CONTACT

+44 (0) 1223 333401

sally@esc.cam.ac.uk

linkedin.com/in/sally gibson

Dept of Earth Sciences, University of Cambridge, UK

Orcid ID 0000-0002-4835-2908

https://linktr.ee/sallygibson

EDUCATION

PhD
University of London (Kingston)
1985-1988

BSc (Spec Hons)
University of Sheffield
1982-1985

LEADERSHIP

President, Mineralogical Society of UK & Ireland (2023-2025)

Chair, Volcanic & Magmatic Studies Group (2018-2022)

Acting Director, Sedgwick Museum, University of Cambridge (2015 & 2018)

LA-ICP-MS Lab Manager, University of Cambridge (2002-)

PRIZES & AWARDS

2017: Harold Wilson Memorial Lecture, Ulster Museum, Belfast

2014: Hallimond Lecture Prize for outstanding contribution to mineralogy & petrology, Mineralogical Society of UK & Ireland

2008: Sedgwick Prize for field research, University of Cambridge

2002: Pilkington Prize for teaching, University of Cambridge

Prof Sally A Gibson

FGS, F. MinSoc, AGU, EAG

PROFESSIONAL SUMMARY

My research is focused on the inner workings of our planet and how processes operating in its deep interior influence those at its surface. This work encompasses a wide range of topics, including mantle and volcanic rocks that span an age from 3.5 billion years to less than one year. The advancement of knowledge made by my research group has been accomplished by combining detailed field observations in remote parts of Africa, South and North America, Russia plus volcanic islands in the Atlantic and Pacific Oceans with analytical studies of volcanic rocks, geophysical and numerical investigations. This rigorous approach has allowed my research group and collaborators to address provocative and timely scientific questions related to global geodynamic processes. Recently, we have conducted an extensive campaign focused on the cycling of volatiles, and we are now expanding our efforts to investigate the origins of critical metals through our new REE-LITH project.

PROFESSIONAL EXPERIENCE

2018 – Professor of Petrology & Geochemistry, Dept of Earth Sciences, University of Cambridge, UK

2012 – 2018. Reader in Petrology & Geochemistry, Dept of Earth Sciences, University of Cambridge, UK

2001 – 2012. University Senior Lecturer, Dept of Earth Sciences, University of Cambridge University

1995 – 2001. Lecturer, Dept of Earth Sciences, University of Cambridge, UK

1992 – 1995. NERC Senior Research Assistant, Dept of Geological Sciences, University of Durham, UK. 'Cretaceous plume-lithosphere interaction & alkalic magmatism in Brazil and Paraguay'

1989 – 1991. NERC Senior Research Assistant, Dept of Geological Sciences, University of Durham, UK. 'Continental basaltic and basalt-related magmatism' (Oligocene-Quaternary magmatism of the Rio Grande rift and surrounding region, USA)

PROFESSIONAL SOCIETIES

2014 – Present: Member of the European Association of Geochemistry
1996 – Present: Member of the Mineralogical Society of UK & Ireland
1990 – Present: Member of the American Geophysical Union
1985 – Present: Fellow of the Geological Society of London

OTHER APPOINTMENTS & AFFILIATIONS: UNIVERSITY OF CAMBRIDGE

2019-2022: Faculty of Physics, Chemistry & Astronomy Promotions Panel
2019 -: Faculty of Earth Sciences & Geography Promotions Panel
2015 – 2016; 2018-2019: Acting Director, Sedgwick Museum of Earth Sciences

CURRENT AWARDS

NERC: REE-LITH project (£1 million)

NSF_NERC: Galapagos ($1.5 million)

ARC: Williams Ridge (Kerguelen)

SUPERVISION & EXAMINATION

Principal supervisor of 17 PhD students (all completed in <4 years).

Principal supervisor of 16 MSci students (>50% awarded 1st).

External examiner of 21 PhD theses (England, Wales, Scotland, N. Ireland, Eire, Netherlands, Brazil and Finland)

Senior Examiner of undergraduate exam committees at the University of Cambridge

EDITORIAL BOARDS

2018 – present: Editorial Review Board, *J. Petrology* (Invited)
2015 – 2018: Editorial Review Board, *Geology* (Invited)
1999 – 2008: Editor, *Journal of the Geological Society of London*

PANEL MEMBERSHIP

2018-2021: Icelandic Centre for Research Funds (RANNIS) panel for Maths & Physical Sciences

2012– Present: Scientific Advisory Board, Cambridge Arctic Shelf Project (Invited)

2012– 2014: Scientific & External Relations Committee, Geological Society of London (Invited)

OTHER APPOINTMENTS & AFFILIATIONS: UNIVERSITY OF CAMBRIDGE

2016. Senior Part II Examiner, Department of Earth Sciences
2012 – 2017: Careers Officer, Department of Earth Sciences
2010 – 2013: Faculty Board & Degree Committee, Department of Earth Sciences & Geography
2010 – Present: Manager of Earth Sciences geochemistry and sample preparation laboratories,
2010 – Present: Honorary Curator of Petrology, Sedgwick Museum (Invited)
2001 – 2015: Course Co-ordinator, 1B Geological Sciences B
2001 – Present: Manager of Laser-Ablation Inductively-Coupled-Plasma Mass-Spectrometry laboratory, Department of Earth Sciences
1997 – Present: Member of numerous Appointment Committees and Advisory Groups

SYNERGISTIC ACTIVITIES EXTERNAL TO UNIVERSITY OF CAMBRIDGE (SINCE 2007)

2025- AGU, Volcanology, Geochemistry, and Petrology Fellows Committee
2023-2025: President, Mineralogical Society (Invited)
2019-2025: Awards Nominations Panel, Geological Society of London
2018-2019: Vice President, Mineralogical Society (Invited)
2018 – 2021: Chair, Volcanic & Magmatic Studies Group, *Geological Society of London* (Invited)
2018 – 2022: External Examiner, *University of Bristol*
2024 & 2025: Session Convenor, EGU (Vienna)
2017: Session Convenor, AGU (New Orleans)
2017: Session Convenor, Goldschmidt (Paris)
2017 & 2008: Co-Scientist, Universities of Cambridge & Quito joint expedition to Galápagos
2015: Session convenor, EGU (Vienna, invited)
2014: Conference organiser, Deep Earth Processes, *Geological Society of London* (Invited)
2013 – 2015: External examiner, *Open University*
2013: Session convenor, IAVCEI (Japan, invited)
2011: Conference Organiser, Volcanic and Magmatic Studies Group, *Geological Society of London*
2010 – 2013: Geoconservation Committee, *Geological Society of London* (Invited)
2010 – Present: UK Universities Teaching Consortium for Earth Sciences (Invited)
2010 – 2013: Professional Committee, *Geological Society of London* (Invited)
2010-2013: Member of Council, *Geological Society of London* (Elected)
2009 – Present: Trustee, CASP (formerly known as Cambridge Arctic Shelf Project)
2007 - 2010: Charles Darwin Bicentenary exhibit, Sedgwick Museum of Earth Sciences
2007 & 2008: Principal Scientist, Universities of Cambridge & Idaho joint expedition to Galápagos

