Professor Marie Edmonds

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Chair in Volcanology and Petrology, Earth Sciences, University of Cambridge
Vice President and Ron Oxburgh Fellow in Earth Sciences, Queens' College

Education

- **Earth Sciences Department, University of Cambridge**
  PhD in Volcanology; Advisors Prof D Pyle and Prof C Oppenheimer — *1997-2002*
- **University of Cambridge**
  Bachelor of Arts, Geological Sciences; 1st class — *1994 - 1997*

Current Positions

University Professor, University of Cambridge — *2019 - present*
Vice President, Queens' College — *2020 - present*
Ron Oxburgh Fellow in Earth Sciences, Queens' College — *2019 - present*

Previous Positions

University Reader, University of Cambridge — *2015 - 2019*
University Lecturer, University of Cambridge — *2007 - 2015*
Official Fellow and College Lecturer, Queens' College — *2007 - 2019*
Reader, University of East Anglia — *2006 - 2007*
Mendenhall Fellow, United States Geological Survey — *2004 - 2006*
Volcanologist, British Geological Survey — *2002 - 2003*

Awards and Honours

- **Chappell Lecture**
  Australian National University, in honour of Bruce Chappell — *2020*
- **Plenary Lecture**
  Goldschmidt Conference, Hawaii — *2020*
- **Reginald Daly Lecture**
  Bowen Series Lectures, American Geophysical Union — *2019*
- **Thermo Fisher Scientific Annual Award**
  Volcanic and Magmatic Studies Group — *2019*
- **Wager Medal**
  International Association Volcanology and Chemistry of the Earth's Interior — *2017*
- **William Smith Fund**
  Geological Society of London — *2013*
- **Natural Environment Research Council Fellowship**
  declined in favour of Mendenhall Fellowship — *2004*
- **Royal Society Fellowship**
  declined in favour of Mendenhall Fellowship — *2004*
- **Jesus College Scholarship Prizes**
  University of Cambridge — *1996, 1997*
- **Wiltshire Prize**
  University of Cambridge, for honours in 1B Geological Sciences — *1996*

Institutional Positions

Vice President (Vice Master), Queens' College	*2020 - 2025*
Director of Research, Deputy Head of Department, Earth Sciences, University of Cambridge	*2019 - present*
Director, NERC C-Clear Doctoral Training Partnership, University of Cambridge	*2019 - present*
Graduate Tutor, Queens' College	*2017 - 2020*
Deputy Senior Tutor, Queens' College	*2017 - 2020*
Head of Field Safety, Earth Sciences, University of Cambridge	*2012 - present*
Faculty Board and Degree Committee, Earth Sciences and Geography, University of Cambridge	*2009 - 2015*

Service and External Positions

Editor, Geochemistry, Geophysics, Geosystems, American Geophysical Union	*2018 - 2022*
External Examiner, Geology Undergraduate Degree, Durham University	*2017 - 2021*
Chair, Grants Panel A, Natural Environment Research Council	*2017 - 2021*
Chair/co-Chair, Reservoirs and Fluxes Community, Deep Carbon Observatory	*2014 - 2019*
Chair, Synthesis Group, Deep Carbon Observatory	*2014 - 2019*
Volcanology, Petrology Secretary, American Geophysical Union	*2017 - 2019*
Member VGP Section Awards Committee, American Geophysical Union	*2016-2017*
Member NERC Training Advisory Board and DTP-2 Working Group	*2016 - 2018*
Chair, Ion Microprobe Facility steering committee Natural Environment Research Council	*2014 - 2018*
Secretary for Science, Geological Society of London	*2014 - 2018*
Member of Council, Geological Society of London	*2013 - 2018*
Peer Review College, Natural Environment Research Council	*2014 - present*
Editorial Board, Journal of Volcanology and Geothermal Research	*2014 - present*
Member, Ion Microprobe Facility steering committee, Natural Environment Research Council	*2012 - 2014*
Member, Volcanic and Magmatic Studies Group committee	*2008 - 2012*
Member, David Perlman Award Committee for Journalism in Science, American Geophysical Union	*2004 - 2007*
Member, Scientific Advisory Committee, Soufriere Hills Volcano eruption, Foreign Office	*2002 - 2004*

