

CURRICULUM VITAE

PETER H. BARRY, PhD

Associate Scientist with Tenure, WHOI
Marine Chemistry and Geochemistry Dept.

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Academic Preparation

2006-2012 Scripps Institution of Oceanography, UCSD, USA – **Ph.D. Earth Sciences**
2006-2011 Scripps Institution of Oceanography, UCSD, USA – **M.S. Oceanography**
2000-2004 The State University of New York at Geneseo, USA – **B.A. Geological Sciences**

Positions

2024-present Woods Hole Oceanographic Institution, USA – Associate Scientist with tenure
2022-2024 Woods Hole Oceanographic Institution, USA – Associate Scientist without tenure
2019-2022 Woods Hole Oceanographic Institution, USA – Assistant Scientist
2014-2018 University of Oxford, UK – Postdoctoral Research Associate
2012-2014 University of Tennessee, Knoxville, USA – NSF Postdoctoral Fellow

Awards

- 2018 Recipient of the Deep Carbon Observatory Emerging Leader Award
- Best Science Documentary – Goldschmidt Film Festival 2017 – hosted by Wild Orbit Films
- University of Oxford, Vice-Chancellor's Award for Public Engagement, 2017

Professional Affiliations

- American Geophysical Union (AGU) – Member
- Geochemical Society (GS) - Member
- European Association of Geochemistry (EAG) – Member
- Deep Carbon Observatory (DCO) – Member & 'Deep Energy' Representative
- CONVERSE Community Member
- SZ4D Community Member

Research Interests

Fluid and volatile recycling, stable isotope and noble gas geochemistry; petrology – magmatic processes and the petrogenesis of volcanic/igneous rocks; geochemical co-evolution of Earth's mantle and lithosphere; crust-fluid interaction; fluid-gas partitioning in crustal systems

Professional Activities

WHOI (Non Education Related)

- Advisory Committee on Ethics, Conflicts and Security (ACECS), 2025-present
- WHOI Lab Tour for Donors, 2025
- WHOI Advancement "Members Talk", 2025
- WHOI-MIT JP Admissions Advisory Committee, 2022-present
- WHOI MC&G Seminar Organizer, 2019-2020

Outside WHOI (Other than Attendance at Society/National Meetings)

- Lawrence School 8th grade field trip lab host, 2025
- Massachusetts Region V Science & Engineering Fair Judge, 2024
- Falmouth Academy Science and Engineering Judge, 2024
- SZ4D, Steering Committee member, 2023-2024
- SZ4D, Research Coordination Network, 'Magmatic Drivers of Eruption' Working Group Co-Chair, 2022-2024
- SZ4D, Research Coordination Network, 'Magmatic Drivers of Eruption' Working Group member, 2019-2024
- [UNEARTHED](#) animated outreach film, Scientific American, 2023
- Scientific American, Science Quickly Podcast: [Meet the Magnificent Microbes of the deep Unknown](#), 2023
- Waitsfield Elementary School 5th grade science lecture, 2023
- Organizing Committee: NSF-funded East Africa Rifting Workshop (PI: Shillington), 2020-Present
- CONVERSE: Community Network for Volcanic Eruption Response, Research Coordination Network Working Group member, 2020-Present
- Award Committee for "Pete Burnard DINGUE Award", July 2021
- Deep Carbon Observatory 2019 Science Planning Committee, 2018-2019
- Facebook Live Event: 'Sampling the Earth's interior in Costa Rica' at Wood Green School, 2018, Witney, UK
- Deep Carbon Observatory Early Career Scientist workshop organizer, 2017
- Public dissemination of large helium discovery in Tanzania. The story was run (went viral) on over 200 news outlets including *the BBC, New York Times, NPR, Washington Post, CNN, Wired, Gizmodo, IFLScience* 2016
- NASA/STFC lunar sample outreach lecturer for pre-schoolers, Oxford, UK 2016
- Outreach lecturer at the Cardinal Newman School in Luton, UK 2016
- Deep Carbon Observatory Synthesis Planning Workshop representative for Deep Energy 2015
- Deep Carbon Observatory Early Career Scientist workshop participant, 2015
- GK12 outreach program participant 2012-2014
- Student representative for the Geoscience Research Division at SIO 2009-2012
- President of the Scripps Academic Club, 2008-2012
- Outreach lecturer at the Gillispie school, La Jolla, CA 2007

External PhD Examiner/Committee member:

- David Farsky, University of Auckland, September 2025
- Joy Foluso, UC Davis, September 2023
- Sarina Mitchell, University of Tennessee, July 2022-Present
- Dr. Joao Pedro Nogueira Lages; Università degli Studi di Palermo, January, 2020
- Dr. Jack Krantz; Brown University, December, 2019

Editorial Board Member:

- Chemical Geology

Proposal Reviewer:

- National Science Foundation
- Agence Nationale de la Recherche / French National Research Agency

Journal Reviewer:

- Nature

- Science
- Proceedings of the National Academy of Sciences
- Nature Geoscience
- Nature Communications
- Science Advances
- Geochemical Perspectives Letters
- Geology
- Annual Review of Earth and Planetary Sciences
- Earth and Planetary Science Letters
- Geochimica Cosmochimica et Acta
- Water Resources Research
- Chemical Geology
- Geology, Geophysics, and Geosystems
- Journal of Volcanology Geothermal Research
- Mineralogy and Petrology
- The Geological Society of London
- Journal of Geophysical Research: Solid Earth
- International Journal of Mass Spectrometry
- International Journal of Greenhouse Gas Control

Conference Session Convener:

- AGU 2023 – From Continental Rifts to Rifted Margins
- AGU 2021 – T026 - SZ4D: Interdisciplinary Studies of Subduction Zone Hazards
- Goldschmidt 2020 – 08e: Crustal Fluid Geochemistry in Energy-Related Systems: Empirical, Experimental, and Modelling Advances
- Goldschmidt 2020 – 03c: Earth's Volatile Cycles within the Crust-Mantle System: A Session in Honor of Dave Hilton
- Goldschmidt 2019 – 03g: Geochemical tracers of fluids in crustal systems
- Goldschmidt 2017 – 17f: Constraints on Past Carbon Cycle Dynamics and pCO₂
- Goldschmidt 2016 – 5g: The Deep Nitrogen Cycle and the Evolution of Planetary Atmospheres
- Goldschmidt 2016 – 7a: Cycling of Volatile Elements between Earth's Interior and Exterior Through Subduction Zones
- AGU 2016 – Volatiles within the Earth's mantle and core

Supervising and Mentorship at WHOI

Research Associates:

- Josh Curtice (Research Specialist) – 2019-present
- Dr. Mike Broadley (Research Associate III) – 2022-2024

PostDocs:

- Dr. Manuel Pimenta Silva (Swiss National Science Foundation Postdoctoral Fellow) – 2024-present
- Dr. Molly Anderson (WHOI-based NSF PostDoctoral Fellow) – 2023-present
- Dr. Kan Li (WHOI PostDoctoral Investigator) – 2023-present
- Dr. Mike Hudak (WHOI-based NSF PostDoctoral Fellow) – 2021-2022
- Dr. David Bekaert (WHOI PostDoctoral Scholar) – 2020-2022
- Dr. Jack Krantz (WHOI PostDoctoral Investigator) – 2020-2021
- Dr. Alan Seltzer (WHOI PostDoctoral Scholar) – 2019-2020

Graduate Students:

- PhD co-supervisor of Karim Mtili (UCSB) – 2024-present

- PhD co-supervisor of Clarah Kimani (UCSB) – 2024-present
- PhD co-supervisor of Namitha Kumar (WHOI-MIT JP) – 2023-present
- MS co-supervisor of Karim Mtili (University of Dar es Salaam) – 2018-2022
- MS co-supervisor of Clarah Kimani (University of Dar es Salaam) – 2018-2022
- PhD co-supervisor of Dr. Rebecca Tyne (University of Oxford) – 2016-2021
- PhD co-supervisor of Dr. David Byrne (University of Oxford) – 2014-2019

Summer Student Fellows:

- Corinne Lepage (Brown University) – 2024
- Kiran Patil (Juniata College) – 2023
- Cassandra Bartels (LDEO/Columbia University) – 2022
- Redmond Stein (LDEO/Columbia University) – 2021

Field Research Experience

- New Zealand 2025: Sampling geothermal wells and springs
- Mariana Cruise 2024 (R/V Thompson, Chief Scientist): Sampling boreholes
- Argentina 2023: Sampling geothermal springs
- New Zealand 2023: Sampling geothermal wells and springs
- Italy 2022: Sampling geothermal springs
- Idaho/Oregon/Nevada 2022: Sampling geothermal springs
- Greenland 2022: Sampling geothermal springs
- Chile 2022: Sampling fumaroles and seeps
- Montana/Idaho/Wyoming 2021: Sampling geothermal springs
- Iceland 2021: Sampling volcanic gases and lavas
- Chile 2020: Sampling volcanic gases
- Yellowstone 2019: Sampling volcanic gases
- Ethiopia 2019: Sampling hot springs
- Argentina 2019: Sampling fumaroles and seeps in the volcanic backarc
- Ethiopia 2018: Sampling hot springs
- Tanzania 2018: Sampling volcanic gases and high He seeps
- Yellowstone 2018: Sampling volcanic gases
- Panama 2018: Groundwater sampling in the volcanic forearc
- Costa Rica 2018: Lead PI on DCO funded 'Biology Meets Subduction' field expedition – part 2
- Orcutt, California 2018: Produced water, oil and gas sampling
- Iceland 2017: Sampling fluids, gases and lavas from Northern Rift Zone
- Sicily 2017: Sampling fluids, gases and lavas from Etna Volcano
- Nicaragua 2017: Sampling fluids, gases and lavas from Telica Volcano
- Costa Rica 2017: Lead PI on DCO funded 'Biology Meets Subduction' field expedition – part 1
- Tanzania 2016: Testing portable mass spectrometer on high He seeps
- Lost Hills, California 2016: Produced water, oil and gas sampling
- Papua New Guinea 2016: Volcanic gas sampling
- Bakersfield, California 2016: Groundwater and oil and gas sampling
- Tanzania 2016: High helium natural seep sampling
- West Texas & Louisiana 2016: Methane sample collection
- Tanzania 2015: High helium natural seep sampling
- South Texas 2015: Methane sample collection
- Northern Germany 2014: Methane sample collection
- Southern California 2014: Groundwater sampling in the Santa Barbara Basin
- Costa Rica 2014: Deployment of SPARTAH; collection of geothermal fluids and groundwaters
- Panama 2013: Groundwater sampling in the volcanic forearc