REGULAR CONTRIBUTIONS

I regularly give oral presentations at national/international conferences (e.g. *AGU, EGU, Goldschmidt*), review large grant proposals for NSF, CNPq, grant council for Eire, and review for high-ranking international scientific journals (e.g. *Nature, Geology, Earth Planetary Science Letters, Journal of Petrology, Science*)

INTERESTS

Travelling
Photography
Hill walking
Yoga

COMMITMENT TO EQUALITY, DIVERSITY AND INCLUSION

In my various positions within the *Mineralogical Society of the UK & Ireland* and the *Geological Society of London*, I actively showcase leadership that fosters excellence among others. This includes serving on awards panels for major scientific societies and modernising award criteria to encompass all contributions made by individuals and teamwork. I have been a member of the Council for both the *Mineralogical Society of the UK & Ireland* and the *Geological Society of London*, where I have led significant surveys of society members and authored related reports aimed at promoting equality, diversity, and inclusion. Additionally, I have played a key role in establishing new awards to honour the achievements of early-career researchers, such as the VMSG Zeiss Award and the VMSG Emeleus Grant, and in implementing mentoring programs. Furthermore, I have collaborated with international learned and professional societies to develop Code of Conduct policies.

OUTREACH & PUBLIC ENGAGEMENT

While serving as Acting Director of the Sedgwick Museum I worked with colleagues to host outreach and educational events in the Museum (e.g. Science Festival). I also served on the University of Cambridge Museums syndicate. I continue to participate in activities of the Sedgwick Museum via my role as Honorary Curator of Petrology and by serving on the Sedgwick Museum Strategy Board.

My research on Charles Darwin as a geologist—particularly his observations during the HMS Beagle voyage and in the Galapagos—has provided me with a distinctive opportunity to connect with a wide range of public audiences. This engagement has encompassed both historical and contemporary perspectives on the contributions and discoveries of scientists. Activities have included presentations and related events, such as Pint of Science, an Oxbridge Alumni trip to the Galapagos, and Sutton Trust Summer Schools.

MEDIA

March 21st 2025. Mapping Earth's minerals with seismic waves. Podcast https://www.thenakedscientists.com/articles/interviews/mapping-earths-minerals-seismic-waves

March 5th 2025. Why rare earths matter to Donald Trump and the west Financial Times. https://www.ft.com/content/65ee2baf-58ab-42e7-997b-7114c8920a91

March 2025. https://www.cam.ac.uk/research/news/new-global-map-promises-to-better-pinpoint-vital-rare-earth-deposits

October 2024. Skills & techniques. Convenor of presentation by Matt Streets (Rawwater). Transition from academia to industry. https://www.youtube.com/watch?v=3eCWBU_cS3w&t=2759s

July 2020. Addressing inequalities in the VMSG community. A series of virtual discussion meetings – https://www.youtube.com/watch?v=tjulJcVndqY

January 2021. Addressing inequalities in the VMSG community. Monitoring and measuring EDI https://www.youtube.com/watch?v=vyYk58jraRw

July 2016. https://www.cam.ac.uk/research/features/fingerprinting-rare-earth-elements-from-the-air

RECENT PEER REVIEWED PUBLICATIONS

[100] Asimus, J., Olierook, H.K., **Gibson, S.A.,** Whittaker, J.M., Halpin, J.A., Dackzo, N.R., Coffin, M., Heaton, D.E., Koppers, A.A., Hoernle, K., Hauff, F. & Belousov, I. (2026). Episodic rifting of a large igneous province concentrated along a microcontinent boundary. *G-Cubed* doi.org/10.1029/2025GC012849

[99] Bowman, E., **Gibson, S.A.,** Lebedev, S., Sui, S. (2026). Lithospheric thickness determines the global distribution of CO2-rich magmas. *Nature Geoscience* ***volume 19****, pages732–738 (2026)* doi.org/10.1038/s41561-026-01990-7

[98] Pearman, C., Tien, C-Y, White, N.J., Maclennan, B.J., **Gibson, S.A.,** Day, J.A., Parnell-Turner, R., IODP Expedition 395 Science Party (2026). Ocean Drilling Reveals Collapse and Resurgence of the Iceland Mantle Plume. *Nature Communications*. doi.org/10.1038/s41467-026-71618-2

[97] **Gibson, S.A.**, Jackson, C.G., Tollan, P & Hermann, J. (in prep). Incorporation of volatiles (H & F) in olivine and pyroxene in continental keels.

[96] Davison, S., Lebedev, S., Xu, Y., **Gibson, S.A.,** Civiero, C., Fullea, J., (2026). Reconciling seismic and thermos-chemical models of cratonic lithosphere. doi.org/10.1029/2025GC012768

[95] Geist, D.J. & **Gibson, S.A.** (2026). Geist, D. and Gibson, S. (2025) "Charles Darwin on Volcanoes", Volcanica, 9(1), pp. 1–11. doi.org/10.30909/vol/amiu7521

[94] Heckel, C., Withers, A.C., Woodland, A, **Gibson, S.A.** & Ludwig, T. (2026). The $_{H2O}$ component of sheared mantle peridotites: Evidence for hydrous deformation with implications for the stability of cratons and diamonds. Contributions to Mineralogy & Petrology. https://doi.org/10.1007/s00410-025-02295-5

[93] S.H., Shu, Q., Pearson, D.G., **Gibson, S.A.** (2026). East meets West: The trace of the Mesoproterozoic Kibaran event in the mantle lithosphere beneath eastern Tanzania. http://dx.doi.org/10.1029/2025JB032555

[92] **Gibson, S.A.**, Jackson, C.G. & Crosby, J.C. (2025). The role of C-O-H-F-Cl fluids in the making of Earth's continental roots. *Nat Commun* **16**, 7842.

