooper**. **2015**. A study of the stratigraphy and reservoir quality of the Permo-Triassic sediments in the Rathlin, Larne and Lough Neagh basins 58<sup>th</sup> Irish Geological Research Meeting, Belfast. Poster Presentation.
44. Rob Raine, Carl Stevenson, Kieran Parker, Dermot Smyth, **Mark Cooper**, Derek Reay and Denis Doherty. **2015**. Investigating the architecture of Cenozoic basins containing the Antrim Lava Group, Northern Ireland. 58<sup>th</sup> Irish Geological Research Meeting, Belfast. Poster Presentation.
43. Russell Rogers, B. McConnell and **M. Cooper**. **2015**. Re-Mapping the Moffat Shale Group using Tellus geophysics. 58<sup>th</sup> Irish Geological Research Meeting, Belfast. Poster Presentation.
42. **Mark Cooper**, Jim Floyd, Mohammed Desisa, Jim Hodgson, Gareth Barker & Matthew Warke. **2013** Geological mapping and ground based geophysics of Tellus EM anomalies associated with the Ordovician—Silurian Moffat Shale Group, Northern Ireland. The Tellus Border Results and Research Conference, Co. Monaghan, 24<sup>th</sup> October 2013.
41. **COOPER, M.R.** **2013**. Do N120E deep-crustal lineaments in the north of Ireland play a part in basin siting, preservation and magmatism? 56<sup>th</sup> Irish Geological Research Meeting, Londonderry. Oral Presentation.
40. **COOPER, M.R.** **2012**. Do N120E deep-crustal lineaments in the north of Ireland play a part in basin siting, preservation and magmatism? British Sedimentological Research Group, Dublin. Oral Presentation.
39. HOLLIS, S., ROBERTS, S., EARLS, G., HERRINGTON, R, **COOPER, M.R.**, AND PIERCEY, S. **2012**. Au-rich VMS mineralization within Northern Ireland: 2011 Regional exploration targets Mineral Deposits Studies Group Winter Meeting, January 3rd-5th 2012, Cardiff University and the National Museum of Wales. Poster Presentation.
38. HOLLIS, S., ROBERTS, S., EARLS, G., HERRINGTON, R, **COOPER, M.R.**, AND PIERCEY, S. **2012**. Episodic rifting, volcanic quiescence and the formation of VMS camps: Urals, Bathurst, Buchans, Ireland? Mineral Deposits Studies Group Winter Meeting, January 3rd-5th 2012, Cardiff University and the National Museum of Wales. Oral Presentation.
37. P. ANDERSON, J INMAN, D. CONDON, Q. CROWLEY, C.HURLEY, I. MEIGHAN, R. ELLAM, J. REAVY, C STEVENSON & **M.COOPER**. **2012**. Implications of new structural and geochemical data on the emplacement mechanism of the Late Caledonian Newry Igneous Complex, Northern Ireland. Volcanic & Magmatic Studies Group Meeting, Durham. Poster Presentation.
36. J. INMAN, P. ANDERSON, **M. COOPER**, D. CONDON, Q. CROWLEY, I. MEIGHAN &

- C. STEVENSON. **2012**. New insights into the emplacement of the intermediate-ultramafic Seeconnell Complex within the Newry Igneous Complex, Northern Ireland. Volcanic & Magmatic Studies Group Meeting, Durham. Poster Presentation - Judges Commendation.
35. P. ANDERSON, J. INMAN, D. CONDON, Q. CROWLEY, C. HURLEY, I. MEIGHAN, R. ELLAM, J. REAVY, C. STEVENSON AND **M. COOPER**. **2012**. The structure and emplacement of the Newry Igneous Complex from Tellus geophysical data and AMS. 55th Irish Geological Research Meeting & Lithosphere Workshop. Oral Presentation.
34. M. DEMPSTER, P. DUNLOP, A. SCHEIB AND **M. COOPER**. **2012**. Unravelling glacial sediment provenance in Northern Ireland using soil geochemistry. 55th Irish Geological Research Meeting & Lithosphere Workshop. Oral Presentation.
