

John MacLennan

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Current positions

Reader in Earth Sciences, University of Cambridge
Official Fellow, Emmanuel College

Areas of specialisation

Igneous Petrology; Mantle Geochemistry; Solid Earth-Climate Interaction.

Appointments

2006-present	University Lecturer, then Reader, University of Cambridge
2006-present	Official Fellow, sometime DoS and Tutor, Emmanuel College
2014	Visiting Professor, Institut de Physique du Globe de Paris, France
2012-present	Adjunct Scientist, Woods Hole Oceanographic Institution, USA
2009	CoE Fellowship, Institute for Study of the Earth's Interior, Misasa, Japan
2003-2006	NERC Postdoctoral Fellowship, University of Edinburgh
2001-2003	EU Marie Curie Individual Fellowship, Institut de Physique du Globe de Paris

Education

2000	PhD in Earth Sciences, University of Cambridge
1996	BA in Natural Sciences (Geological Sciences), University of Cambridge

Prizes & other honours

2015	Shell London Lecturer, Geological Society of London
2014	Bigsby Medal of the Geological Society of London
2014	Pilkington Prize for excellence in teaching
2011	Mineralogical Society Distinguished Lecturer
2006	President's Award of the Geological Society of London
1996	Harkness Prize for top Geological Finalist, University of Cambridge

Publications & talks

JOURNAL ARTICLES

- Summary 75 publications since 2001. Google H-index of 32, April 2018
10 recent papers selected for relevance to proposal
- 2018 Hartley, M. & J. MacLennan, Magmatic Densities Control Erupted Volumes in Icelandic Volcanic Systems, *Frontiers in Earth Science* 6, 29
- 2017 Neave, D.A., I. Buisman & J. MacLennan, Continuous mush disaggregation during the long-lasting Laki fissure eruption, Iceland *American Mineralogist* 102(10), 2007-2021
- 2017 MacLennan, J., Bubble formation and decrepitation control the CO₂ content of olivine-hosted melt inclusions *Geochemistry, Geophysics, Geosystems* 18(2), 597-616
- 2016 Rae, A.S.P., Edmonds, M., MacLennan, J., Morgan, D., Houghton, B., Hartley, M.E. & Sides, I. Time scales of magma transport and mixing at Kilauea Volcano, Hawai'i. *Geology* 44(6) 463-466
- 2016 Hartley, M.E., D.J. Morgan, J. MacLennan, M. Edmonds & T. Thordarson, Tracking time-scales of short-term precursors to large basaltic fissure eruption through Fe-Mg diffusion in olivine *Earth and Planetary Science Letters* 439, 58-70
- 2014 Hartley, M.E., J. MacLennan, M. Edmonds & T. Thordarson, Reconstructing the deep CO₂ degassing behaviour of large basaltic fissure eruptions, *Earth Planet. Sci. Lett.* 393, 120-131
- 2013 Neave, D.A., E. Passmore, J. MacLennan, G. Fitton & T. Thordarson, Crystal-melt relationships and the record of deep mixing and crystallization in the AD 1783 Laki Eruption, Iceland, *Journal of Petrology*, 54, 1661-1690
- 2013 Thomson, A. & J. MacLennan, The distribution of olivine compositions in Icelandic basalts and picrites, *Journal of Petrology*, 54, 745-768
- 2009 Collins, S.J., D.M. Pyle & J. MacLennan, Melt inclusions track pre-eruption storage and dehydration of magmas at Etna, *Geology* 37, 571-574
- 2008 MacLennan, J., Concurrent mixing and cooling of melts under Iceland, *Journal of Petrology*, 49, 1931-1953

CONFERENCE PAPERS

- Summary 20 invited lectures at international conferences since 2006: 3 selected below
- 2017 MacLennan, J., Stop-watch and Yard-stick: quantifying scales in basaltic systems, *Magma reservoir architecture and dynamics*, Royal Society Kavli Centre Scientific Meeting
- 2017 MacLennan, J., On the Relationship between Melt Inclusion CO₂ and Magmatic Storage Depths, *Goldschmidt Conference*, Paris
- 2017 MacLennan, J., D. Neave & T. Thordarson, The Petrological Record of Magma Storage Under Iceland and the Adjacent Spreading Ridges, *Goldschmidt Conference*, Paris

OUTREACH

- 2010-present Iceland and volcanism for [BBC online](#), BBC Radio, Reuters, New Scientist, [The Economist](#)
- 2014-present University-led outreach on [proposals](#) and [papers](#)
- 2012-present Occasional consultant for BP on basaltic magmatism
- 2011 Advice to the UK Ministry of Defence on the eruption of Eyjafjalljökull volcano.

Funding

Summary	~£1.2M as PI, ~£300k to Cambridge as Co-I, PI Grants >£100k listed below
2016-2019	NERC standard grant: £286,151 (FEC). Principal Investigator: The Distribution of Oxygen in Earth's Mantle
2014-present	Diamond Light Source: 5 days beam-time as PI on Io8, 10 days as Co-I.
2013-2016	NERC standard grant: £316,191 (FEC). Principal Investigator: Probing Mantle Heterogeneity: A Petrological Reconciliation for Geochemistry and Seismology
2011-2013	NERC standard grant: £241,264 (FEC). Principal Investigator: Reconstructing magma storage and transport prior to giant Icelandic fissure eruptions
2004-present	NERC Ion microprobe facility, £250k total funding in kind from 12 separate proposals to the steering committee
2006-2010	NERC Young Investigator's Grant: £95,693 (FEC). Principal Investigator: Oxygen isotope variation in Icelandic gabbros
2003-2006	NERC Postdoctoral Fellowship: £110,558 (non-FEC). Principal Investigator (Research fellow) Melt mixing and the length-scales of geochemical variation at spreading ridges
2001-2003	EU Marie Curie Individual Fellowship, IPG Paris Principal Investigator (Research fellow): €110,400, Crustal Accretion at Mid-Ocean Ridges : Models and Observations

Academic Service

2009-2012	Science Steering and Evaluation Panel (SSEP) member, Integrated Ocean Drilling Program
2010-present	NERC Peer Review College member; Panel A for standard grants, fellowships; grant proposal reviews for NERC, NSF; Departmental Internal Review Panel
2010-2011	Organising committee VMSG; Nordic Council Summer School on Magmatism
2011	Goldschmidt conference: Theme 4 planning team, session 4e convener
2007-present	Convener of sessions at Goldschmidt, AGU, IAVCEI and EGU conferences
2000-present	Journal reviewer (including Nature, Science, Geology, Journal of Petrology, EPSL)
2006-present	Search and appointment panel for 7 University Lectureship positions
2007,2010	PhD interview and appointment panel, 2007
2003-present	PhD examiner for 14 students (5 external – Southampton, ETH Zurich , Bristol, Oxford, 9 internal)

Graduate student supervision

2004-present	Principal supervisor of 7 PhD students (6 completed), Co-supervisor of 11 PhD students (7 completed)
2006-present	Principal supervisor of 15 MSci students, Co-supervisor of 1 MSci student (all completed).