[91] Sheldrick, T., Hahn, G., Antoshechkina, P., Norry, M.J., Egan, S., Barry, T.L., Gan, C., Wilkinson, C.M., **Gibson, S.A.** & Ewan, C. (2025). Carboniferous and Early Permian Magmatism in England. Journal of Petrology doi.org/10.1093/petrology/egaf063

[90] Heckel, C., Woodland, A. & **Gibson, S.A.** (2025). Cretaceous thinning of the Kaapvaal craton and diamond resorption: key insights from a highly-deformed and metasomatized ilmenite-dunite xenolith. *Lithos* https://doi.org/10.1016/j.lithos.2024.107901

[89] Chagas de Melo, B., Lebedev, S., Celli, N.L., **Gibson, S.A.**, de Laat, J.I. & Assumpção., M. (2024). The lithosphere of South America from seismic tomography: Structure, evolution, and control on tectonics and magmatism. https://www-sciencedirect-com. /science/article/pii/S1342937X24003071#f0095

[88] **Gibson, S.A.**, Crosby, J.C., Day, J.F., Stuart, F., DiNicola, L., Riley, T.R.R. (2024). Systematic behaviour of $^{3}He/^{4}He$ in Earth's continental mantle. *Geochimica, Cosmochimica Acta*. https://doi.org/10.1016/j.gca.2024.09.009

[87] Hoffmann, H., Day, J.A., Rhodes, R., Grieman,M., Humby, J., Rowell, I., Nehrbass-Ahles, C., Mulvaney, R., **Gibson, S.A.** & Wolff, E. (2024). Laser Ablation - ICP-MS measurements for high-resolution chemical ice core analyses with a first application to an ice core from Skytrain Ice Rise (Antarctica). *The Cryosphere*. egusphere-2023-3071

[86] **Gibson, S.A.**, McKenzie, D.P. & Lebedev, S., (2024). The distribution and generation of carbonatites. *Geology* https://doi.org/10.1130/G52141.1.

[85] Heckel, C., Woodland, A., J. Linkens, **Gibson, S.A.** & H-M. Seitz (2023). Sheared peridotites from Northern Lesotho: Metasomatism-Induced deformation and craton destabilization. *Journal of Petrology*, 64, 1–29 https://doi.org/10.1093/petrology/egad076.

[84] Jackson, C.J. & **Gibson, S.A.** (2023). Build-up of multiple volatiles in Earth's mantle: Implications for craton stability. *Earth & Planetary Science Letters* doi.org/10.1016/j.epsl.2023.118134.

[83] **Gibson, S.A.** & McKenzie, D.P. (2023). On the role of Earth's lithospheric mantle in global volatile cycles. *Earth & Planetary Science Letters* doi.org/10.1016/j.epsl.2022.117946.

[82] Hole, M.J., **Gibson, S.A.** & Morris, M.C. (2022). Slab window related magmatism as a probe for pyroxenite heterogeneities in the upper mantle. *Geology* 51, 268-272. https://doi.org/10.1130/G50687.1.

[81] Heckel, C., Woodland, A., J. Linkens, **Gibson, S.A.** & H-M. Seitz (2022). Sheared peridotites from Kimberley (Kaapvaal craton, SA): record of multiple metasomatic events accompanied with deformation. *Journal of Petrology* https://doi.org/10.1093/petrology/egac096. Editors Choice.

[80] Lloyd, J., Gibson, S.A., Bagard, M.L., Deady, E., Horák, J., Pendlowski, H., Cooper, F., Kelly, L.C., Lord, O., Scarlett, J. & Murphy, K., 2022. The Mineralogical Society of the UK & Ireland Equality, Diversity & Inclusivity Report. https://doi.org/10.31223/x5008f.The Mineralogical Society of the UK & Ireland Equality, Diversity & Inclusivity Report. https://doi.org/10.31223/x5008f.

[79] Halldórson, S.A., Hilton, D.R., Marshall, E.W., Ranta, E., Ingavason, A., Chakraborty, S., Gunnarsson Robin, J., Rasmussen, M.B., **Gibson, S.A.**, Ono, S., Scarsi, P., Abebe, T., Hopp, J., Barry, P.H. & Castillo, P.R. (2022). Evidence from gas-rich ultramafic xenoliths for Superplume-derived recycled volatiles in the East African sub-continental mantle. *Chemical Geology* doi.org/10.1016/j.chemgeo.2021.120682.

[78] Gleeson, M.L.M. & **Gibson, S.A.**, Stock, M.J. & EIMF (2021). Constraints on the behaviour and content of volatiles in Galápagos magmas from melt inclusions and nominally anhydrous minerals. *Geochimica, Cosmochimica Acta*. https://doi.org/10.1016/j.gca.2021.11.005

[77] Gleeson M.L.M., Soderman, C., Matthews, S., Cottaar, S. & **Gibson, S.A.** (2021). Geochemical constraints on the structure of the Earth's deep mantle and the origin of the LLSVPs. *Geochemistry, Geophysics, Geosystems*. doi/10.1029/2021GC009932.

[76] Gleeson, M.L.M. & **Gibson, S.A.** (2021). Insights into the nature of plume-ridge interaction and outflux of H2O from the Galápagos Spreading Center. *Geochemistry, Geophysics, Geosystems*, doi.org/10.1029/2020GC009560.

[75] Hernandez Nava, A., Black, B.A., **Gibson, S.A.**, Bodnar, R.J., Renne, P.R. & Vanderkluysen, L. (2021). Reconciling early Deccan Traps CO2 outgassing and pre-KPB global climate. *PNAS* 118, doi.org/10.1073/pnas.2007797118.

[74] Leat, P.T., Ross, A., **Gibson, S.A.**, Ultramafic mantle xenoliths in the Late Cenozoic Volcanic rocks of the Antarctic Peninsula and Jones Mountains, West Antarctica. In: *The Antarctic Mantle*. Geological Society of London Memoir 56, https://doi.org/10.1144/M56-2019-44.

[73] Moreau, L., Draily, C., Cordy, J., Boyle, K., Buckley, M., Gjesfjeld, E., Filzmoser, P., Borgia, V., **Gibson, S.A.**, Day, J., Beyer, R., Manica, A., Linden, M.V., de Grooth, M. & Pirson, S. (2021). Adaptive trade-offs towards the Last Glacial Maximum in North-Western Europe: a multidisciplinary view from Walou Cave. *Journal of Paleolithic Archaeology*, 4, https://doi.org/10.1007/s41982-021-00078-5.

[72] **Gibson, S.A.** & Kavanagh, J. (2020). *Volcanic and Magmatic Studies Group Members Survey 2020*. https://doi.org/10.31223/osf.io/c8twm.

[71] **Gibson, S.A.**, Engwell, S.E., Kavanagh, J. (2020). The Volcanic & Magmatic Studies Group Equality, Diversity and Inclusion Report 2020. https://eartharxiv.org/rgxh7/.