33. S. HOLLIS, **M. COOPER**, S. ROBERTS, G. EARLS, D. CONDON AND R. HERRINGTON. **2012**. Evolution and emplacement of the Northern Irish, Tyrone Ophiolite during the Grampian-Tectonic phase of the Caledonian-Appalachian orogen. 55th Irish Geological Research Meeting & Lithosphere Workshop. *GOLD MEDAL and runner up best post graduate poster*.
32. J. INMAN, P. ANDERSON, **M. COOPER**, D. CONDON, Q. CROWLEY, I. MEIGHAN, AND C. STEVENSON. **2012**. New insights into the emplacement of the Seeconnell Complex within the Newry Igneous Complex, Northern Ireland. 55th Irish Geological Research Meeting & Lithosphere Workshop. *SILVER MEDAL graduate poster*.
31. C. NI LUACHRAIN, I. MEIGHAN, **M. COOPER**, A. BURL AND A. DONALD. **2012**. Preliminary Geoarchaeology of the Late Neolithic - Early Bronze Age Ballynoe Stone Circle, Northern Ireland: geological stone provenance and feedback into glacial flow paths. 55th Irish Geological Research Meeting & Lithosphere Workshop. *GOLD MEDAL and best undergraduate poster*.
30. HOLLIS, S., ROBERTS, S., EARLS, G., HERRINGTON, R., ARCHIBALD, S.M., **COOPER, M.R.**, AND PIERCEY, S. **2011**. The Ireland - Newfoundland connection: Is County Tyrone the UK's next major metal mining district? British Geological Survey, Keyworth, Science Festival. March 8th, Keyworth, Nottingham. Poster Presentation.
29. ANDERSON, H., WALSH, J.J. & **COOPER, M.R.** **2011**. The origin and nature of Cenozoic faulting in North East Ireland. Tectonic Studies Group Annual Meeting, Durham (UK).
28. S. BENETTI, e.O. COFAIGH, P. DUNLOP, F. SACCHETTI, **M. COOPER**, I. MEIGHAN, A. GEORGIPOULOU, A. CARSON. **2011**. Geomorphological and sedimentological record of the British-Irish Ice Sheet on the western Irish continental Margin. 54th Irish Geological Research Meeting, Galway. Oral Presentation.
- 27.1. MEIGHAN, **M. COOPER**, M. PATTON. **2011**. Geoarchaeology at Bru na Boinne: Glacial Erratics of Co Tyrone Rocks at Knowth and Implications for Bedrock Gold Mineralisation in the Mourne Mountains. 54th Irish Geological Research Meeting, Galway. Oral Presentation.
26. P. ANDERSON, C. STEVENSON, **M. COOPER**, R. ELLAM, D. CONDON, Q. CROWLEY, I. MEIGHAN, C. HURLEY, J. REAVY. **2011**. New insights into the timing and emplacement of the Newry Igneous Complex, N. Ireland. 54th Irish Geological Research Meeting, Galway. Poster Presentation – Judges Commendation.

25. **M. COOPER**, G. LESLIE, B. MCCONNELL, S. ARKLEY, S. MATHERS, B. WOOD, H. KESSLER. **2011**. Towards a 3D crustal-scale, geological model for onshore and offshore Britain and Ireland. 54th Irish Geological Research Meeting, Galway. Poster Presentation.
24. S. HOLLIS, S. ROBERTS, G. EARLS, R. HERRINGTON, **M.R. COOPER**, S.M. ARCHIBALD, S.J. PIERCY. **2011**. Volcanogenic massive sulphide exploration within County Tyrone, Northern Ireland. 54th Irish Geological Research Meeting, Galway. Poster Presentation - Judges Commendation.