Current Research Grants

- **COMET: Centre for the Observation and Modeling of Tectonics and Volcanism** — *2019-2021*
  Co-Investigator, NERC National Capability Funding; PI Wright, Leeds University
- **VPlus: integrated remote sensing and modeling of volcanic plumes** — *2019-2022*
  Co-Investigator, NERC Highlight Topic £1.8M, PI Schmidt, University of Cambridge

Other Recent Research Grants

- **Unmanned Aerial Vehicles in Volcanology** — *2018-2019*
  Co-Investigator, Deep Carbon Observatory £180k, PI Liu, University of Cambridge
- **Rift Volcanism: Past, Present and Future** — *2014-2019*
  Non-lead Principal Investigator, Natural Environmental Research Council Large Grant £3.2M
- **Synthesising the Discoveries of the Deep Carbon Observatory** — *2018-2019*
  Principal Investigator, Deep Carbon Observatory £100k
- **COMET: Centre for the Observation and Modeling of Tectonics and Volcanism** — *2014-2019*
  Co-Investigator, NERC National Capability Funding; PI Wright, Leeds University
- **Synthesising the Discoveries of the Deep Carbon Observatory** — *2016-2018*
  Principal Investigator, Deep Carbon Observatory £75k
- **Source of the sulfur plume from Holuhraun flood basalt eruption** — *2015*
  Co-Investigator, Natural Environmental Research Council Urgency Grant, £70k
- **Remote sensing of volcanic eruptions** — *2014*
  Principal Investigator, Isaac Newton Trust, University of Cambridge £30k

Supervision of Graduate Students and Postdoctoral Researchers

Graduate students

Olivia Hogg, Natural Environment Research Council	*2020 - present*
Kevin Wong, Natural Environment Research Council, Leeds University	*2019 - present*
Nicholas Barber, Gates Scholarship	*2018 - present*
Penny Wieser, Natural Environment Research Council	*2017 - present*
Emily Mason, Engineering and Physical Sciences Research Council	*2017 - present*
Julia Woitischek, Natural Environment Research Council	*2016 - 2020*
Fiona Iddon, Natural Environment Research Council, now Editor, Roy. Soc. Chem.	*2015 - 2019*
Euan Mutch, Natural Environment Research Council, now PDRA U. Maryland	*2014 - 2019*
Lois Salem, Natural Environment Research Council, now NGO sector, London	*2013 - 2018*
Svetlana Sibik, Trinity Hall Studentship	*2012 - 2016*
David Neave, Natural Environment Research Council, now tenure track, U. Manchester	*2012 - 2016*
Melissa Plail, Natural Environment Research Council at UEA, now Editor, Nature Communications	*2010 - 2014*
Brendan McCormick, Natural Environment Research Council, now tenure track, U. Manchester	*2009 - 2013*
Isobel Sides, Natural Environment Research Council, now Admin Officer, U. Oxford	*2009 - 2013*

Postdoctoral researchers

Emma Liu, Deep Carbon Observatory/Leverhulme Fellow, now lecturer UCL	*2016 - 2019*
Brendan McCormick Kilbride, NERC/Isaac Newton trust/BGS, now tenure track, U. Manchester	*2016 - 2019*
Margaret Hartley, NERC, now lecturer, U. Manchester	*2011 - 2013*
Jian Yang, Isaac Newton trust	*2010 - 2011*