- Central California 2014: Groundwater sampling along the San Andreas Fault
- China 2011: Sampling of volcanic fluids and gases
- Costa Rica 2010: Sampling fluids and gases
- Tanzania 2009: Sampling lavas, xenoliths, geothermal fluids and gases
- Japan 2008: Sampling geothermal gases
- California: Deployment of SPARTAH; collection of geothermal fluids and groundwaters
- Mascarene islands 2007: Sampling of lavas and xenoliths
- Central Indian Ridge 2007: SIO Knox11 research cruise (R/V Revelle) - Dredging for glasses
- Iceland 2007: Test deployment of SPARTAH; Sampling of lavas, xenoliths and geothermal fluids
- Costa Rica & El Salvador 2007: Sampling geothermal fluids and gases; Mini-DOAS: SO₂ fluxes

Peer-Reviewed Publications

Published

111. Kwagalakwe, A., Stamps, D.S., Kolawole, F., Atekwana, E.A., Taylor, M., Atekwana, E.A. Katumwehe, A.B., **Barry, P.H.**, Njinu, E.A., Nyago, J., Tugume, F., Kiberu¹⁰, J.M., Nakajigo, J., Kabanda, A. (2025) Constraining the Kinematics of the Victoria Microplate and the Northern Western Branch of the East African Rift System. *GRL*. 52, 20. doi: <https://doi.org/10.1029/2025GL116301>.

**Helped develop models and co-wrote paper.*

110. Lastes, A., Bekaert, D.V., Tibari, B., Seltzer, A.M., Broadley, M.W., **Barry, P.H.**, Marty, B., (2025) Characterization of the HIMU mantle source from noble gas isotopes in volcanic gas emissions in São Tomé (Cameroon volcanic line). *Special Issue in Honor of Reika Yokochi in ACS Earth and Space Chemistry*. doi: <https://doi.org/10.1021/acsearthspacechem.5c00056>.

**Developed the models and co-wrote paper.*

109. Njinju, E.A., Kolawole, F., Atekwana, E.A., Ajala, R., Atekwana, E.A., Stamps, D.S., Evans, R.L., Katumwehe, A., **Barry, P.H.**, van der Lee, S., Kiberu, J.M., Tugume, F., Kabanda A., Taylor, M., Nakajigo, J., Isaac A.O. (2025) Density perturbations in the crust indicate potential for blind magmatism beneath magma-poor rifts. *Tectonophysics*. v. 913. p.230881. doi: <https://doi.org/10.1016/j.tecto.2025.230881>.

**Co-wrote paper.*

108. Li, K., Hudak, M.R., Broadley, M.W., Anderson, M.K., Bekaert, D.V., Krantz, J.A., Kumar, N., Silva, M.P., Hahm, D., Curtice, J.M., Kurz, M.D., **Barry, P.H.** (2025) Hybrid mantle plumes with recycled and primordial nitrogen: Insights from plume-influenced basaltic glasses from Reykjanes Ridge and Rochambeau Bank. *EPSL*. 667, 119538. doi: <https://doi.org/10.1016/j.epsl.2025.119538>.

**Supervised Li, Analyzed samples, developed models, co-wrote paper.*

107. Halford, D.T., Karolytè, R., **Barry, P.H.**, Tyne, R. L., Hillegonds, D. J., Adeniyi, E. O., Bekaert, D. V., Broadley, M. W., Hudak, M. R., Lloyd, K. L., Marty, B., Ramirez, C. J., Seltzer, A. M., Ballentine, C. J. (2025) Examining the Effect of Heat from Yellowstone and Surrounding Environs on the Release of Helium Gases from the Crust. *GCA*. doi: <https://doi.org/10.1016/j.gca.2025.06.015>.

**Collected and analyzed samples, developed models, co-wrote paper.*

106. Gemeiner, H., Chang, H.K., Reis, M.M., Alcará, L.N., Menegário, A.A., **Barry, P.H.**, (2025) Tracing CO₂ origins of mineral spring water of the Water Circuit of Minas Gerais in Southeastern Brazil. *Chemical Geology*. v. 691. p. 122939. doi: <https://doi.org/10.1016/j.chemgeo.2025.122939>.

**Analyzed samples and co-wrote paper.*

105. Byrne, D.J., Broadley, M.W., Bekaert, D.V., Seltzer, A.M., Almayrac, M.G., Tyne, R.L., Lloyd, K.G., Ballentine, C.J., Marty, B., **Barry, P.H.** (2025) Helium, neon and argon isotope systematics of Yellowstone gases. *AGU Monograph*, doi: 10.1002/9781394270958/chX.

**Supervised Byrne, Collected and analyzed samples, developed models, co-wrote paper.*

104. de Moor, J.M., **Barry, P.H.**, Rodríguez, J., Aguilera, F., Aguilera, M., Gonzalez, C., Layana, S., Chiodi, A., Apaza, F., Masias, P., Kern, C., Barnes, J., Cullen, J., Bastoni, D., Bastianoni, A., Cascone, M., Jimenez, C., Salas-Navarro, J., Ramírez, C.J., Jessen, G., Giovannelli, D., Lloyd K., (2025) Origins and fluxes of gas emissions from the Central Volcanic Zone of the Andes. *JVGR*. p.108382. doi: <https://doi.org/10.1016/j.jvolgeores.2025.108382>.

**Developed models, co-wrote paper.*

103. Broadley, M.W., **Barry, P.H.**, Bekaert, D.V., Tyne, R.L., Karolyte, R., Hudak, M.R., Ramirez, C.J., Curtice, J., Mitchell, S., Lloyd, K.G., Ballentine, C.J., Marty, B., Young, E.D., Seltzer, A.M. (2025) Coupled noble gas isotope and nitrogen isotopologue study of Yellowstone gas permits mantle source signals to be distinguished from subsurface fractionation processes. *Special Issue in Honor of Reika Yokochi in ACS Earth and Space Chemistry*. 9 (6), 1310-1321. doi: <https://doi.org/10.1021/acsearthspacechem.4c00349>.

**Analyzed samples, developed models, co-wrote paper.*

102. Seltzer, A.M., Tyne, R.L., Musan, I., Langman, J.B., Amaya, D.J., Karnauskas, K.B., Lora, J.M., Bowen, G.J., **Barry, P.H.**, Costantini, M., Broadley, M.W., Bekaert, D.V., Jenkins, W.J., (2025) Past aquifer responses to climate recorded by fossil groundwater. *Science Advances*. 11(24), p.eadu7812. doi: 10.1126/sciadv.adu7812.

**Co-wrote paper.*

101. Tyne, R.L., Broadley, M.W., Bekaert, D.V., **Barry, P.H.**, Warr, O., Langman, J.B., Musan, I., Jenkins, W.J., Seltzer, A.M., (2025) Hidden flux of lithospheric volatiles in shallow young groundwater. *Nature Geoscience*, pp.1-6. doi: <https://doi.org/10.1038/s41561-025-01702-7>.

**Developed models, co-wrote paper.*

100. Giuliani, A., Kurz, M.D., **Barry, P.H.**, Curtice, J.M., Stuart, F.M., Oesch, S., Charbonnier, Q., Peters, B.J., Koornneef, J., Szilas, K., Pearson, D.G., (2025) Primordial Ne and the deep mantle origin of kimberlites. *Nature Communications* 16, 3281 (2025). doi: <https://doi.org/10.1038/s41467-025-58625-5>.

**Developed the models and co-wrote paper.*

99. Marty, B., Contamine, D., Bekaert, D.V., Lastes, A., Pik, R., Labidi, J., Young, E.D., Broadley, M.W., **Barry, P.H.**, Byrne, D.J., Seltzer, A.M. (2025) Uncovering the xenon isotope composition of continental rift magmas: Insight from analysis of geothermal gases at Homa Hills, Kenya. *EPSL*. 653, 119224. doi: <https://doi.org/10.1016/j.epsl.2025.119224>.

**Co-wrote paper.*

98. **Barry, P.H.**, de Moor, J.M., Seltzer, A.M., Patil, K., Bartels, C., Young, E., Longworth, B.E., Broadley, M.W., Barosa, B., Bekaert, D.V., Turner, S.J., Tyne, R.L., Kumar, N., Anderson, M., Li, K., Curtice, J., Jessen, G.L., Ramírez, C.J., Chiodi, A., Aguilera, F., Masías Alvarez, P., Lloyd, K.G., Giovannelli, D. (2025). Carbon, nitrogen, and noble gas isotopes reveal old and deep volatiles throughout the CVZ of the Andes. *EPSL*. 651, p.119169. doi: <https://doi.org/10.1016/j.epsl.2024.119169>.

97. Hudak, M.R., **Barry, P.H.**, Bekaert, D.V., Turner, S.J., Broadley, M.W., Walowski, K., Tyne, R.L., Li, K., Nielsen, S.G., Curtice, J.M. and Kurz, M.D. (2025). Deep Nitrogen fluxes and sources constrained by Arc Lava phenocrysts. *Geophysical Research Letters*, 51(24), p.e2024GL111312. doi: <https://doi.org/10.1029/2024GL111312>.