[70] Gleeson, M.L.M., **Gibson, S.A.** & Stock, M.J. (2020). Upper mantle mush zones beneath low melt flux ocean island volcanoes: insights from Isla Floreana, Galápagos. *Journal of Petrology* 60, egaa094.

[69] Ayalew, D., Pik, R., **Gibson, S.A.**, Yirgu, G. & Assefa, D. (2020). Pedogenic origin of Mezezo opal hosted in Ethiopian Miocene rhyolites. *Canadian Mineralogist* 58, 231-246 https://doi.org/10.3749/canmin.1900059.

[68] **Gibson, S.A.**, Rooks, E.E., Day, J.A., Petrone, C.M., Leat, P.T. (2020). The role of sub-continental mantle as both "sink" and "source" in deep Earth volatile cycles. *Geochimica Cosmochimica Acta* 275. https://doi.org/10.1016/j.gca.2020.02.018.

[67] Gleeson, M.L.M., **Gibson, S.A.** & Williams, H.M. (2020). Novel insights from Fe-isotopes into the lithological heterogeneity of ocean island basalts and plume-influenced MORBs. *Earth Planet Sci. Lett.* 535. https://doi.org/10.1016/j.epsl.2020.116114.

[66] Jennings, E., **Gibson, S.A.** & Maclennan, J. (2019). Hot primary melts and mantle source for the Paraná-Etendeka flood basalt province: New constraints from Al-in-olivine thermometry. *Chemical Geology* 529. https://doi.org/10.1016/j.chemgeo.2019.119287.

[65] Rasmussen, M.B., Halldórsson, S.A., **Gibson, S.A.** & Gudfinnsson, G.H. (2019). Olivine chemistry reveals compositional source heterogeneities within a tilted mantle plume beneath Iceland. *Earth Planet Sci. Lett.* 531. https://doi.org/10.1016/j.epsl.2019.116008.

[64] Bernard, B., Stock, M.J., Coppola, D., Hidalgo, S., Bagnardi, M., **Gibson, S.A.**, Hernandez, S., Ramon, P. & Gleeson, M. (2019). Chronology and phenomenology of the 1982 and 2015 Wolf volcano eruptions, Galápagos Archipelago. *Journal of Volcanology & Geothermal Research* 374. https://doi.org/10.1016/j.jvolgeores.2019.02.013.

[63] Shu, Q., Brey, G.P., Pearson, D.G., Liu, J., **Gibson, S.A.** Becker, H. (2019). Melting and metasomatism in Finsch peridotites (Kaapvaal craton): mutual constraints from petrology, major and trace elements (including HSEs) and multiple isotope systematics. *Precambrian Research* 331. https://doi.org/10.1016/j.precamres.2019.105380.

[62] Black, B. & **Gibson, S.A.**, 2019. Deep carbon and the life cycle of Large Igneous Provinces. Elements 15 (5), 319-324. https://doi.org/10.2138/gselements.15.5.319

[61] Gleeson, M. & **Gibson, S.A.**, 2019. Crustal controls on apparent mantle pyroxenite signals in ocean-island basalts. Geology 47 (4), 321-324.

[60] Moreau, L., Ciornei, A., Gjesfeld, E., Filzmoser, P., **Gibson, S.A.**, et al., 2019. First geochemical fingerprinting of Balkan and Prut flint from Palaeolithic Romania: Potentials, limitations, and future directions. Archaeometry https://doi.org/10.1111/arcm.12433.

[59] Jackson, C.G. & **Gibson, S.A.**, 2018. Preservation of systematic Ni and Cr heterogeneity in otherwise homogeneous mantle olivine: implications for timescales of post-metasomatism re-equilibration. Lithos 318-319. https://doi.org/10.1016/j.lithos.2018.08.026

[58] **Gibson, S.A.** & Richards, M.A., 2018. Delivery of deep-sourced, volatile-rich plume material to the global ridge system. Earth & Planetary Science Letters 499, 205-218.

[57] Dockman, D., Pearson, D.G., Heaman, L., **Gibson, S.A.** & Sarkar, C., 2018. Timing and origin of magmatism in the Sverdrup Basin, Northern Canada—implications for lithospheric evolution in the High Arctic Large Igneous Province (HALIP). Tectonophysics 742, 50-65.

[56] **Gibson, S.A.**, 2017. 45th Hallimond Lecture: On the nature and origin of garnet in highly-refractory Archean lithospheric mantle: constraints from exsolved garnet in orthopyroxene from the Kaapvaal craton. Mineralogical Magazine. https://doi.org/10.1180/minmag.2016.080.158

[55] Jennings, E., **Gibson, S.A.**, Maclennan, J. & Heinnonen, J., 2016. Deep mixing of mantle melts beneath continental flood basalt provinces: Constraints from olivine-hosted melt inclusions in primitive magmas. Geochim Cosmochim Acta. https://doi.org/10.1016/j.gca.2016.09.015

[54] Richards, M.A., Alvarez, W., Self, S., Karlstrom, L., Renne, P.R., Manga, M., Sprain, C.J., Smit, J., Vanderkluysen, L., **Gibson, S.A.**, 2016. Triggering of the largest Deccan eruptions by the Chicxulub impact. Geol Soc America (response). https://doi.org/10.1130/B31645.1.

[53] Weit, A., Trumbull, R.B., Keiding, J.K., Geissler, W.H., **Gibson, S.A.**, Veksler, I.V., 2016. The magmatic system beneath the Tristan da Cunha hotspot: insights from thermobarometry, melting models, and geophysics. Tectonophysics https://doi.org/10.1016/j.tecto.2016.08.010.

[52] Miller, W.G.R., Holland, T.J.B. & **Gibson, S.A.**, 2016. Garnet and spinel oxybarometers: New internally consistent multi-equilibria models with applications to the oxidation state of the lithospheric mantle. Journal of Petrology 57, 1199-1222.

[51] **Gibson, S.A.**, Dale, C.W., Geist, D.G., Day, J.A., Brugmann, G., Harpp, K.S., 2016. The influence of melt flux and crustal processing on Re–Os isotope systematics of ocean island basalts: Constraints from Galápagos. Earth Planet. Sci. Lett. 449, 345-359.

[50] Neave, D.A., Black, M., Riley, T.R., **Gibson, S.A.**, Ferrier, G., Wall, F., 2016. On the Feasibility of Imaging Carbonatite-Hosted Rare Earth Element Deposits Using Remote Sensing. Economic Geology, 641-665. https://doi.org/10.2113/econgeo.111.3.641

[49] Richards, M.A., Alvarez, W., Self, S., Karlstrom, L., Renne, P.R., Manga, M., Sprain, C.J., Smit, J., Vanderkluysen, L., **Gibson, S.A.**, 2015. Triggering of the largest Deccan eruptions by the Chicxulub impact. Geol Soc America 127, 1507-1520.