23. HOLLIS, S., ROBERTS, S., EARLS, G., **COOPER, M.R.**, HERRINGTON, R., ARCHIBALD, S.M., WILLIAMS, V., AND PIERCEY, S. **2010**. VMS exploration within County Tyrone, Northern Ireland: An extension of the Buchan's Camp of Newfoundland? Zinc 2010, September 17th-19th, Cork, Ireland. Poster Presentation.
22. ANDERSON, H., WALSH, 1.J. & **COOPER, M.R.** **2010**. The origin and nature of Cenozoic faults and dyke swarms in North East Ireland. Anderson Conference: Stress controls on faulting, fracturing and igneous intrusion in the Earth's crust, Glasgow, Scotland.
21. D. CHEW, J.A.S MCFARLANE, **M.R. COOPER**, C.M. FLEMING **2010**. New geological insights into the Dalradian Lack Inlier, Northern Ireland and correlative sequences: implications for lithostratigraphical correlation and gold mineralisation.
20. **M.R. COOPER**, Q.G. CROWLEY, S.P. HOLLIS, S.R. NOBLE, S. ROBERTS, D. CHEW, G. EARLS, R. HERRINGTON **2010**. Geology of the Ordovician Tyrone Igneous Complex, Northern Ireland. Tectonic Studies Group, Birmingham. Oral Presentation.
19. H. ANDERSON, J.J. WALSH, **M.R. COOPER**, **2010**. The Origin and Nature of Cenozoic Faulting in North East Ireland. Tectonic Studies Group, Birmingham. Poster Presentation.
18. W.1. MITCHELL, **M.R. COOPER**, I. G. MEIGHAN, R. M. ELLAM, S. R. NOBLE, R.W.O'B. KNOX, V. L. HARDS, V.R. TROLL, G. P.L. WALKER: **2010**. A Palaeogene, Pre-Flood basalts Supervolcano in Co Antrim? Evidence from the "clay with flints". Volcanic and Magmatic Studies Group, Glasgow. Oral Presentation.
17. HOLLIS, S.P., ROBERTS, S., EARLS, G., HERRINGTON, R., **COOPER, M.R.**, ARCHIBALD, S.M., TAGGART, R., CLARKE, H., PIERCEY, S.J., AND CLARKE, H. **2010**. VMS exploration within Co. Tyrone, Northern Ireland: a geophysical and geochemical perspective. Mineral Deposits Studies Group, January 5th-7th 2010, University of Glasgow. Oral Presentation.
16. S HOLLIS, S. ROBERTS, G. EARLS, **M.R. COOPER**, R. HERRINGTON, Q.G. CROWLEY, D. CHEW **2010**. Ordovician arc-continent collision within Northern Ireland: new constraints from the Tyrone Igneous Complex. 53rd Irish Geological Research Meeting, Belfast. Oral Presentation.
15. **M. COOPER**, 1.G. MEIGHAN, DJ. CONDON, Q.G. CROWLEY, R.M. ELLAM **2010**. Zonation, U-Pb age constraints and a model for emplacement of the Late Caledonian Newry Igneous Complex, Northern Ireland. 53rd Irish Geological Research Meeting, Belfast. Oral Presentation.
14. H, ANDERSON. J.J. WALSH, **M.R. COOPER** **2010**. Geometry and growth of Palaeogene strike-slip faults in Northern Ireland. 53rd Irish Geological Research Meeting, Belfast. Oral Presentation.

13. G. LESLIE, **M.R. COOPER**, B. MCCONNELL, S.L.B. ARKLEY, S.J. MATHERS, B. WOOD, H. KESSLER **2010**. Toward a 3D crustal-scale, onshore and offshore, regional geological model of Britain and Ireland. 53rd Irish Geological Research Meeting, Belfast. Oral Presentation.
12. HOLLIS, S., ROBERTS, S., EARLS, G., HERRINGTON, R., CLARKE, H., **COOPER, M.**, AND TAGGART, R. **2009**. The Evolution and Mineralization of the Tyrone Igneous Complex, Ireland: geochemical and geophysical mapping through the Tellus project. Mineral Deposits Studies Group Winter Meeting, Camborne School of Mines, University of Exeter, January 5th to 8th, 2009. Research in progress session. Poster Presentation.