** Supervised Hudak, helped with sample analysis, developed models, co-wrote paper.*

96. Bastoni, D., Aguilera, M., Aguilera, F., Blamey, J.M., Buongiorno, J., Chiodi, A., Cordone, A., Esquivel, A., Giardina, M., Gonzalez, C. and Gutierrez, J., Irarrazabal, N., Krukenberg, V., Layana, S., Pasotti, J., Ramirez, C.J., Rodriguez, A., Rogers, T.J., Rojas, C., Sánchez-SanMartín, J., Schrenk, M.O., Vallejos, H., Jessen G.L., **Barry, P.H.**, de Moor, J.M., Lloyd, K.G., Giovannelli, G. (2024). Targeting deeply-sourced seeps along the Central Volcanic Zone. *Open Research Europe*, 4(226), p.226. doi: <https://doi.org/10.12688/openreseurope.17806.1>

**Collected samples and co-wrote paper.*

95. McCormick Kilbride, B.T., **Barry, P.H.**, Fischer, T.P., Nowicki, S., Hohn, M., Holland, G., Hudak, M., Itikarai, I, Liu, E., Mulina, K., (2024) Helium, carbon and nitrogen isotope evidence for slab influence on volcanic gas emissions at Rabaul caldera, Papua New Guinea. *Chem Geo*. 670, 122434. doi: <https://doi.org/10.1016/j.chemgeo.2024.122434>

**Collected samples, developed the models and co-wrote paper.*

94. Basili, B., Rogers, T.J., Nakagawa, M., Yucel, M., de Moor, J.M., **Barry, P.H.**, Shrenk, M.O., Jessen, G., Sánchez-Murillo, R., Zahirovic, S., Bekaert, D.V., Ramirez, C.J., Bastoni, D., Cordone, A., Lloyd, K.G., Giovannelli, D (2024) Subsurface microbial community structure shifts along the geological features of the Central American Volcanic Arc. *PLOS ONE*. 19(11), p.e0308756. doi: <https://doi.org/10.1371/journal.pone.0308756>

**Collected samples, developed the models and co-wrote paper.*

93. Grambling, T.A., Newell, D.L., Lloyd, K.G., Hiett, C.D., Upin, H., **Barry, P.H.**, Giovannelli, D., de Moor, J.M., Chiodi, A., Jessen, G., Szyrkiewicz, A., (2024) Tracing the orogenic sulfur cycle in the Andes using stable isotope composition of dissolved sulfate in thermal springs. *Chemical Geology*. 122365. doi: <https://doi.org/10.1016/j.chemgeo.2024.122365>.

**Developed the models and co-wrote paper.*

92. Selci, M., Correggia, M., Cordone, A., Guida, M., Quero, G.M., Piredda, R., Vetriani, C., Ramirez, C., Lloyd, K.G., de Moor, J.M. and **Barry, P.H.**, (2024) Recreational hot springs as environmental reservoir of potential multidrug-resistant pathogens. *Environmental Research*, p.119841. doi: <https://doi.org/10.1016/j.envres.2024.119841>.

**Collected samples, developed the models and co-wrote paper.*

91. Bekaert, D.V., Caracausi, A., Byrne, D.J., Broadley, M.W., **Barry, P.H.**, Marty, B., Seltzer A.M., (2024) Primordial and ²⁴⁴Pu-derived xenon missing from Earth's convecting mantle. *EPSL*. 642, 118886. doi: <https://doi.org/10.1016/j.epsl.2024.118886>.

** Supervised Bekaert, lead PI on grant that funded project, helped develop the method and models, co-wrote paper.*

90. Giovannelli, D., Selci, M., Cramm, M., Bradley, J.A., de Moor, J.M., **Barry, P.H.**, Morrison, S.M., Correggia, M., di Iorio, L., Cordone, A. and Caliro, S., (2024) Greenland 2022 GHOST project: Sampling Greenland geothermal springs-expedition report. *Open Research Europe*, 4(77), p.77.90. doi: <https://doi.org/10.12688/openreseurope.17002.1>.

**Analyzed the samples and co-wrote paper.*

89. Stefánsson, A., Ricci, A., Garnett, M., Gunnarsson-Robin, J., Kleine-Marshall, B.I., Scott, S.W., Lelli, M., Dantas Cardoso, C., Pik, R., Santinelli, C., Ono, S., **Barry, P.H.**, Broadley, M.W., Byrne, D.J., Halldórsson, S.A., Fiebig, J., (2024) Origins of methane in hydrothermal fluids unraveled by stable and radiogenic isotope data and kinetic constraints. *Geochim. Cosmochim. Acta*. 373, 84-97. doi: <https://doi.org/10.1016/j.gca.2024.03.015>.

**Helped develop models and co-wrote paper.*

88. Bekaert, D.V., **Barry, P.H.**, Krantz, J.A., Curtice, J., Blusztajn, J., Hudak, M. Seltzer, A., Broadley, M.W., Wanless, V.D., Jones, M.R., Soule, S.A., Mittelstaedt, E., Kurz, M.D., (2024) Carbon, Nitrogen, and multi-isotope study of the upper mantle near 14°N on the Mid-Atlantic Ridge. Part B: Source effects. *Geochim. Cosmochim. Acta*. 369, 179-195. doi: <https://doi.org/10.1016/j.gca.2023.12.017>

** Supervised Bekaert, helped develop the models, co-wrote paper.*

87. Bekaert, D.V., **Barry, P.H.**, Krantz, J.A., Curtice, J., Blusztajn, J., Hudak, M. Seltzer, A., Broadley, M.W., Wanless, V.D., Jones, M.R., Soule, S.A., Mittelstaedt, E., Kurz, M.D., (2024) Carbon, Nitrogen, and multi-isotope study of the upper mantle near 14°N on the Mid-Atlantic Ridge. Part A: Degassing effects. *Geochim. Cosmochim. Acta*. 369, 160-178. doi: <https://doi.org/10.1016/j.gca.2023.12.015>

** Supervised Bekaert, helped develop the models, co-wrote paper.*

86. Li, K., **Barry, P.H.**, Jie Yu, A. and Li, L., (2023) Oceanic serpentinites: A potentially critical reservoir for deep nitrogen recycling. *Geology*. 51(12), pp.1096-1100. doi: <https://doi.org/10.1130/G51464.1>

** Supervised Li, co-wrote paper.*

85. Adeniyi, E.O., Tyne, R.L., **Barry, P.H.**, Darrah, T.H., Hubbard, M.S., Myers, M.L., Bowen, D.H., Calavan, C.W., Shaw, C.A., (2023) Origin of CO₂ in Upper Devonian Duperow Formation and the Bakken Petroleum System at Kevin Dome, Northwest Montana. *Chemical Geology*. p.121733. doi: <https://doi.org/10.1016/j.chemgeo.2023.121733>.

**Analyzed data, helped develop the models, co-wrote paper.*

84. Paul, R., Rogers, T.J., Fullerton, K.M., Selci, M., Cascone, M., Stokes, M.H., Steen, A.D., de Moor, J.M., Chiodi, A., Stefánsson, A., Halldórsson, S.A., Ramirez, C.J., Jessen, G.L., **Barry, P.H.**, Cordone, A., Giovannelli, D., Lloyd, K.G., (2023) Complex organic matter degradation by secondary consumers in chemolithoautotrophy based subsurface geothermal ecosystems. *PLOS One*. 18(8), e0281277. doi: <https://doi.org/10.1371/journal.pone.0281277>.

83. Tyne, R.L., **Barry, P.H.**, Lawson, M., Lloyd, K.G., Giovannelli, D., Summers, Z., Ballentine, C.J., (2023) Understanding the role of microbial methanogenesis in CO₂ storage. *Environmental Science & Technology*. 57, 9459-9473. doi: <https://doi.org/10.1021/acs.est.2c08652>

** Supervised Tyne, co-wrote paper.*

82. Helper, J.P., Barnes, J.D., de Moor, J.M., Rodríguez, A., **Barry, P.H.**, Ramos, E.J. and Lassiter J.C., (2023) Li isotope ratios of spring fluids as an effective tracer of slab-derived subducted sources across the Costa Rica forearc. *Geology*. doi: <https://doi.org/10.1130/G51277.1>

**Analyzed the samples in lab, co-wrote paper.*

81. Bekaert, D.V., **Barry, P.H.**, Broadley, M.W., Byrne, D.J., Marty, B., Ramírez, C.J., de Moor, J.M., Rodriguez, A., Hudak, M.R., Subhas, A.V. and Halldórsson, S.A., (2023) Ultrahigh-precision noble gas isotope analyses reveal pervasive subsurface fractionation in hydrothermal systems. *Science Advances*. 9(15), p.eadg2566. doi: 10.1126/sciadv.adg2566.

** Supervised Bekaert, lead PI on grant that funded project, helped develop the method and models, co-wrote paper.*

80. Hutchison, W., Ogilvie, E.R.D., Gebrewold, Y., **Barry, P.H.**, Fischer, T.P., Biggs, J., Albino F., Guðbrandsson, S., (2023) Gas emissions and sub-surface architecture of fault-controlled geothermal systems: a case study of the North Abaya geothermal area. *Geology, Geophysics, and Geosystems (G-Cubed)*. 24(4), e2022GC010822. doi: <https://doi.org/10.1029/2022GC010822>.