[48] **Gibson, S.A.**, Geist, D. & Richards, M.A., 2015. Mantle plume capture, anchoring, and outflow during Galápagos plume-ridge interaction. Geochemistry, Geophysics, Geosystems. https://doi.org/10.1002/2015GC005723.

[47] **Gibson, S.A.**, McMahon, S.C., Day, J.A. & Dawson, J.B., 2013. Highly-refractory lithospheric mantle beneath the Tanzanian Craton: evidence from Lashaine pre-metasomatic garnet-bearing peridotites. Journal of Petrology 54, 1503-1546.

[46] **Gibson, S.A.**, Geist, D., Day, J.A. & Dale, C.W., 2012. Short wavelength heterogeneity in the Galápagos plume: evidence from compositionally diverse basalts on Isla Santiago. Geochemistry, Geophysics, Geosystems. https://doi.org/10.1029/2012GC004244.

[45] **Gibson, S.A.** & Geist, D., 2010. Geochemical and geophysical mapping of lithospheric thickness variations beneath Galápagos. Earth and Planetary Science Letters, 300 (3-4), 275-288.

[44] Ayalew D. & **Gibson, S.A.**[1], 2009. Head-to-tail transition of the Afar mantle plume: Geochemical evidence from a Miocene bimodal basalt-rhyolite succession in the Ethiopian Large Igneous Province. Lithos 112, 461-476.

[43] Herbert, S., **Gibson, S.A.**, Norman, D., Geist, D., Estes, G., Grant, T., Miles, A., 2009. Into the field again: re-examining Charles Darwin's 1835 geological work on Isla Santiago in the Galápagos archipelago. Earth Sciences History, 28 (1), 1-31.

[42] **Gibson, S.A.**, Malarkey, J. & Day, J.A., 2008. Melt Depletion and Enrichment beneath the Western Kaapvaal Craton: Evidence from Finsch Peridotite Xenoliths. Journal of Petrology 49, 1817-1852.

[41] Tuff, J. & **Gibson, S.A.**, 2007. Trace-element partitioning between garnet, clinopyroxene, and Fe-rich picritic melts at 3 to 7 GPa. Contributions to Mineralogy and Petrology 4, 369-387.

[40] **Gibson, S.A.**, Thompson, R.N., Day, J.A., Humphris, S.E., Dickin, A.P., 2006. Timescales and mechanisms of plume-lithosphere interactions: 40Ar/39Ar geochronology and geochemistry of alkaline igneous rocks from the Paraná-Etendeka large igneous province. Earth and Planetary Science Letters, 1-17.

[39] **Gibson, S.A.**, Thompson, R.N., Day, J., 2005. Melt generation processes associated with the Tristan mantle plume: constraints on the origin of EM-1. Earth and Planetary Science Letters 237, 744-767.

[38] Tuff, J., Takahasi, E. & **Gibson, S.A.**, 2005. Experimental Constraints on the Role of Garnet Pyroxenite in the Genesis of High-Fe Mantle Plume Derived Melts. Journal of Petrology 46, 2023-2058.

[37] Rao, N.V.C., **Gibson, S.A.**, Pyle, D.M., Dickin, A.P., Day, J.A., 2005. Petrogenesis of Proterozoic Lamproites and Kimberlites from the Cuddapah Basin and Dharwar Craton, Southern India: a Reply Journal of Petrology 46, 1081-1084.

[36] Thompson, R.N., Ottley, C.J., Smith, P.M., Pearson, D.J., Morrison, M.A., Leat, P.T., **Gibson, S.A.**, 2005. The puzzle of OIB-like continental alkalic magmatism: Quaternary alkalic basalts, picrites and basanites of the Potrillo Volcanic Field, New Mexico, USA. Journal of Petrology 46, 1609-1643.

[35] Johnson, J., **Gibson, S.A.** [1], Thompson, R.N. & Nowell, G.M., 2005. Volcanism in the Vitim Field, Siberia: geochemical evidence for a mantle plume beneath the Baikal Rift Zone. *Journal of Petrology* 46, 1309-1344.

[34] Chalpathi Rao, N.V., **Gibson, S.A.** [1], Pyle, D.M., Dickin, A.P., 2004. Petrogenesis of Proterozoic lamproites and kimberlites from the Cuddapah Basin and Dharwar Craton, Southern India. *Journal of Petrology* 45, 907-948.

[33] Anand, M., **Gibson, S.A.** [1], Subbarao, K.V., Kelley, S.P., Dickin, A.P., 2003. Early Proterozoic melt generation processes beneath the intra-cratonic Cuddapah Basin, Southern India. *Journal of Petrology* 44, 2139-2171.

[32] Thompson, R.N., Smith, P.M., **Gibson, S.A.**, Mattey, D.P., Dickin, A.P., 2002. Ankerite carbonatite from Swartbooisdrif, Namibia: the first evidence for magmatic ferrocarbonatite. *Contributions to Mineralogy and Petrology* 143, 377-395.

[31] **Gibson, S.A.**, 2002. Major element heterogeneity in Archean to recent mantle plume starting-heads. *Earth and Planetary Science Letters* 195, 59-74.

[30] Thompson, R.N., **Gibson, S.A.**, Dickin, A.P. & Smith, P., 2001. Early Cretaceous basalt and picrite dykes of the Southern Etendeka region, NW Namibia: windows into the role of the Tristan mantle plume in Paraná-Etendeka magmatism. *Journal of Petrology* 42, 2049-2081.

[29] Brod, J.A., Gaspar, J.C., de Arauajo, D.P., **Gibson, S.A.**, Thompson, R.N., Junqueira-Brod, T.C., 2001. Phlogopite and tetra-ferriphlogopite from Brazilian carbonatites complexes: petrogenetic constraints and implications for mineral-chemistry systematics. *J. Asian Earth Sciences* 19, 265-296.

[28] Junqueira-Brod, T.C., Brod, J.A., **Gibson, S.A.** & Thompson, R.N., 2000. Mineral chemistry of kamafugites and related rocks from the Aguas Emendadas region Goias state. *Revista Brasileira de Geociencias* 30, 399-403.

[27] Junqueira-Brod, T.C., Brod, J.A., Thompson, R.N. & **Gibson, S.A.**, 1999. Spinning droplets—A conspicuous lapilli-size structure in kamafugitic diatremes of Southern Goiás, Brazil. *Revista Brasileira de Geociencias* 29, 437-440.