Teaching

- **1A, 1st year Earth Sciences** - Natural Hazards and Energy
- **1B, 2nd year** - Course Convener and Lecturer, Igneous Petrology and Volcanology
- **Part II, 3rd year** - Volcanology and Ore deposits, Part II Petrology core course
- **Part III, 4th year** - Co-leader Spain field trip, Supervisor 1-4 MSci. research projects, Options courses O7: Volcanology and O17: Natural Hazards

Organisation of Scientific Meetings

- Scientific Organising Committee for the IAVCEI 2021 Rotorua, New Zealand, General Assembly
- Goldschmidt Conference Theme Chair: Volcanism in the Earth System, Hawaii 2020
- Convener, "Factory Earth" Fermor Meeting, Geological Society of London, 2017
- Theo Murphy Royal Society Meeting *Magma reservoir architecture and dynamics*, 2017
- Scientific Organising Committee, for the IAVCEI 2017 Portland General Assembly

Membership of Scientific Bodies

- International Association of Volcanology and Chemistry of the Earth's Interior
- Geochemical Society
- American Geophysical Union
- Fellow, Geological Society of London

Recent Outreach and Training

Cambridge Science Festival Public Lecture	*2020*
Masterclass in Earth Sciences Lecture to year 12 students, University of Cambridge	*2018, 2019*
Christmas Lecture, Dartford Grammar School	*2017*
ERF-funded Volcanology summer school, Memovolc, Santorini	*2015*
Pint of Science Festival, Cambridge	*2015*
Lecture to Essex Rock and Mineral Society	*2014*
ERF-funded Volcanology Summer School in Iceland	*2013*

Books, Editorships and Popular Articles

- **2020**, **M. Edmonds** Geochemical Monitoring of Volcanoes. In: Paolo Papale (ed.) Forecasting and planning for volcanic hazards, risks and disasters. Elsevier.
- **2019**, Suarez, C., **M. Edmonds**, A. Jones. Guest Editors, Catastrophic perturbations to Earth's Deep Carbon Cycle, Elements Magazine 15, 5.
- **2019**, Fischer, R., A. Aiuppa, **M. Edmonds**. Guest editors, Carbon Degassing Through Volcanoes and Active Tectonic Regions, 2017-2019. G-Cubed special theme.
- **2018**, **M. Edmonds**, K. Cashman, M. Holness, M. Jackson, Guest Editors, 2019. Special issue of the Philosophical Transactions of the Royal Society A, Following the Hooke Royal Society Meeting Magma reservoir architecture and dynamics, December 2017.
- **2017**, **M. Edmonds** and C. Manning (2017), Synthesizing our understanding of Earth's deep carbon., Eos, 98, https://doi.org/10.1029/2017EO067913. Published on 21 February 2017.
- **2017**, Kiseeva, K. and **M. Edmonds**, 2017. Guest Editors, Sulfides, Elements Magazine, 13, 2.
- **2014**, G. Zellmer, **M. Edmonds** and S. Straub (Guest Editors), Geological Society Special Publication. The Role of Volatiles in the Genesis, Evolution and Eruption of Arc Magmas, 410, 1.
- **2014**, B. Houghton, S. Vergniolle, **M. Edmonds**, J. Taddeucci and M. James. Hawaiian and Strombolian Eruptions. Encyclopaedia of Volcanoes, Second Edition, 2014
- **2014**, P. Wallace, **M. Edmonds**, T. Plank and E. Hauri. Volatiles in Magmas. Encyclopaedia of Volcanoes, Second Edition, 2014

Publications in Peer-Reviewed Journals

Number of accepted publications 112, H-Index 38, Citations total 4316, PhD students/postdoctoral researchers.