**Analyzed the samples in lab, co-wrote paper.*

79. Ranta, E., Halldórsson, S.A., **Barry, P.H.**, Ono, S., Gunnarsson-Robin, J., Kleine, B.I., Ricci, A., Fiebig, J., Sveinbjörnsdóttir, A.E., Stefánsson, A., (2023) Deep magma degassing and volatile fluxes through volcanic hydrothermal systems: Insights from the Askja and Kverkfjöll volcanoes, Iceland. *Journal of Volcanology and Geothermal Research*. 436. 107776. doi: <https://doi.org/10.1016/j.jvolgeores.2023.107776>.

**Analyzed some samples in lab, co-wrote paper.*

78. Seltzer, A.M., Nicholson, D.P., Smethie, W.M., Tyne, R.L., Le Roy, E., Stanley, R.H.R., Stute, M., **Barry, P.H.**, McPaul, K., Davidson, P.W., Chang, B.X., Rafter, P.A., Lethaby, P. Johnson, R.J., Khatiwala, S.P., Jenkins, W.J., (2023) Dissolved gases track deep ocean ventilation processes in the deep North Atlantic. *Proceedings of the National Academy of Sciences*. 120 (11) e2217946120. doi: <https://doi.org/10.1073/pnas.2217946120>.

** Supervised Seltzer, lead PI on grant that funded project, co-wrote paper.*

77. Rogers, T.J., Buongiorno, J., Jessen, G.L., Schrenk, M.O., Fordyce, J.A., de Moor, J.M., Ramirez, C.J., **Barry, P.H.**, Yücel, M., Selci, M., Cordone, A., Giovannelli, D., Lloyd, K.G., (2023) Patterns in chemolithoautotroph distribution across a subsurface convergent margin landscape. *ISME Journal*. 17 (1), 140-150. doi: <https://doi.org/10.1038/s41396-022-01331-7>.

**Lead PI on grant that funded project, co-wrote paper.*

76. Giovannelli, D., **Barry, P.H.**, de Moor, J.M., Jessen, G.L., Schrenk, M.O., Lloyd, K.G., (2022) Sampling across large-scale geological gradients to study geosphere-biosphere interactions. *Frontiers in Microbiology*. 4212. doi: 10.3389/fmicb.2022.998133.

**Lead PI on grant that funded project, co-wrote paper.*

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**Analyzed samples, Interpreted data, helped develop models, co-wrote paper.*

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**Supervised Bekaert, provided comments on manuscript.*

72. Tyne, R.L., **Barry, P.H.**, Cheng, A., Kim, J.H., McIntosh, J.C., Hillegonds, D.J., Ballentine, C.J., (2022) Basin architecture controls on the chemical evolution and 4He distribution of groundwater in the Paradox Basin. *Earth and Planetary Science Letters*. 589, 117580. doi: <https://doi.org/10.1016/j.epsl.2022.117580>.

**Supervised Tyne, helped interpret data and write manuscript.*

71. Halford, D., Karolytė, R., **Barry, P.H.**, Darrah, T., Cuzella, J., Ballentine, C.J., Sonnenberg, S., (2022) High Helium Reservoirs in the Four Corners Area of the Colorado Plateau, USA. *Chemical Geology*. 596, 120790. doi: <https://doi.org/10.1016/j.chemgeo.2022.120790>.

**Interpreted data, helped develop models, co-wrote paper.*

70. Halldórsson, S.A., Hilton, D.R., Marshall, E.W., Ranta, E., Ingvason, A., Chakraborty, S., Robin, J.G., 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*. 589, p.120682. doi: <https://doi.org/10.1016/j.chemgeo.2021.120682>.

**Analyzed some samples in lab, co-wrote paper.*

69. Danabalan, D., Gluyas, J.G., Macpherson, C.M., Abraham-James, T.H., Bluett, J.J., **Barry, P.H.**, Ballentine, C.J., (2022) The Principles of Helium Exploration. *Petroleum Geoscience*. doi: <https://doi.org/10.1144/petgeo2021-029>.

**Collected samples, analyzed samples, helped develop models and write paper.*

68. Giovannelli, D. **Barry, P.H.**, Bekaert, D.V., Chiodi A., Cordone, A., Covone, G., Jessen, G.L., Lloyd, K.G., de Moor, J.M., Morrison, S.M., Schrenk, M.O., Vitale Brovarone, A., (2021) Subsurface life can modify volatile cycling on a planetary scale. *Astrobiology*. Vol. 92, 60.

**Lead PI on grant that funded project, co-wrote paper.*

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**Supervised Tyne, collected samples, helped interpret data, develop models and write manuscript.*

66. Bekaert, D. V, Gazel, E., Turner, S., Behn, M.D., de Moor, J.M., Zahirovic, S., Manea, V.C., Hoernle, K., Fischer, T.P., Hammerstrom, A., Seltzer, A.M., Kulongoski, J.T., Patel, B.S., Schrenk, M.O., Halldórsson, S.A., Nakagawa, M., Ramírez, C.J., Krantz, J.A., Yücel, M., Ballentine, C.J., Giovannelli, D., Lloyd, K.G., **Barry, P.H.**, (2021) High ³He/⁴He in

central Panama reveals a distal connection to the Galapagos plume. *Proceedings of the National Academy of Sciences*. 118(47) e2110997118. doi: <https://doi.org/10.1073/pnas.2110997118>

**Supervised Bekaert, collected samples, analyzed samples, helped develop models and write paper.*

65. Kimani, C., Kasanzu, C., Tyne, R.L., Mtili, K.M., Byrne, D.J., Kazimoto, E.O., Hillegonds, D.J., Ballentine, C.J., **Barry, P.H.**, (2021) He, Ne, Ar and CO₂ systematics of the Rungwe Volcanic Province, Tanzania: Implications for fluid source and dynamics. *Chemical Geology*. 120584. doi: <https://doi.org/10.1016/j.chemgeo.2021.120584>

**Supervised Kimani, collected samples, helped interpret data, develop models and write manuscript.*

64. Mtili, K.M., Byrne, D.J., Tyne, R.L., Kazimoto, E.O., Kimani, C., Kasanzu, C., Hillegonds, D.J., Ballentine, C.J. and **Barry, P.H.**, (2021) The origin of high helium concentrations in the gas fields of southwestern Tanzania. *Chemical Geology*, 120542. doi: <https://doi.org/10.1016/j.chemgeo.2021.120542>.

**Supervised Mtili, collected samples, helped interpret data, develop models and write manuscript.*

63. Tyne, R.L., **Barry, P.H.**, Karolytè, R., Byrne, D.J., Kulongoski, J.T., Hillegonds, D.J., Ballentine, C.J., (2021) Investigating the effect of enhanced oil recovery on the noble gas signature of casing gases and produced waters from selected California oil fields. *Chemical Geology*. 120540. doi: <https://doi.org/10.1016/j.chemgeo.2021.120540>.

**Supervised Tyne, collected samples, helped interpret data, develop models and write manuscript.*

62. **Barry, P.H.**, Bekaert, D.V., Krantz, J.A., Halldórsson, S.A., de Moor, J.M., Fischer, T.P., Werner, C.A., Kelly, P.J., Seltzer, A.M., Franz, B.P., Kulongoski, J.T., (2021) Helium-Carbon Systematics of Groundwaters in the Lassen Peak Region. *Chemical Geology*. 120535. doi: <https://doi.org/10.1016/j.chemgeo.2021.120535>.

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**Assisted in analyzing samples and co-wrote paper.*

60. Karolytè, R., **Barry, P.H.**, Hunt, A.G., Kulongoski, J.T., Tyne, R.L., Davis, T.A., Wright, M.T., McMahon, P.G., Ballentine, C.J., (2021) Noble gas signatures constrain oil-field water as the carrier phase of hydrocarbons occurring in shallow aquifers in the San Joaquin Basin, USA, *Chemical Geology*. p.120491. doi: <https://doi.org/10.1016/j.chemgeo.2021.120491>.

**Collected samples, analyzed samples, interpreted data, modelled data, wrote first draft of manuscript.*

59. Seltzer, A.M., Krantz, J.A., Ng, J., Danskin, W.R., Bekaert, D.V., **Barry, P.H.**, Kimbrough, D.L., Kulongoski, J.T., Severinghaus, J.P., (2021) The Triple Argon Isotope Composition of Groundwater on Ten-Thousand-Year Timescales. *Chemical Geology*. p.120458. doi: <https://doi.org/10.1016/j.chemgeo.2021.120458>.

**Supervised Seltzer, co-wrote manuscript.*

58. Labidi, J., Young, E.D., Fischer, T.P., **Barry, P.H.**, Ballentine, C.J., de Moor, J.M., (2021) Constraining the nitrogen and light noble gas cycles in a subduction zone with ¹⁵N/¹⁵N, *Earth and Planetary Science Letters*. 571(2021)117112. doi: <https://doi.org/10.1016/j.epsl.2021.117112>.