[26] Brod, J.A., **Gibson, S.A.**, Thompson, R.N., Junqueira-Brod, T.C., Seer, J.H., Moraes, L.C de & Boaventura, G.R., 2000. The kamafugite-carbonatite association in the Alto Paranaiba Igneous Province (APIP) southeastern Brazil. *Revista Brasileira de Geociencias* 30, 404-408.

[25] Thompson, R.N. & **Gibson, S.A.**, 2000. Transient high temperatures in mantle plume heads inferred from magnesian olivines in Phanerozoic picrites. *Nature* 407, 502-505.

[24] Mahotkin, I.L., **Gibson, S.A.**[11], Thompson, R.N., Zhuravlev, D.Z. & Zherdev, P.U., 2000. Late Devonian Diamondiferous Kimberlite and Alkaline Picrite (Proto-kimberlite?) Magmatism in the Arkhangelsk Region, NW Russia. *Journal of Petrology* 41, 201-227.

[23] **Gibson, S.A.**, Thompson, R.N. & Dickin, A.P., 2000. Ferropicrites: geochemical evidence for Fe-rich streaks in upwelling mantle plumes. *Earth and Planetary Science Letters* 174, 355-374.

[22] Rao, N.V.C., Miller, J.A., **Gibson, S.A.**, Pyle, D.M. & Madhavan, V., 1999. Precise 40Ar/39Ar age determination of the Kotakonda kimberlite and Chelima lamproite, India: implication to the timing of mafic dyke swarm emplacement in the Eastern Dharwar craton. *J. Geological Society of India* 54, 205-209.

[21] Rao, N.V.C., Miller, J.A., **Gibson, S.A.**, Pyle, D.M. & Madhavan, 1999. Precise 40Ar/39Ar age determinations of kimberlites and lamproites from southern India. *J. Geological Society of India* 53, 25-432.

[20] **Gibson, S.A.**, Thompson, R.N., Leonardos, O.H., Dickin, A.P. & Mitchell, J.G., 1999. The limited extent of plume-lithosphere interactions during CFB genesis: geochemical evidence from Cretaceous magmatism in southern Brazil. *Contrib. Mineral. Petrol.* 137, 147-169.

[19] Rao, N.V.C., **Gibson, S.A.**, Pyle, D.M., Dickin, A.P., 1998. Contrasting isotopic mantle sources for Proterozoic lamproites and kimberlites from the Cuddapah Basin and Eastern Dharwar craton: implication for Proterozoic mantle heterogeneity beneath Southern India. *J. Geological Society of India* 52, 683-694.

[18] Thompson, R.N., **Gibson, S.A.**, Mitchell, J.G., Dickin, A.P., Leonardos, O.H., Brod, J.A. & Greenwood, J.C., 1998. Migrating Cretaceous-Eocene magmatism in the Serra do Mar alkaline province, SE Brazil: melts from the deflected Trindade mantle plume? *Journal of Petrology* 39, 1493-1526.

[17] Thompson, R.N., Velde, D., Leat, P.T., Morrison, M.A., Mitchell, J.G., Dickin, A.P. & **Gibson, S.A.**, 1997. Oligocene lamproite containing an Al-poor Ti-rich biotite, Middle Park, north west Colorado, USA. *Min. Mag.* 61, 557-572.

[16] **Gibson, S.A.**, Thompson, R.N., Weska, R., Dickin, A.P., Leonardos, O.H., 1997. Late Cretaceous rift-related upwelling and melting of the Trindade starting mantle plume head beneath western Brazil. *Contrib. Mineral. Petrol.* 126, 303-314.

[15] Leonardos, O.H., Fleischer, R., Thompson, R.N., **Gibson, S.A.**, Svisero, D.P. & Weska, R.K., 1996. Comments on the paper of G.M. Gonzaga et al.,'The origin of diamonds in western Minas Gerais, Brazil' *Mineral Deposita* 31, 343-344.

[1] Denotes main but not 1st author

[14] **Gibson, S.A.**, Thompson, R.N., Leonardos, O.H., Dickin, A.P., 1995. High-Ti and Low-Ti mafic potassic magmas: Key to plume-lithosphere interactions and continental flood-basalt genesis. *Earth Planet. Sci. Lett.* 136, 149-165.

[13] **Gibson, S.A.**, Thompson, R.N., Leonardos, O.H., Turner, S., Mitchell, J.G., Dickin, A.P., 1994. The Serra do Bueno potassic diatreme: a possible hypabyssal equivalent of the ultramafic potassic volcanics in the Late Cretaceous Alto Paranaíba Igneous Province, SE Brazil. *Mineral. Mag.* 58, 357-372.

[12] Leonardos, O.H., **Gibson, S.A.**, Thompson, R.N., 1997. First evidence of thick sub-cratonic lithospheric mantle forming a Cretaceous diamond source beneath SE Brazil. *Proc. Acad. Sci. India* 56-67.

[11] Thompson, R.N. & **Gibson, S.A.**, 1994. Magmatic expression of lithospheric thinning across continental rifts. *Tectonophys.*, 233, 41-68.

[10] **Gibson, S.A.**, Thompson, R.N., Leonardos, O.H., Turner, S., Mitchell, J.G. & Dickin, A.P., 1994. The Serra do Bueno potassic diatreme: a possible hypabyssal equivalent of the ultramafic potassic volcanics in the Late Cretaceous Alto Paranaíba Igneous Province, SE Brazil. *Mineral. Mag.* 58, 357-372.

[9] **Gibson, S.A.**, 1994. Review of 'Magmatism in Extensional Structural Settings' by A.B. Kampunzu & R.T. Lubala (eds). *J. Petrology*, 35, 289.

[8] Thompson, R.N., **Gibson, S.A.**, Leat, P.T., Morrison, M.A., Hendry, G.L, Dickin, A.P. & Mitchell, J.G., 1993. Early-Miocene continental extension-related mafic magmatism at Walton Peak, Northwest Colorado: further evidence on continental basalts genesis. *J. Geol. Soc. Lond.* 150, 277-292.

[7] **Gibson, S.A.**, Thompson, R.N., Leat, P.T., Morrison, M.A., Hendry, G.L., Dickin, A.P. & Mitchell, J.G., 1993. Ultrapotassic magmas along the flanks of the Oligo-Miocene Rio Grande rift, USA: monitors of the zone of lithospheric extension and thinning beneath a continental rift. *J. Petrology* 34, 187-228.

[6] Thompson, R.N. & **Gibson, S.A.**, 1991. Subcontinental mantle plumes, hot spots and pre-existing thinspots. *J. Geol. Soc. Lond.* 148, 973-977.