In review/in press

2020 *in review.* Wieser, Penny, Hector Lamadrid, John Maclennan, **Edmonds, Marie**, Frances Jenner, Kayla Iacovino, Simon Matthews, Cheryl Gansecki, Frank Trusdell, Lopaka Lee, Barbara Kunz, Evgenia Ilyinskaya. The influence of Post-Entrapment Crystallization on melt inclusion CO_2 systematics: an example from the 2018 eruption of Kilauea. *Geochemistry, Geophysics, Geosystems.*

2020 *in review.* Woitischek, Julia, **Edmonds, Marie** and Andrew W Woods. On the intermittency of volcanic gas plumes. *Geophysical Research Letters.*

2020 *in review.* Woitischek, Julia, **Edmonds, Marie** and Andrew W Woods. On the use of plume models to estimate the flux in volcanic gas plumes. *Nature Communications.*

2020 *in review.* Gautier Nicoli, Brendan J. Dyck, **Edmonds, Marie**. Orogenic carbon sink and the Wilson cycle. *PNAS.*

2020 *in review.* Mason, Emily, Penny E. Wieser, Emma Liu, **Edmonds, Marie**, Evgenia Ilyinskaya, Rachel C W Whitty, Tamsin Mather, Tamar Elias, Patricia Amanda Nadeau, Thomas C Wilkes, Andrew J S McGonigle, Tom D Pering, Christoph Kern, David J Schneider, and Clive Oppenheimer. Volatile metal emissions from volcanic degassing and lava-ocean interactions at Kīlauea Volcano, Hawaii. *Nature Reviews: Earth Environment*

2020 *in review.* Barber, Nicholas, F. Jenner, A. Audetat and **Edmonds, Marie**. Global Systematics of Copper in Arc Magmas Using a Big Data Approach. *Nature Communications.*

2020 *in press.* Liu, E., **Edmonds, Marie** et al. Aerial strategies advance volcanic gas measurements at inaccessible, strongly degassing volcanoes. *Science Advances.*

2020 *in press.* Audetat, A., **Edmonds, Marie**. Magmatic-hydrothermal fluids. *Elements.*

2020 *in press.*, S. Matthews, **Edmonds, Marie** et al. Do olivine crystallisation temperatures faithfully record mantle temperature variability? *Geochemistry, Geophysics, Geosystems.*

2020, *in press.* Taracsák, Zoltán, Margaret E. Hartley, Marc-Antoine Longpré, Ray Burgess, **Edmonds, Marie**. The role of mantle metasomatism in the generation of volatile-rich OIBs, revealed by oxygen fugacity and temperature estimates from El Hierro basalts (Canary Islands). *Journal of Petrology.*

2020, *in review.* Taracsák, Zoltán, D. A. Neave, P. Beaudry, J. Gunnarsson-Robin, R. Burgess, **Edmonds, Marie**, S.A. Halldórsson, M-A. Longpré, S. Ono, E.J. Ranta, A. Stefánsson, A. V. Turchyn, EIMF, M.E. Hartley. Instrumental mass fractionation during sulfur isotope analysis with secondary ion mass spectrometry in natural and synthetic glasses. *Geochimica Cosmochimica Acta.*

2020, *in review.* Ilyinskaya, E., **Edmonds, Marie**, et al. A self-cleaning tropospheric volcanic plume. *Nature Reviews: Earth Environment.*

Published Papers

108. **2020**, Woitischek, Julia, **Edmonds, Marie**, and A. W. Woods. The control of magma crystallinity on the fluctuations in gas composition at open vent basaltic volcanoes. *Scientific Reports*, 10(1):1–7, 2020

107. **2020**, **Edmonds, Marie**. Geochemical monitoring of volcanoes and the mitigation of volcanic gas hazards. In *Forecasting and Planning for Volcanic Hazards, Risks, and Disasters*, pages 117–151. Elsevier

106. **2020**, E. J. Liu, K. V. Cashman, E. Miller, H. Moore, **Edmonds, Marie**, B. E. Kunz, F. Jenner, and G. Chigna. Petrologic monitoring at Volcán de Fuego, Guatemala. *Journal of Volcanology and Geothermal Research*, page 107044, 2020