11. HOLLIS, S., EARLS, G., ROBERTS, S., HERRINGTON, R., **COOPER, M.**, PIERCEY, S., ARCHIBALD, S. AND TAGGART, R. **2009**. Will County Tyrone become the UK's next major metal mining district?: ancient hydrothermal mineralisation within a volcanic arc. British Geological Survey, Keyworth, Science Festival. November 12th 2009. Poster Presentation & Press Release.
10. YOUNG, MICHAEL; **COOPER, MARK**; DONALD, ALEX. **2009** Regional interpretation of new airborne geophysical imagery of Northern Ireland. [Poster] In: *Atlantic Ireland Conference 2009, Dublin, Ireland, 19-20 Oct 2009*. Dublin, Ireland, Irish Shelf Petroleum Studies Group. (Unpublished)
9. **M.R. COOPER**, J.J. WALSH, C.L. VAN DAM, M.E. YOUNG, G. EARLS, H. ANDERSON, A WALKER **2009**. Interplay of Alpine collision tectonics and Icelandic mantle plume-related deformation and magmatism in the Early Palaeogene of Northern Ireland: new constraints from the Tellus high resolution geophysical survey. Atlantic Ireland. Poster Presentation.
8. D.M. CHEW, **M.R.COOPER**, J. A.S. MCFARLANE, A.G. LESLIE **2009**. Fuchsite and other ultramafic related mineral occurrences in the Lack Inlier, Northern Ireland: evidence for an upper Argyll Group affinity of the southern Sperrin Mountains and implications for gold source and occurrence. Highland Workshop Abstracts & Field Guide, Belfast. Oral Presentation.
7. HOLLIS, S., ROBERTS, S., **COOPER, M.R.**, CLARKE, H., HERRINGTON, R., TAGGART, R., ARCHIBALD, S.M., AND EARLS, G. **2009**. Preliminary major-, trace-, and rare earth element analyses from the Tyrone Igneous Complex: implications for the development of the Grampian Orogeny in the British and Irish Caledonides. Highland Workshop, Geological Survey of Northern Ireland, April 23rd to 27th, 2009. Oral & Poster Presentation.
6. **M.R. COOPER**, Q.G. CROWLEY, A.G. LESLIE, S.R. NOBLE, P. HENNEY **2009**. A new U-Pb age constraint for a late Caledonian minor intrusion suite in the north of Ireland: first proof for late-Scandian deformation in the Grampian terrane? Highland Workshop Abstracts & Field Guide, Belfast. Oral Presentation.
5. **M.R. COOPER**, S.R. NOBLE, Q.G. CROWLEY, R.J. MERRIMAN, D.M. CHEW **2009**. Geology, geochemistry and U-Pb zircon age constraints the Tyrone Igneous Complex, Northern Ireland: plate models and Grampian orogenic amalgamation. Highland Workshop Abstracts & Field Guide, Belfast. Oral Presentation.
4. S. HOLLIS, S. ROBERTS, **M.R. COOPER**, H CLARKE, R. HERRINGTON, R TAGGART, S.M. ARCHIBALD, G. EARLS **2009**. Preliminary major-, trace-, and rare earth element



analyses from the Tyrone Igneous Complex: implications for the development of the Grampian Orogeny in the British and Irish Caledonides. Highland Workshop Abstracts & Field Guide, Belfast. Oral Presentation.

3. **M.R. COOPER**, J.J. WALSH, c.L. VAN DAM, M.E. YOUNG, G. EARLS, H. ANDERSON, A WALKER: **2009**. Interplay of Alpine collision tectonics and Icelandic mantle plume-related deformation and magmatism in the Early Palaeogene of Northern Ireland: new constraints from the Tellus high resolution geophysical survey. 52nd Irish Geological Research Meeting.

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