**Collected samples, analyzed samples, interpreted data, co-wrote manuscript.*

57. Zhang, M., Guo, Z., Xu, S., Hilton, D.R., **Barry, P.H.**, Sano, Y., Halldórsson, S.A., Zhang, L., Cheng, Z., Liu, C., Li, S., Lna, Y., Li, Z. and Li, L., (2021) Mantle degassing responses to late Cenozoic southeastward growth of the Tibetan Plateau. *Nature Communications*. 12(1), pp.1-10. doi: <https://doi.org/10.1038/s41467-021-24415-y>

**Collected samples, co-wrote manuscript.*

56. Fullerton, K.M., Schrenk, M.O., Yucel, M., Manini, E., Fattorini, D., di Carlo, M., Regoli, F., Nakagawa, M., Smedile, F., Vetriani, C., Miller, H., Morrison, S.M., Martínez, M., de Moor, J.M., **Barry, P.H.**, Giovannelli, D., Lloyd, K.G., (2021) Plate tectonics drive deep biosphere microbial community compositions. *Nature Geoscience*. pp1-6. doi: <https://doi.org/10.1038/s41561-021-00725-0>

**Lead PI on grant that funded project, collected samples, co-wrote paper.*

55. Seltzer, A.M., Bekaert, D.V., **Barry, P.H.**, Durkin, K.E., Mace, E.K., Aeselth, C., Zappala, J.C., Mueller, P., Jurgens, B., Kulongoski, J.T., (2021) Groundwater residence times obscured by anthropogenic carbonate dissolution. *Science Advances*. 7(17), p.eabf3503. doi: 10.1126/sciadv.abf3503

**Supervised Seltzer, helped develop models and co-wrote manuscript.*

54. Byrne, D.J., Broadley, M.W., Halldórsson, S.A., Ranta, E., Ricci, A., Tyne R.L., Stefánsson A., Ballentine C.J., **Barry, P.H.**, (2021) The use of noble gas isotopes to trace subsurface boiling temperatures in Icelandic geothermal systems. *Earth and Planetary Science Letters*. 560, p. 116805. doi: <https://doi.org/10.1016/j.epsl.2021.116805>

**Supervised Byrne, collected samples, helped develop models and co-wrote paper.*

53. **Barry, P.H.** and Broadley M.W., (2021) Nitrogen and noble gases reveal a complex history of metasomatism in the Siberian lithospheric mantle. *Earth and Planetary Science Letters*. 556, 116707. doi: <https://doi.org/10.1016/j.epsl.2020.116707>.

52. Bekaert, D.V., Turner, S.J., Broadley M.W., Barnes, J.D., Halldórsson, S.A., Labidi, J., Wade, J., Walowski, K.J., **Barry, P.H.**, (2021) Terrestrial volatile recycling: a global mass-balance. Volume 49 of the *Annual Review of Earth and Planetary Sciences*. 49, p. 2021. doi: <https://doi.org/10.1146/annurev-earth-071620-055024>.

**Supervised Bekaert, and I am co-first author on paper.*

51. Marty, B., Almayrac, M., **Barry, P.H.**, Bekaert, D.V., Broadley, M.W., Byrne, D.J., Ballentine, C.J., Caracausi, A., (2020) An evaluation of the C/N ratio of the mantle from natural CO₂-rich gas analysis: Geochemical and cosmochemical implications. *Earth and Planetary Science Letters*. 551, 116574. doi: <https://doi.org/10.1016/j.epsl.2020.116574>.

**Helped develop models and co-wrote paper.*

50. **Barry, P.H.**, Negrete-Aranda, R., Spelz, R., Seltzer, A.M., D.V. Bekaert, Virrueta, C., Kulongoski, J.T., (2020) Volatile sources, sinks and pathways: a helium-carbon isotope study of Baja California fluids and gases. *Chemical Geology*. p. 119722. doi: <https://doi.org/10.1016/j.chemgeo.2020.119722>.

49. Broadley M.W., **Barry, P.H.**, Bekaert, D.V., Caracausi, A., Ballentine, C.J., Marty, B., (2020) Chondritic Krypton and Xenon in the Yellowstone Mantle Plume. *Proceedings of the National Academy of Sciences*. 202003907. doi: <https://doi.org/10.1073/pnas.2003907117>.

**Collected samples, analyzed samples, helped develop models and write paper.*

48. Labidi, J., **Barry, P.H.**, Bekaert, D.V., Broadley M.W., Marty, B., Giunta, T. Warr, O., Sherwood Lollar, B., Fischer T.P., Avicé, G., Caracausi, A., Ballentine, C.J., Halldórsson, S.A., Stefánsson, A., Kurz, M., Kohl, I., Young E.D., (2020) Hydrothermal ^{15}N abundances constrain the origins of mantle nitrogen. *Nature*. 580(7803), 367-371. doi: <https://doi.org/10.1038/s41586-020-2173-4>.

**Collected samples, analyzed samples, helped develop models and write paper.*

47. Giovannelli, D., **Barry, P.H.**, de Moor, J. M., Lloyd, K.G., Schrenk, M.O., (2020) The role of biology in volatile cycling across a subduction zone. *EOS*. 101. Doi: <https://doi.org/10.1029/2020EO140906>.

**Lead PI on grant that funded project, co-wrote paper.*

46. Byrne, D.J., **Barry, P.H.**, Lawson, M., Ballentine, C.J., (2020) Tracing subsurface fluid flow in the East Texas Basin using noble gas isotopes. *Geochim. Cosmochim. Acta*. 268, 186-208. doi: <https://doi.org/10.1016/j.gca.2019.10.001>.

**Supervised Byrne, collected samples, helped develop models and co-wrote paper.*

45. Gannibal, M., Kolobov, V., **Barry, P.H.**, Tyne, R.L., Tarakanov, S., Tolstikhin I., (2020) Helium isotope abundances in 10 km deep ground waters. *Chemical Geology*. 119442. doi: <https://doi.org/10.1016/j.chemgeo.2019.119442>

**Helped write the manuscript.*

44. **Barry, P.H.**, Nakagawa, M., Giovannelli, D., de Moor, J. M., Schrenk, M.O., Seltzer, A.M., Manini, E., Fattorini, D., di Carlo, M., Regoli, F., Fullerton, K., Lloyd, K.G., (2019) Helium, inorganic and organic carbon isotopes of fluids and gases across the Costa Rica convergent margin. *Nature, Sci Data*. 6, 284. doi:10.1038/s41597-019-0302-4.

43. Tyne, R.L., **Barry, P.H.**, Hillegonds, D.J., Hunt, A.G. Kulongoski, J.T., Landon, M.K., Stephens, M.J., Byrne, D.J., Ballentine C.J., (2019) A novel method for the extraction, purification and characterisation of noble gases in produced waters. *Geology, Geophysics, and Geosystems (G-Cubed), Technical Briefs*. doi: <https://doi.org/10.1029/2019GC008552>.

**Supervised Tyne, collected samples, helped develop lab methods and co-wrote paper.*

42. Pernet-Fisher, J.F., **Barry, P.H.**, Day, J.M.D., Pearson, D.G., Woodland, S., Agashev, A.M., Pokhilenko, L.N., (2019) Heterogeneous kimberlite metasomatism revealed from a combined He-Os isotope study of Siberian dunite xenoliths. *Geochim. Cosmochim. Acta*. 226, 220-236. doi: <https://doi.org/10.1016/j.gca.2019.07.054>.

**Helped model data and write the manuscript.*

41. McMahon, P.B., Vengosh, A., Davis, T.A., Landon, M.K., Tyne, R.L., Wright, M.T., Kulongoski, J.T., Hunt, A.G., **Barry, P.H.**, Kondash, A.J., Wang, Z., Ballentine, C.J., (2019) Occurrence and Sources of Radium in Groundwater Associated with Oil Fields in the Southern San Joaquin Valley, California. *Environmental Science & Technology*. 53, 16, 9398-9406. doi: <https://doi.org/10.1021/acs.est.9b02395>

**Helped collect data and co-wrote paper.*

40. **Barry, P.H.**, de Moor, J. M., Giovannelli, D. Schrenk, M.O., Hummer, D.R., Lopez, T., Pratt, C.A., Alpízar Segura, Y., Battaglia, A., Beaudry, P., Bini, G., Cascante, M. d'Errico, G., di Carlo, M., Fattorini, D., Fullerton, K., Gazel, E., González, G., Halldórsson, S. A., Iacovino, K., Kulongoski, J.T., Manini, E., Martínez, M., Miller, H., Nakagawa, M., Ono, S., Patwardhan, S., Ramírez, C.J., Regoli, F., Smedile, F., Turner, S., Vetriani, C., Yücel, M., Ballentine, C.J., Fischer, T.P., Hilton, D.R., Lloyd, K.G., (2019) Forearc carbon sequestration reduces long-term volatile recycling into the mantle. *Nature*. 568, 487-492. doi: <https://doi.org/10.1038/s41586-019-1131-5>.

39. Le Voyer, M., Hauri, E.H., Cottrell, E., Kelley, K.A., Salters, V.J.M., Langmuir, C.H., Hilton, D.R., **Barry, P.H.**, Füre, E., (2019) Carbon fluxes and primary magma CO₂ contents along the global mid-ocean ridge system. *Geology, Geophysics, and Geosystems (G-Cubed)*. 20(3), 1387-1424. doi: <https://doi.org/10.1029/2018GC007630>.

**Analyzed samples, helped write the manuscript.*

38. **Barry, P.H.**, Lawson, M., W.P. Meurer, Cheng, A., Ballentine, C.J., (2018) Noble gases in deep-water oils of the U.S. Gulf of Mexico. *Geology, Geophysics, and Geosystems (G-Cubed)*. 19(11), 4218-4235. doi: <https://doi.org/10.1029/2018GC007654>.

37. Byrne, D.J., **Barry, P.H.**, Lawson, M., Ballentine, C.J., (2018) Determining gas expulsion vs retention during hydrocarbon generation in the Eagle Ford Shale using noble gases. *Geochim. Cosmochim. Acta*. 241, 240-254. doi: 10.1016/j.gca.2018.08.042.

**Supervised Byrne, collected samples, helped develop models and co-wrote paper.*

36. Broadley, M.W., **Barry, P.H.**, Ballentine, C.J., Taylor, L.A., Burgess, R., (2018) Plume-induced liberation of recycled volatiles triggers global environmental change. *Nature Geoscience*. 11 (9), 682. doi: 10.1038/s41561-018-0215-4.

**Provided samples, helped develop models and co-wrote paper.*

35. Gannon, R.S., Saraceno, J.F., Kulongoski, J.T., Teunis, J.A., **Barry, P.H.**, Tyne, R.L., Kraus, T.E.C., Hansen, A.M., and Qi, S.L., (2018) Produced water chemistry data for the Lost Hills, Fruitvale, and North and South Belridge study areas, Southern San Joaquin Valley, California: *U.S. Geological Survey data release*. doi: 10.5066/F7X929H9.