[5] **Gibson, S.A.**, Thompson, R.N., Leat, P.T., Morrison, M.A., Hendry, G.L. & Dickin, A.P., 1991. The Flat Tops volcanic field NW Colorado 1: Lower Miocene open-system multi-source magmatism at Flander, Trappers Lake. *J. Geophys. Res.* 96, 13609-13627.

[4] **Gibson, S.A.** & Jones, A.P., 1991. Igneous stratigraphy and internal structure of the Little Minch Sill Complex on the Trotternish Peninsula, N. Skye, Scotland. *Geol. Mag.* 128, 51-66.

[3] Thompson, R.N., Leat, P.T., Morrison, M.A., Hendry, G.L. & **Gibson, S.A.**, 1990. Strongly potassic mafic magmas from lithospheric mantle sources during continental extension and heating: evidence from Miocene minettes of northwest Colorado, U.S.A. *Earth Planet. Sci. Lett.* 98, 139-53.

[2] **Gibson, S.A.**, 1990. The geochemistry of the Trotternish Sills, Isle of Skye: crustal contamination in the British Tertiary Volcanic Province. *J. Geol. Soc. Lond.* 147, 1071-1081.

[1] Gibb, F.G.F. & **Gibson, S.A.**, 1989. The Little Minch Sill Complex. *Scott. J. Geol.* 25, 367-370.

Non-peer reviewed conference proceedings (Oct 2018-)

[46] Sui, S., Lebedev, S., Bowman, E., Fullea, J. & **Gibson, S.A.** (2026). Thermal structure of the lithosphere across Africa and its controls on the generation of carbonated igneous rocks and primary mineral deposits. EGU Vienna.

[45] **Gibson, S.A.,** Jackson, C.J., Crosby, J.C. & Day, J.A. (2026). The role of C-O-H-F-Cl fluids in the making of Earth's continental roots. EGU Vienna (Highlighted).

[44] Richards, M.A.., Gleeson, M., Farnetani, C., Hoernle, K. & **Gibson, S.A.** (2026). Persistent geochemical zonation ("Striping") within the Galápagos mantle plume. EGU Vienna.

[43] Sui, S., Xu, Y., Lebedev, S., Bowman, E., Fullea, J. & **Gibson, S.A.** (2025). A new model for the thickness and thermal structure of the African lithosphere: implications for the distributions of kimberlites, carbonatites and critical mineral deposits. AGU Fall, New Orleans.

[42] Davison, S., **Gibson, S.A**., Cievero, C. & 2025. Reconciling seismic and thermo-chemical models of cratonic lithosphere. EGU Vienna.

[41] Sui, S., Xu, Y., Lebedev, S., Bowman, E., Fullea, J. & **Gibson, S.A. (**2025). A new model for the thickness and thermal structure of the African lithosphere: implications for the distributions of kimberlites, carbonatites and critical mineral deposits. EGU Vienna

[40] **Gibson, S.A.,** McKenzie, D.P. & Lebedev, S. (2025). The dynamic role of Earth's continental mantle in 'deep time' volatile cycles. EGU Vienna (invited).

[39] **Gibson, S.A**., Sui, S., & Lebedev, S. (2025). Lithospheric architecture controls on the global occurrence of intraplate alkaline magmas. Goldschmidt, Prague

[38] Cirium, D., **Gibson, S.A**., Passey, S., Black, B & Ayalew, D. (2025). Constraints on Volatile Concentrations in Flood and Shield Lavas from the Afro-Arabian LIP. Goldschmidt, Prague.

[37] **Gibson, S.A.,** McKenzie, D.P. & Lebedev, S. (2025). The dynamic role of Earth's continental mantle in 'deep time' volatile cycles. Goldschmidt, Prague. (Keynote)

[36] Gleeson, M., Richards, M.A., Farnetani, C., Horenle, K. & **Gibson, S.A.** (2024). AGU Fall, Washington DC.

[35] Cirium, D., **Gibson, S.A.**, Passey, S., Black, B., & Ayalew (2024). A preliminary quantification of volatiles from the Afro-Arabian Large Igneous Province using melt Inclusions. AGU Fall, Washington DC.

[34] **Gibson, S.A.** (2024). The lithospheric mantle as a "sink" and "source" in global volatile cycles. AGU Fall, Washington DC. (Invited)

[33] Heckel, C., Woodland A. & **Gibson, S.A.** Linckens, J., Withers, A.C., Seitz H-M & Ludwig T (2024). Sheared peridotites: linking deformation and hydrous metasomatism to the onset of craton destabilization. GSA connects (2024).

[32] **Gibson, S.A.**, McKenzie, D.P. & Lebedev, S. (2024). The distribution and generation of carbonatites. EMC2024, Dublin, Eire.

[31] Heckel, C., Woodland A. Linckens J., Seitz H-M & **Gibson, S.A.** (2024). "Cold" sheared peridotites from Kimberley (Kaapvaal craton, SA): shortlived deformation connected with

transient heating and metasomatism. EMC2024, Dublin, Eire.

[30] Lebedev, S., **Gibson, S.A.**, Fullea, J., Xu, Y., Bonadio, R., Davison, F. (2024). Seismic Thermography of Continental Lithosphere: Structure, Evolution, and Controls on the Distribution of Kimberlites and Other Mineral Deposits. 12th International Kimberlite conference, Yellowknife, Canada.

[29] Heckel, C., Woodland A. & **Gibson, S.A.**, Linckens, J., Withers, A.C., Seitz H-M & Ludwig T (2024). Sheared peridotites: linking deformation and metasomatism contributing to the onset of craton destabilization. 12th International Kimberlite conference, Yellowknife, Canada.

[28] Heckel, C., Woodland A. & **Gibson, S.A.** (2024). A sheared ilmenite-dunite xenolith from Thaba Putsoa: a witness of deformation, metasomatism and general perturbation of the deep lithospheric mantle beneath the Kaapvaal craton. 12th International Kimberlite conference, Yellowknife, Canada.

[27] Cirium, D, Gibson, SA & Passey, S., (2024). Preliminary Volatile Estimates for the Afro-Arabian LIP. VMSG, Bristol, UK.

[26] Rhodes, R.H., Saville J., Larkman P., Hoffmann H., Day J., Bohleber P., Gibson S.A. & Wolff E.W. Taking a closer look at chemical impurities in ice cores with laser ablation. GGRIP University of Cambridge 2023.

[25] Heckel C., Withers, Woodland, A.B., Gibson S.A. & Ludwig, T. (2023). Low-T sheared peridotites from the Kaapvaal-craton: Record of hydrous metasomatism during deformation. Goldschmidt 2023.