105. **2020**, T. Ilanko, T. D. Pering, T. C. Wilkes, J. Woitischek, R. D'Aleo, A. Aiuppa, A. J. McGonigle, **Edmonds, Marie**, and E. Garaebiti. Ultraviolet camera measurements of passive and explosive (strombolian) sulphur dioxide emissions at Yasur Volcano, Vanuatu. *Remote Sensing*, 12(17):2703, 2020

104. **2020**, Iddon, Fiona and **Edmonds, Marie**. Volatile-rich magmas distributed through the upper crust in the Main Ethiopian Rift. *Geochemistry, Geophysics, Geosystems*, page e2019GC008904, 2020

103. **2020**, Woitischek, Julia, A. W. Woods, **Edmonds, Marie**, C. Oppenheimer, A. Aiuppa, T. D. Pering, T. Ilanko, R. D'Aleo, and E. Garaebiti. Strombolian eruptions and dynamics of magma degassing at Yasur Volcano (Vanuatu). *Journal of Volcanology and Geothermal Research*, page 106869, 2020

102. **2020**, Whitty, Rachel CW, E. Ilyinskaya, E. Mason, P. E. Wieser, E. J. Liu, A. Schmidt, T. Roberts, M. A. Pfeffer, B. Brooks, **Edmonds, Marie**, et al. Spatial and temporal variations in SO_2 and $PM_{2.5}$ levels around Kīlauea Volcano, Hawai'i during 2007–2018. *Frontiers in Earth Science*, 8, 2020

101. **2020**, Wieser, Penny, F. Jenner, **Edmonds, Marie**, J. Maclennan, and B. Kunz. Chalcophile elements track the fate of sulfur at Kīlauea volcano, Hawai'i. *Geochimica et Cosmochimica Acta*, 2020

100. **2020**, Wieser, Penny E, **Edmonds, Marie**, J. Maclennan, and J. Wheeler. Microstructural constraints on magmatic mushes under Kīlauea volcano, Hawaii. *Nature Communications*, 11(1):1–14, 2020

99. **2020**, **Edmonds, Marie**, B. Tutolo, K. Iacovino, and Y. Moussallam. Magmatic carbon outgassing and uptake of CO_2 by alkaline waters. *American Mineralogist*, 105(1):28–34, 2020

98. **2019**, Wong, Kevin, Mason, Emily, S. Brune, East, Madison, **Edmonds, Marie**, and S. Zahirovic. Deep carbon cycling over the past 200 million years: a review of fluxes in different tectonic settings. *Frontiers in Earth Science*, 7:1–22, 2019

97. **2019**, Wieser, Penny E, **Edmonds, Marie**, J. Maclennan, F. E. Jenner, and B. E. Kunz. Crystal scavenging from mush piles recorded by melt inclusions. *Nature Communications*, 10(1):1–11, 2019

96. **2019**, C. A. Suarez, **Edmonds, Marie**, and A. P. Jones. Earth catastrophes and their impact on the carbon cycle. *Elements: An International Magazine of Mineralogy, Geochemistry, and Petrology*, 15(5):301–306, 2019

95. **2019**, Wieser, Penny E, Z. Vukmanovic, R. Kilian, E. Ringe, M. B. Holness, J. Maclennan, and **Edmonds, Marie**. To sink, swim, twin, or nucleate: A critical appraisal of crystal aggregation processes. *Geology*, 47(10):948–952, 2019

94. **2019**, C. Werner, T. P. Fischer, A. Aiuppa, **Edmonds, Marie**, C. Cardellini, S. Carn, G. Chiodini, E. Cottrell, M. Burton, H. Shinohara, and et al. *Carbon Dioxide Emissions from Subaerial Volcanic Regions*. Cambridge University Press, 2019

93. **2019**, Taracsák, Z, M. Hartley, R. Burgess, **Edmonds, M**, F. Iddon, and M. Longpré. High fluxes of deep volatiles from ocean island volcanoes: Insights from El Hierro, Canary Islands. *Geochimica et Cosmochimica Acta*, 258:19–36, 2019