**Helped collect samples and write the manuscript.*

34. **Barry, P.H.**, Kulongoski, J.T., Landon, M.K., Tyne, R.L., Gillespie, J.M., M.J. Stephens, Hillegonds, D.J., Byrne, D.J., Ballentine, C.J., (2018) Tracing enhanced oil recovery signatures in casing gases using noble gases. *Earth and Planetary Science Letters*. 496, 57-67. doi: 10.1016/j.epsl.2018.05.028.

33. Hunt, J.A., Zafu, A., Mather, T.A., Pyle, D.M., **Barry, P.H.**, (2017) Spatially Variable CO₂ Degassing in the Main Ethiopian Rift: Implications for Magma Storage, Volatile Transport, and Rift-Related Emissions. *Geochemistry, Geophysics, Geosystems*. 18(10), 3714-3737. doi: 10.1002/2017GC006975.

**Helped compile and model data and contributed to writing the manuscript.*

32. Byrne, D.J., **Barry, P.H.**, Lawson, M., Ballentine, C.J., (2017) Noble gases in conventional and unconventional petroleum systems. *Geological Society, London, Special Publications*. 468, SP468-5. doi: 10.1144/SP468.5.

**Supervised Byrne, helped develop models and co-wrote paper.*

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30. **Barry, P.H.**, Lawson, M., Meurer, D. Danabalan, Mabry, J.C., and Ballentine, C.J., (2017) Determining fluid migration and isolation times in multiphase crustal domains using noble gases. *Geology*. 45 (9), 775-778. doi: 10.1130/G38900.1.

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**Co-wrote the manuscript.*

28. Mikhail, S., **Barry, P.H.**, and Sverjensky, D.A., (2017) The role of pH on the deep-Earth nitrogen cycle. *Geochim. Cosmochim. Acta*. 209, 149-160. doi: 10.1016/j.gca.2017.04.007

**Helped develop the models and co-wrote the paper.*

27. **Barry, P.H.**, Lawson, M., Meurer, W.P., Warr, O., Mabry, J.C., Byrne, D.J., and Ballentine, C.J., (2016) Noble gases solubility models of hydrocarbon charge mechanisms in the Sleipner Vest methane field. *Geochim. Cosmochim. Acta*. 194, 291-309. doi: 10.1016/j.gca.2016.08.021.

26. **Barry, P.H.**, and Hilton, D.R., (2016) Release of subducted sedimentary nitrogen throughout Earth's mantle. *Geochemical Perspectives Letters*. 2, 138-147. doi: 10.7185/geochemlet.1614.

25. Correale, A., Rizzo, A.L., **Barry, P.H.**, Lu, J., Zheng, J., (2016) Refertilization of lithospheric mantle beneath the Yangtze Craton, South East China: evidence from the noble gas geochemistry. *Gondwana*. 38, 289-303. doi:10.1016/j.gca.2015.12.021.

**Helped develop the models and co-wrote the paper.*

24. Halldórsson, S.A., Hilton, D.R., **Barry, P.H.**, Füri, E., Grönvold, K., (2016) Recycling of Phanerozoic crustal material by the Iceland mantle plume: new evidence from nitrogen elemental and isotope systematics of subglacial basalts. *Geochim. Cosmochim. Acta*. 176, 206-226. doi:10.1016/j.gca.2015.12.021.

**Helped develop the models and co-wrote the paper.*

23. Füri, E., **Barry, P.H.**, Taylor, L.A., Marty, B., (2015) Indigenous nitrogen in the Moon: Constraints from coupled nitrogen-noble gas analyses of mare basalts. *Earth and Planetary Science Letters*. 431, 195-205. doi:10.1016/j.epsl.2015.09.022.

**Facilitated access to samples, helped develop the models and co-wrote the paper.*

22. Fischer, T. P., Ramirez, C., Mora Amador, R. A., Hilton, D. R., Barnes, J. D., Sharp, Z. D., Le Brun, M., de Moor, J. M., **Barry, P. H.**, Füri, E., and Shaw, A. M., (2015) Temporal variations in fumarole gas chemistry at Poás volcano, Costa Rica. *Journal of Volcanology and Geothermal Research*. 294, 56-70. doi:10.1016/j.jvolgeores.2015.02.002.

**Collected some of the samples, helped develop the models and co-wrote the paper.*

21. Pernet-Fisher, J.F., Howarth, G.H., Pearson D.G., **Barry, P.H.**, Woodland S., Pokhilenko N.P., Pokhilenko L.N., Agashev A.M. and Taylor, L.A., (2015) Plume impingement on the Siberian SCLM: Evidence from Re-Os isotope systematics. *Lithos*. 218, 141-154. doi: 10.1016/j.lithos.2015.01.010.

**Helped write the paper.*

20. Day, J. M. D., **Barry, P. H.**, Hilton, D.R., Burgess, R., Pearson D.G., and Taylor, L.A., (2015) The helium flux from the continents and ubiquity of low-³He/⁴He recycled crust and lithosphere. *Geochim. Cosmochim. Acta*. 153, 116-133. doi: 10.1016/j.gca.2015.01.008.

**Analyzed samples, develop models and helped write the paper.*

19. **Barry, P. H.**, Hilton, D. R., Day J.M.D., Pernet-Fisher, J.F., Howarth, G.H., Agashev A.M., Pokhilenko N.P., Pokhilenko L.N., and Taylor, L.A., (2015) Helium isotope evidence for modification of the cratonic lithosphere during the Permo-Triassic Siberian flood basalt event. *Lithos*. 216-217, 73-80. doi: 10.1016/j.lithos.2014.12.001.

18. Howarth, G.H., Pernet-Fisher, J.F., Balta, B.J., **Barry, P. H.**, Bondar, R.J. and Taylor, L.A., (2014) Two-stage polybaric formation of the new enriched, pyroxene-oikocrystic/lherzolitic shergottite, NWA 7397. *Meteoritics and Planetary Science*. 1-19. doi: 10.1111/maps.12357.

**Helped develop the models and co-wrote the paper.*

17. Howarth, G.H., Sobolev, N.V, Pernet-Fisher, J.F., **Barry, P.H.**, Penumadu, D., Puplampu, S., Ketcham, R.A., Maisano, J., Taylor, D., and Taylor, L.A., (2014) The secondary origin of diamonds: multi-modal radiation tomography of diamondiferous mantle xenoliths. *International Geology Review*. 56 (9), 1172-1180. doi: 10.1080/00206814.2014.926784.

**Helped develop the models and co-wrote the paper.*

16. **Barry, P.H.**, Hilton, D.R., Füri, E., Halldórsson, S.A., Grönvold, K., (2014) Carbon isotope and abundance systematics, and CO₂ fluxes from Icelandic geothermal gases, fluids and subglacial basalts. *Geochim. Cosmochim. Acta*. 134, 74-99. doi: <http://dx.doi.org/10.1016/j.gca.2014.02.038>.

15. Pernet-Fisher, J.F., Howarth, G.H., Lui, Y. **Barry, P.H.**, Carmody, L., Valley, J.W., Bodnar, R.J., Spetsius, Z.V., Taylor, L.A., (2014) Komsomolskaya Diamondiferous Eclogites: Evidence for Oceanic Crustal Protoliths. *Contributions to Mineralogy and Petrology*. 167, 981. doi: 10.1007/s00410-014-0981-y.

**Helped develop the models and co-wrote the paper.*

14. Howarth, G.H., **Barry, P.H.**, Pernet-Fisher, J.F., Baziotis, I.P., Pokhilenko, N.P., Pokhilenko, L.N., Bodnar, R.J., Taylor, L.A., (2014) Superplume Metasomatism: Evidence from Siberian mantle xenoliths. *Lithos*. 184–187, 209–224. doi: 10.1016/j.lithos.2013.09.006

**Helped develop the models and co-wrote the paper.*

13. Carmody, L., **Barry, P.H.**, Shervais J.W., Kluesner, J.W. Taylor, L.A., (2013) Oxygen Isotopes in Subducted Oceanic Crust: A New Perspective from Siberian Diamondiferous Eclogites. *Geology, Geophysics, and Geosystems (G-Cubed)*. 14. doi: 10.1002/ggge.20220.

**Helped develop the models and co-wrote the paper.*

12. Mposkos, E., Baziotis, I., Leontakianakos, G., **Barry, P.H.**, (2013) The metamorphic evolution of the high-pressure Kechros complex in East Rhodope (NE Greece): implications from Na-Al-rich leucocratic rocks within antigorite serpentinites. *Lithos*. 177, 17-33. doi: <http://dx.doi.org/10.1016/j.lithos.2013.06.012>.

**Helped develop the models and co-wrote the paper.*

11. **Barry, P.H.** and Taylor, L.A., (2013) Age of the Earth. In: Rink W., Thompson J. (Ed.) *Encyclopedia of Scientific Dating Methods*. doi: 10.1007/978-94-007-6326-5_65-7.

10. de Moor, J.M., Fischer, T.P., King, P.L., Botcharnikov, R.E., Hervig, R., Hilton, D.R., **Barry, P.H.**, Mangasini, F., and Ramirez, C., (2013) Volatile-rich silicate melts from Oldoinyo Lengai volcano (Tanzania): Implications for carbonatite genesis and eruptive behavior. *Earth and Planetary Science Letters*. 361, pp 379-390. doi: <http://dx.doi.org/10.1016/j.epsl.2012.11.006>.

**Collected samples, helped develop the models and co-wrote the paper.*

9. **Barry, P.H.**, Hilton, D.R., Fischer, T.P., de Moor, J.M., Mangasini, F., Ramirez, C.J., (2013) Helium and carbon isotope systematics of cold “mazuku” CO₂ vents and hydrothermal gases and fluids from Rungwe Volcanic Province, southern Tanzania. *Chemical Geology*. 339, pp 141-156. doi: 10.1016/j.chemgeo.2012.07.003.