[24] **Gibson, S.A.**, Jackson, C.G & Crosby, J.C. (2023). Abundance and behaviour of volatiles in the continental lithospheric mantle. Goldschmidt 2023 invited doi.org/10.7185/gold2023.19747

[23] Folkard, A. & **Gibson, S.A.** (2023). Episodic excess crust formation on the Galapagos hotspot track and the diversification of species. VMSG 2023 (Natural History Museum, London).

[22] Mittal, T., **Gibson, S.A.**, Richards, MA & Constable, S. CO_2 and H_2O fluxes from the global mid-ocean ridge system: Critical role of deep-sourced, volatile-rich plume material. AGU Fall, Chicago, December 2022.

[21] **Gibson, S.A.** & Jackson, C.G. (2022). Build-up of multiple volatiles in Earth's continental keels: Implications for craton stability. AGU Fall, Chicago, December 2022.

[20] Heckel C, Woodland AB, Linckens J, Gibson SA, Seitz H-M (2022). Metasomatism-deformation-cycle: Connecting deformation and metasomatism in the lithospheric, cratonic mantle. Earth Mantle Workshop 2022 (Toulouse, France) – poster presentation.

[19] Heckel C, Woodland AB, Linckens J, Gibson SA, Seitz H-M (2022). Metasomatism-deformation-cycle: Connecting deformation and metasomatism in the lithospheric, cratonic mantle. DMG - Section meeting geochemistry and petrology (Mainz, Germany) – poster presentation.

[18] Heckel, C., Woodland A. & **Gibson, S.A.** (2022). Sheared peridotites from the cratonic mantle beneath Lesotho (Kaapvaal craton, SA): Investigating deformation and related metasomatic processes from mid-lithospheric depths to the LAB. GeoMinKoln 2022, Cologne, Germany (ERC award winner).

[17] Heckel C., Woodland, A.B., Linckens, J. & **Gibson, S.A.** (2022). Different types of sheared

peridotites from Lesotho (Kaapvaal craton). Goldschmidt, Hawaii, June 2022.

[16] Lawford, S.J. & **Gibson, S.A.** (2022). Outgassing of CO_2 reflected in trace element chemistry of mineral phases at Oldoinya Lengai, N. Tanzania. Volcanic & Magmatic Studies Group Annual meeting (2021). https://www.youtube.com/watch?v=6anIa5v8ZTg

[15] Morris, M., **Gibson, S.A.** & Hole, M. (2022). Evaluation of pyroxenite as a source of post-subduction alkali basalts in the Antarctic Peninsula. https://www.youtube.com/watch?v=DU6_Xr4R_to

[14] Coffin, M.J., Whittaker, J., Daczko, N., Halpin, J., Bernardel, G., Picard, K., Gardner, R., Gürer, D., Brune, S., **Gibson, S.A.**, Hoernle, K., Koppers, A., Storey, M., Uenzelmann-Neben, G., Magri, L., Neuharth, D., Christiansen, P., & Easton, L. (2021). Development of William's Ridge, Kerguelen Plateau, and Broken Ridge: tectonics, hotspot magmatism, microcontinents, and Australia's Extended Continental Shelf. AGU Fall, New Orleans, December (2021).

[13] Nava, A.H., Black, B.A.B. & **Gibson, S.A.**, Bodnar, R.J., Rennes, P.R. & Vanderkluysen, L. (2021). The co-evolution of Deccan Traps mantle melting, outgassing and climate. AGU Fall, New Orleans, December (2021). Invited.

[12] Heckel C., Woodland, A.B., Linckens, J., & **Gibson, S.A.** (2021). Sheared peridotites from Kimberley (South Africa): Ti-enrichment of olivine neoblasts through a 1200°C hot metasomatic agent. Goldschmidt, Lyon, July 2021.

[11] Heckel, C., Woodland, A.B., Seitz, H.M., Linckens, J., & **Gibson, S.A.** (2021). "Cold" sheared peridotites from Kimberley (Kaapvaal craton, SA): shortlived deformation connected with transient heating and metasomatism. European Mineralogy Conference 2021, Krakow, Poland.

[10] **Gibson, S.A.** (2021). The lithospheric mantle as a "sink" and "source" in global volatile cycles. Goldschmidt, Lyon, July, 2021.

[9] Crosby, J.C., **Gibson, S.A.**, Stuart, F., DiNicola, L., Riley, T.R.R. (2021). Illuminating the long-term storage of fluid-hosted volatiles in the SCLM from $^{3}He/^{4}He$, major- and trace elements in global mantle xenolith suites. Goldschmidt, Lyon, July, 2021.

[8] **Gibson, S.A.**, Jackson, C.G., Gleeson, M. & Crosby, J.C. (2020). The role of pyroxenites in the volatile budgets of intraplate magmas. Goldschmidt, Hawaii, June 2020.

[7] **Gibson, S.A.** & McKenzie, D.P. (2020). Earth's lithospheric mantle: A sink & source in global volatile cycles? Goldschmidt, Hawaii, June 2020.

[6] Nava, A.H., Black, B.A.B. & **Gibson, S.A.** (2020). Sources of early Deccan Traps magmas and implications for volatile evolution. Geological Society of America, Denver 2020.

[5] Crosby, J.C., **Gibson, S.A.**, Stuart, F., DiNicola, L., Riley, T.R.R. (2020). Illuminating the long-term storage of fluid-hosted volatiles in the SCLM from 3He/4He, major- and trace elements in global mantle xenolith suites. Volcanic & Magmatic Studies Group Annual meeting Plymouth January, 2020. Awarded conference prize.

[4] Nava, A.H., Black, B.A.B. & **Gibson, S.A.**, Bodnar, R.J., Renne, P.R. & Vanderkluysen, L. (2020). Early Deccan Traps CO_2 budget and degassing history constrained from melt inclusions. AGU Fall, San Francisco, December 2019.

[3] Gleeson, M. & **Gibson, S.A.** (2019). New insights into the nature of plume-ridge interaction and the implications for mantle degassing at plume-influenced MORBs. AGU Fall, San Francisco,

December 2019.

[2] **Gibson, S.A.** (2019). Geochemical and geophysical constraints on the volatile inventory of Earth's lithospheric mantle. AGU Fall, San Francisco, December 2019.

[1] Jackson, C.G. & **Gibson, S.A.** (2019). Metasomatic controls on hydrogen and fluorine contents of nominally volatile-free minerals in the sub-cratonic mantle. AGU Fall, San Francisco, December 2019.