92. **2019**, Mutch, Euan JF, J. Maclennan, O. Shorttle, **Edmonds, Marie**, and J. F. Rudge. Rapid transcrustal magma movement under Iceland. *Nature Geoscience*, 12(7):569–574, 2019

91. **2019**, Salem, LC, **Edmonds, Marie**, R. Corsaro, and J. Maclennan. Carbon dioxide in geochemically heterogeneous melt inclusions from Mount Etna, Italy. *Geochemistry, Geophysics, Geosystems*, 20(7):3150–3169, 2019

90. **2019**, Barth, Anna, **M. Edmonds**, and A. Woods. Valve-like dynamics of gas flow through a packed crystal mush and cyclic strombolian explosions. *Scientific reports*, 9(1):1–9, 2019

89. **2019**, Iddon, Fiona, C. Jackson, W. Hutchison, K. Fontijn, D. M. Pyle, T. A. Mather, G. Yirgu, and **Edmonds, Marie**. Mixing and crystal scavenging in the Main Ethiopian Rift revealed by trace element systematics in feldspars and glasses. *Geochemistry, Geophysics, Geosystems*, 20(1):230–259, 2019

88. **2019**, McCormick Kilbride, Brendan T., K. Mulina, G. Wadge, R. W. Johnson, I. Itikarai, and **Edmonds, Marie**. Multi-year satellite observations of sulfur dioxide gas emissions and lava extrusion at Bagana volcano, Papua New Guinea. *Frontiers in Earth Science*, 7:9, 2019

87. **2019**, **Edmonds, Marie**, K. V. Cashman, M. Holness, and M. Jackson. Architecture and dynamics of magma reservoirs. *Philosophical Transactions of the Royal Society A*, 377(2139):20180298, 2019

86. **2019**, K. V. Cashman and **Edmonds, Marie**. Mafic glass compositions: a record of magma storage conditions, mixing and ascent. *Philosophical Transactions of the Royal Society A*, 377(2139):20180004, 2019

85. **2019**, R. S. White, **Edmonds, Marie**, J. Maclennan, T. Greenfield, and T. Agustsdottir. Melt movement through the Icelandic crust. *Philosophical Transactions of the Royal Society A*, 377(2139):20180010, 2019

84. **2019**, Liu, Emma J, K. Wood, E. Mason, **Edmonds, Marie**, A. Aiuppa, G. Giudice, M. Bitetto, V. Francofonte, S. Burrow, T. Richardson, et al. Dynamics of outgassing and plume transport revealed by proximal Unmanned Aerial system (UAS) measurements at Volcán Villarrica, Chile. *Geochemistry, Geophysics, Geosystems*, 20(2):730–750, 2019

83. **2018**, **Edmonds, Marie**, T. A. Mather, and E. J. Liu. A distinct metal fingerprint in arc volcanic emissions. *Nature Geoscience*, 11(10):790–794, 2018

82. **2018**, **Edmonds, Marie** and A. W. Woods. Exsolved volatiles in magma reservoirs. *Journal of Volcanology and Geothermal Research*, 368:13–30, 2018

81. **2018**, Hamlyn, Joanna, T. Wright, R. Walters, C. Pagli, E. Sansosti, F. Casu, S. Pepe, **Edmonds, Marie**, B. M. Kilbride, D. Keir, et al. What causes subsidence following the 2011 eruption at Nabro (Eritrea)? *Progress in Earth and Planetary Science*, 5(1):31, 2018

80. **2018**, Muller, Cyril, J. Biggs, S. K. Ebmeier, P. Mothes, P. B. Palacios, P. Jarrín, **Edmonds, Marie**, and M. Ruiz. Temporal evolution of the magmatic system at Tungurahua Volcano, Ecuador, detected by geodetic observations. *Journal of Volcanology and Geothermal Research*, 368:63–72, 2018