8. Karlstrom, K.E., Crossey, L.J., Hilton, D.R., and **Barry, P.H.**, (2013) Mantle ³He and CO₂ degassing in carbonic and geothermal springs of Colorado and implications for neotectonics of the Rocky Mountains, *Geology*. 41, pp 495-498. doi: 10.1130/G34007.1.

**Analyzed samples, helped develop the models and co-wrote the paper.*

7. Kulongoski, J.T., Hilton, D.R., **Barry, P.H.**, Esser, B., Hillegonds, D., and Belitz, K., (2013) Mantle-volatile weakening of the Big Bend Section of the San Andreas Fault, California: helium and carbon-dioxide systematics. *Chemical Geology*. 339 pp 92-102. doi: <http://dx.doi.org/10.1016/j.chemgeo.2012.09.007>.

**Analyzed samples, helped develop the models and co-wrote the paper.*

6. de Moor, J.M., Fischer, T.P., Sharp, Z.D., Hilton, D.R., **Barry, P.H.**, Mangasini, F., and Ramirez, C., (2013) Gas chemistry and nitrogen isotope compositions of cold mantle gases from Rungwe Volcanic Province, southern Tanzania. *Chemical Geology*. 339, pp 20-32. doi: <http://dx.doi.org/10.1016/j.chemgeo.2012.08.004>.

**Collected samples, helped develop the models and co-wrote the paper.*

5. **Barry, P.H.**, Hilton, D.R., Halldórsson S. A., Hahm, D. and Marti, K., (2012) High precision nitrogen isotope measurements in oceanic basalts using a static triple collection noble gas mass spectrometry. *Geology, Geophysics, and Geosystems (G-Cubed), (Technical Briefs)*. 13, Number 1. doi: 10.1029/2011GC003878, 2012.

4. Hilton, D.R., Halldórsson, S.A., **Barry, P.H.**, Fischer, T.P., de Moor, J.M., Ramirez, C.J., Mangasini, F. and Scarsi, P., (2011) Helium isotopes at Rungwe Volcanic Province, Tanzania, and the origin of East African plateaux. *Geophysical Research Letters*. 38, pp 21. doi: 10.1029/2011GL049589.

**Collected samples, analyzed some of the samples, helped develop the models and co-wrote the paper.*

3. Furi, E., Hilton, D.R., Halldórsson, S.A., **Barry, P.H.**, Hahm, D., Fischer, T.P. and Grönvold, K., (2010) Apparent decoupling of the He and Ne isotope systematics of the Icelandic mantle: the role of He depletion, melt mixing, degassing fractionation and air interaction. *Geochim. Cosmochim. Acta*. 74, pp 3307-3332. doi: <http://dx.doi.org/10.1016/j.gca.2010.03.023>.

**Collected samples, helped develop the models and co-wrote the paper.*

2. Hilton, D.R., Ramirez, C., Amador, R.A., Fischer, T.P., Furi, E., **Barry, P.H.**, and Shaw, A.M., (2010) Monitoring of temporal and spatial variations in fumarole helium and carbon dioxide characteristics at Poas and Turrialba volcanoes, Costa Rica (2001-2009). *Geochemical Journal*. 44, pp 431-440. doi: <http://dx.doi.org/10.2343/geochemj.1.0085>.

**Collected samples, analyzed some of the samples, helped develop the models and co-wrote the paper.*

1. **Barry, P.H.**, Hilton, D.R., Tryon, M.D., Brown, K.M., and Kulongoski, J.T., (2009) A New Syringe Pump Apparatus for the Retrieval and Temporal Analysis of Helium (SPARTAH) in groundwaters and geothermal fluids. *Geology, Geophysics, and Geosystems (G-Cubed), (Technical Briefs)*. 10, Number 5, doi: 10.1029/2009GC002422, 2009.

Formal Presentations

Invited Talks:

-Virtual seminar for Editors at Springer *Nature*, September 2025

-**Keynote Speaker** – Interior of the Earth Gordon Research Seminar, South Hadley, June 2025

State University of New York, Geneseo, Department Seminar, April 2025.

-WHOI MC&G Seminar Series , April 2025. Volatile sources and cycling in subduction zones.

-GNS Science, Taupo New Zealand, April 2025

-Lehigh University, Department Seminar, September 2024.

-Syracuse University, Department Seminar, September 2024.

-AGU Fall meeting, Chicago, December 2022. Helium and carbon isotope systematics in arc-related fumarolic gases and geothermal fluids.

-WHOI MC&G Seminar Series , November 2022. Helium and Carbon Characteristics of Central and South American Volcanic and Geothermal Systems.

-SZ4D Community Meeting, Houston, November 2022. Overview on Magmatic Drivers of Eruption Working Group objectives.

-LDEO Geodynamics Seminar Series, October 2021. Helium and Carbon Characteristics of Central and South American Volcanic and Geothermal Systems.

-Khalifa University Seminar Series (Virtual), October 2021. Helium and Carbon Characteristics of Central and Southern America.

-Lyon Goldschmidt – Session 2h, July 2021. Evidence of subducted Archean nitrogen in the Siberian Craton.

-**Keynote speaker** – Lyon Goldschmidt – Session 3b, July 2021. Volatile characteristics of Central American geothermal fluids.

-**Keynote speaker** – The Geological Society, VMSG Annual Meeting (Virtual), January 2021. Central American forearc volatile (He-CO₂) characteristics.

-WHOI Geodynamics Seminar Series (Virtual), May 2020. Mantle volatile signatures from the East African Rift and the origin of economically-viable helium-rich seeps.

-University of Rhode Island, February 2020. Mantle volatile signatures from the East African Rift and the origin of economically-viable helium-rich seeps.

-Massachusetts Institute of Technology, January 2020. Mantle volatile signatures from the East African Rift and the origin of economically-viable helium-rich seeps.

-Deep Carbon 2019 Meeting, Washington DC, October 2019. Hot springs reveal deep Earth processes.

-DCO Deep Energy Community Meeting, La Clusaz, France, January, 2019. Hot springs reveal deep Earth processes.

-Geothermal Resources & Sustainable Development Workshop (Kenya), September 2018. Hot springs reveal deep Earth processes.

-68th GASG Colloquium, Natural Gas: Gas in Nature, July 2017. Noble gas characteristics of the Carboniferous Rotliegend hydrocarbon system, NW Germany.

-Woods Hole Oceanographic Institution, May 2017. Mantle volatile signatures from the East African Rift and the origin of economically-viable helium-rich seeps.

-**Keynote speaker** – UK Doctoral Training Program, Solid Earth Stream Conference, April 2017. Mantle volatile signatures from the East African Rift and the origin of economically-viable helium-rich seeps.

-University of Oxford – Brown bag lunch seminar, April 2017. Mantle volatile signatures from the East African Rift and the origin of economically-viable helium-rich seeps.

-3rd DCO International Science Meeting, March 2017. Biology Meets Subduction: A Collaborative and Multi-disciplinary Deep Carbon Field Initiative.

-University of Edinburgh, School of GeoSciences, March 2017. Mantle volatile signatures from the East African Rift and the origin of economically-viable helium-rich seeps.

-Cornell University, Earth and Atmospheric Sciences Dept., March 2017. Mantle volatile signatures from the East African Rift and the origin of economically-viable helium-rich seeps.

-Carnegie Institution – Department of Terrestrial Magnetism, October 2016. Mantle volatile signatures from the East African Rift and the origin of economically-viable helium-rich seeps.

-Smithsonian – National Museum of Natural History, October 2016. Mantle volatile signatures from the East African Rift and the origin of economically-viable helium-rich seeps.

-University of Edinburgh, School of GeoSciences, October, 2015. Mantle volatile signatures from the East African Rift and the origin of economically-viable helium-rich seeps.

- University of St. Andrews, Dept. of Earth and Environmental Science, October, 2015. Mantle volatile signatures from the East African Rift and the origin of economically-viable helium-rich seeps
- University of North Carolina, Chapel Hill, February 2015. Mantle volatile signatures from the East African Rift and the origin of economically-viable helium-rich seeps.
- University of Oxford – Brown bag lunch seminar, February 2015. Noble gas characteristics of the Carboniferous Rotliegend hydrocarbon system, NW Germany.
- University of Bristol, School of Earth Sciences – ‘Hot Stuff’ Seminar, November 2014. Recycled and Solar Nitrogen Contributions to the Central Indian Ridge (CIR) Réunion-plume system.
- University of Tennessee, Klepser Seminar, September 2012. Laboratory and field-based instrumentation developments and noble gas-stable isotope systematics of Rungwe Volcanic Province, Iceland and the Central Indian Ridge.
- Scripps Inst. of Oceanography – Isotope Geochemistry Laboratory Seminar, April 2012. Laboratory and field-based instrumentation developments and noble gas-stable isotope systematics of Rungwe Volcanic Province, Iceland and the Central Indian Ridge
- Guest lecturer for SIO 251 - Whole Earth Geochemistry, June 2011. Laboratory and field-based instrumentation developments and noble gas-stable isotope systematics of Rungwe Volcanic Province, Iceland and the Central Indian Ridge.
- Caltech - Geology Club seminar series, May 2011. Laboratory and field-based instrumentation developments and noble gas-stable isotope systematics of Rungwe Volcanic Province, Iceland and the Central Indian Ridge.