79. **2018**, Liu, EJ, K. Cashman, A. Rust, and **Edmonds, Marie**. Insights into the dynamics of mafic magmatic-hydromagmatic eruptions from volatile degassing behaviour: The Hverfjall Fires, Iceland. *Journal of Volcanology and Geothermal Research*, 358:228–240, 2018

78. **2018**, G. Wadge, B. M. Kilbride, **Edmonds, M**, and R. Johnson. Persistent growth of a young andesite lava cone: Bagana volcano, Papua New Guinea. *Journal of Volcanology and Geothermal Research*, 356:304–315, 2018

77. **2018**, Plail, M., **Edmonds, Marie**, A. W. Woods, J. Barclay, M. C. Humphreys, R. A. Herd, and T. Christopher. Mafic enclaves record syn-eruptive basalt intrusion and mixing. *Earth and Planetary Science Letters*, 484:30–40, 2018

76. **2017**, Hartley, Margaret E, O. Shorttle, J. Maclennan, Y. Moussallam, and **Edmonds, Marie**. Olivine-hosted melt inclusions as an archive of redox heterogeneity in magmatic systems. *Earth and Planetary Science Letters*, 479:192–205, 2017

75. **2017**, E. Ilyinskaya, A. Schmidt, T. A. Mather, F. D. Pope, C. Witham, P. Baxter, T. Jóhannsson, M. Pfeffer, S. Barsotti, **Edmonds, Marie**, et al. Understanding the environmental impacts of large fissure eruptions: Aerosol and gas emissions from the 2014–2015 Holuhraun eruption (Iceland). *Earth and Planetary Science Letters*, 472:309–322, 2017

74. **2017**, Mason, Emily, **Edmonds, Marie**, and A. V. Turchyn. Remobilization of crustal carbon may dominate volcanic arc emissions. *Science*, 357(6348):290–294, 2017

73. **2017**, Neave, David A, M. E. Hartley, J. Maclennan, **Edmonds, Marie**, and T. Thordarson. Volatile and light lithophile elements in high-anorthite plagioclase-hosted melt inclusions from Iceland. *Geochimica et Cosmochimica Acta*, 205:100–118, 2017

72. **2017**, **Edmonds, Marie** and P. J. Wallace. Volatiles and exsolved vapor in volcanic systems. *Elements*, 13(1):29–34, 2017

71. **2017**, **Edmonds, Marie** and T. A. Mather. Volcanic sulfides and outgassing. *Elements*, 13(2):105–110, 2017

70. **2017**, Hughes, Ery C, D. A. Neave, K. J. Dobson, P. J. Withers, and **Edmonds, Marie**. How to fragment peralkaline rhyolites: Observations on pumice using combined, multi-scale 2D and 3D imaging. *Journal of Volcanology and Geothermal Research*, 336:179–191, 2017

69. **2016**, McCormick Kilbride, Brendan, **Edmonds, Marie**, and J. Biggs. Observing eruptions of gas-rich compressible magmas from space. *Nature Communications*, 7(1):1–8, 2016

68. **2016**, Y. Moussallam, **Edmonds, Marie**, B. Scaillet, N. Peters, E. Gennaro, I. Sides, and C. Oppenheimer. The impact of degassing on the oxidation state of basaltic magmas: a case study of Kīlauea Volcano. *Earth and Planetary Science Letters*, 450:317–325, 2016

67. **2016**, Hayer, CS, G. Wadge, **Edmonds, Marie**, and T. Christopher. Sensitivity of OMI SO_2 measurements to variable eruptive behaviour at Soufrière Hills Volcano, Montserrat. *Journal of Volcanology and Geothermal Research*, 312:1–10, 2016

66. **2016**, Robertson, Elspeth, J. Biggs, **Edmonds, Marie**, L. Clor, T. P. Fischer, C. Vye-Brown, G. Kianji, W. Koros, and R. Kandie. Diffuse degassing at Longonot Volcano, Kenya: Implications for CO_2 flux in continental rifts. *Journal of Volcanology and Geothermal Research*, 327:208–222, 2016

65. **2016**, **Edmonds, Marie**, S. Kohn, E. Hauri, M. Humphreys, and M. Cassidy. Extensive, water-rich magma reservoir beneath southern Montserrat. *Lithos*, 252:216–233, 2016

64. **2016**, Hartley, Margaret E, D. J. Morgan, J. Maclennan, **Edmonds, Marie**, and T. Thordarson. Tracking timescales of short-term precursors to large basaltic fissure eruptions through Fe–Mg diffusion in olivine. *Earth and Planetary Science Letters*, 439:58–70, 2016

63. **2016**, Rae, Auriol SP, **Edmonds, Marie**, J. Maclennan, D. Morgan, B. Houghton, M. E. Hartley, and I. Sides. Timescales of magma transport and mixing at Kīlauea Volcano, Hawai'i. *Geology*, 44(6):463–466, 2016

62. **2016**, M. C. Humphreys, **Edmonds, Marie**, and M. S. Klöcking. The validity of plagioclase-melt geothermometry for degassing-driven magma crystallization. *American Mineralogist*, 101:769–779, 2016

61. **2016**, B. F. Houghton, J. Taddeucci, D. Andronico, H. Gonnermann, M. Pistolesi, M. R. Patrick, T. R. Orr, D. Swanson, **Edmonds, Marie**, D. Gaudin, et al. Stronger or longer: Discriminating between Hawaiian and Strombolian eruption styles. *Geology*, 44(2):163–166, 2016

60. **2015**, **Edmonds, Marie**. Research focus: Flotation of magmatic minerals. *Geology*, 43(7):655–656, 2015

59. **2015**, **Edmonds, Marie**, J. Grattan, and S. Michnowicz. Volcanic Gases: Silent Killers. In *Observing the Volcano World*, pages 65–83. Springer, 2015

58. **2015**, Hartley, Margaret E, D. A. Neave, J. Maclennan, **Edmonds, Marie**, and T. Thordarson. Diffusive over-hydration of olivine-hosted melt inclusions. *Earth and Planetary Science Letters*, 425:168–178, 2015

57. **2015**, Cassidy, M, S. Watt, P. Talling, M. Palmer, **Edmonds, M**, M. Jutzeler, D. Wall-Palmer, M. Manga, M. Coussens, T. Gernon, et al. Rapid onset of mafic magmatism facilitated by volcanic edifice collapse. *Geophysical Research Letters*, 42(12):4778–4785, 2015

56. **2015**, O. Shorttle, Y. Moussallam, M. E. Hartley, J. Maclennan, **Edmonds, Marie**, and B. J. Murton. Fe-XANES analyses of Reykjanes Ridge basalts: Implications for oceanic crust's role in the solid Earth oxygen cycle. *Earth and Planetary Science Letters*, 427:272–285, 2015

55. **2015**, Sibik, Svetlana, **Edmonds, Marie**, J. Maclennan, and H. Svensen. Magmas erupted during the main pulse of Siberian Traps volcanism were volatile-poor. *Journal of Petrology*, 56(11):2089–2116, 2015

54. **2015**, T. Christopher, J. Blundy, K. Cashman, P. Cole, **Edmonds, Marie**, P. Smith, R. Sparks, and A. Stinton. Crustal-scale degassing due to magma system destabilization and magma-gas decoupling at Soufrière Hills Volcano, Montserrat. *Geochemistry, Geophysics, Geosystems*, 16(9):2797–2811, 2015

53. **2015**, M. C. Humphreys, **Edmonds, M**, T. Christopher, and V. Hards. Discussion on 'Magma storage region processes of the Soufrière Hills volcano, Montserrat', Geological Society, London, Memoirs, 39, 361-381. *Journal of the Geological Society*, 172(4):533–539, 2015

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