Non-Invited Conference Talks:

- RMAG meeting (Denver), March 2023. High helium concentrations in well gases from the Duluth Complex, Minnesota, USA.
- IAVCEI meeting (New Zealand), February 2023. Helium and carbon isotopes in fluids and gases from the Andean Convergent Margin.
- GSA Fall meeting (Denver), October 2022. High helium concentrations in well gases from the Duluth Complex, Minnesota, USA.
- AGU Fall meeting (New Orleans), December 2021. Helium isotope characteristics of Andean Convergent Margin geothermal fluids.
- Jp-AGU meeting (Japan/Virtual), July 2020. Volatile characteristics of Central American geothermal fluids.
- Goldschmidt Conference (Hawaii/Virtual), June 2020. Evidence of subducted Archean nitrogen in the Siberian Craton.
- AGU Fall meeting (San Francisco), December 2019. Helium and carbon isotopes in southern Costa Rica and western Panama.
- Goldschmidt Conference (Barcelona), August 2019. Calcite precipitation in the Costa Rican forearc reduces long-term carbon recycling into Earth’s deep mantle.
- DINGUE Conference (ETH), August 2019. Calcite precipitation in the Costa Rican forearc reduces long-term carbon recycling into Earth’s deep mantle.
- Goldschmidt Conference (Boston), August 2018. Noble Gas Characteristics in Groundwaters Near Selected Oil Fields from the San Joaquin Basin, USA.
- AGU Fall meeting, December 2017. Noble gas signatures of enhanced oil recovery.
- 3rd Deep Carbon Observatory Early Career Scientist Meeting, August 2017. Biology Meets Subduction: A Collaborative and Multi-disciplinary Deep Carbon Field Initiative.
- Goldschmidt Conference (Paris), August 2017. Tracing Enhanced oil recovery injection fluids using noble gases from the Lost Hills and Fruitvale oil fields, USA.
- DINGUE Conference (IPGP), August 2017. Tracing Enhanced oil recovery injection fluids using noble gases from the Lost Hills and Fruitvale oil fields, USA.
- Goldschmidt Conference (Yokohama), June 2016. Noble gas characteristics of Jurassic sourced oils and gases of the Gulf of Mexico, USA.
- DINGUE Conference (Nancy), April 2016. Noble gas partitioning in the Sleipner and Rotliegend hydrocarbon fields.
- University of the Azores: 2nd Deep Carbon Observatory Early Career Scientist Meeting, September 2015. Noble gas characteristics of hydrocarbon systems.

- Goldschmidt Conference (Prague), August 2015. Noble gas characteristics of the Carboniferous Rotliegend hydrocarbon system, NW Germany.
- Goldschmidt Conference (Sacramento), June 2014. Recycled and Solar Nitrogen Contributions to the Central Indian Ridge (CIR) Réunion-plume system.
- AGU Fall meeting, December 2013. Helium isotope evidence for plume metasomatism of Siberian continental lithosphere.
- Goldschmidt Conference (Florence), August 2013. Ancient recycled nitrogen isotope signatures in Siberian xenoliths.
- DINGUE Conference (Florence), August 2013. Nitrogen isotope and noble gas characteristics of Siberian xenoliths.
- Lunar and Planetary Science Conference (Houston), March 2013. Indigenous Lunar Nitrogen.
- International Conference on Gas Geochemistry (San Diego), December 2011. Evidence for Recycled Plume Components at the CIR Geochim.
- Goldschmidt Conference (Prague), August 2011. Evidence for Recycled Plume Components at the CIR Geochim.
- DINGUE Conference (Paris), August 2011. Stable Isotope (C-N) and Noble Gas (Ne-Ar) Evidence for Recycled Plume Components at the CIR.
- CIDER workshop participant and presenter – July 2010. Stable Isotope (C-N) and Noble Gas (Ne-Ar) Evidence for Recycled Plume Components at the CIR.
- AGU Fall meeting, December 2009. Helium and carbon isotope systematics of Rungwe geothermal gases and fluids; southern Tanzania.

Conference Abstracts

217. Tapia, J., **Barry, P. H.**, Bekaert, D. V., Blamey, J. M., Buongiorno, J., Cascone, M., Chiodi, A., Giovannelli, D., de Moor, J. M., Ramírez, C. J., Rogers, T. J., Schrenk, M. O., Selci, M., Seltzer, A. M., Lloyd, K. G., & Jessen, G. L. (2025). Virome associated with the hydrothermal system of the Andean southern volcanic zone. Chilean Conference in Microbiology 2025, Abstract.

216. Mwongyera, H., Mongovin, D., Taylor, M., Stamps, D. S., Atekwana, E. A., van der Lee, S., Evans, R. L., Atekwana, E., Katumwehe, A. B., Njinju, E. A., **Barry, P. H.**, Xue, L., Kwagalakwe, A., Abbey, O. I., Kiberu, J. M., Tugume, F., & Nakajigo, J. (2025). Documenting quaternary fault slip using high-resolution structure-from-motion (sfm) photogrammetry datasets: Insights from the Albertine Rift East African Rift system. GSA 2025, Abstract.

215. Hayes-Guastella, L., **Barry, P. H.**, Broadley, M. W., Lang, S. Q., Lloyd, K. G., Mitchell, S., Petersen, M., Trembath-Reichert, E., Seewald, J. S., Wheat, G., & Reese, B. K. (2025). Fungal populations isolated from Mariana Forearc serpentinizing basement fluid and their potential for carbon cycling. AGU 2025, Abstract.

214. Kabanda, A., van der Lee, S., Stamps, D. S., Atekwana, E., Evans, R., Taylor, M., Katumwehe, A., Atekwana, E., Njinju, E., Tugume, F., Kiberu, J. M., Xue, L., **Barry, P. H.**, Kolawole, F., Kwagalakwe, A., Mwongyera, H., Mongovin, D., Nakajigo, J., Nyago, J., Kabenge, L., Nagudi, B., Abbey, O. I., Yip, H., Fishwick, S., Halldorsson, S., & Rumpker, G. (2025). Crustal structure around the northern western branch of the East african Rift system from receiver function analysis. AGU 2025, Abstract.

213. Zhang, X. J., Parai, R., **Barry, P. H.**, & Füre, E. (2025). Tracing deep earth volatile heterogeneities with heavy noble gases in Réunion plume-influenced Central indian ridge basalts. AGU 2025, Abstract.

212. Giuliani, A., Oesch, S., Munch, F., Cai, R., Liu, J., Kurz, M. D., **Barry, P. H.**, Doucet, L. S., & Walter, M. J. (2025). Helium isotopes in mantle-derived magmas controlled by partial melting. AGU 2025, Abstract.
211. Stamps, D. S., Atekwana, E., van der Lee, S., Evans, R., Taylor, M., Katumwehe, A., Atekwana, E., Tugume, F., Kiberu, J. M., Xue, L., **Barry, P. H.**, Kolawole, F., Kwagalakwe, A., Mwongyera, H., Mongovin, D., Kabanda, A., Alonzo, B., Dean, J., Njinju, E., Nakajigo, J., Nyago, J., Kabenge, L., Nagudi, B., Abbey, O. I., Yip, H., Fishwick, S., Halldorsson, S., & Rumpker, G. (2025). New insights into dry rifting from the driar project in the Albertine-Rhino Graben Uganda. AGU 2025, Abstract.
210. Selci, M., Gallo, G., Bastianoni, A., Barosa, B., Oliva, F., Montemagno, F., Ricciardelli, A., Tonietti, L., Esposito, M., Climent Gargallo, G., Correggia, M., di Iorio, L., Vetriani, C., **Barry, P. H.**, Tyne, R. L., Lloyd, K. G., Jessen, G. L., Chiodi, A., de Moor, M. J., Ramirez, C. J., Cordone, A., & Giovannelli, D. (2025). Environmental diversity, distribution, and evolution of microbial metal ion transport systems in global hydrothermal systems. FIMI_SIMGBM25 Abstract 2025, Abstract.
209. Evans, R. L., Zhu, J., Tugume, F., Kahwa, E., Babirye, G. P., Stamps, D. S., Atekwana, E. A., Atekwana, E., van der Lee, S., Taylor, M. H., Katumwehe, A. B., Kiberu, J. M., **Barry, P. H.**, Kolawole, F., Kwagalakwe, A., Njinju, E. A., Mwongyera, H., Foluso, J., Kabanda, A., Alonzo, B., Nyago, J., Nakajigo, J., Kabenge, L., Birungi, R. N., & Fishwick, S. (2025). Magnetotelluric constraints on lithospheric structure beneath the Albertine-Rhino Graben Uganda Initial results of the driar project. IAGA/IASPEI 2025, Abstract.
208. Löw, N., Halldórsson, S. A., Beier, C., Helgason, J., Ricci, J., Curtice, J. M., Kurz, M. D., & **Barry, P. H.** (2025). Origin and age of the Fjallgarðar Volcanic ridge revealed by noble gas geochemistry and geochronology. Icelandic Geosciences Society Spring Meeting 2025, Abstract.
207. Halldórsson, S. A., **Barry, P. H.**, Kurz, M. D., Curtice, J. J., Stefánsson, A., Robin, J. G., Fiebig, J., Ono, S., Scarsi, P., Kulongoski, J. T., Bahati, G., & Castillo, P. R. (2025). Light volatile isotopic constraints on the origin of thermal fluids along the Albertine Rift sw Uganda. Icelandic Geosciences Society Spring Meeting 2025, Abstract.
206. Broadley, M. W., Seltzer, A. M., Anderson, M. K., Mitchell, S., Hayes-Guastella, L., Lloyd, K. G., Reese, B. K., Huber, J. A., Lang, S. Q., Seewald, J. S., Wheat, G., Barnes, J. D., Segee-Wright, G., & **Barry, P. H.** (2025). Tracing volatile recycling through the Mariana Forearc using halogens and noble gases. Goldschmidt 2025, Abstract.
205. Löw, N., Halldórsson, S. A., Beier, C., Curtice, J., Kurz, M., & **Barry, P. H.** (2025). New constraints on lateral plume dispersion: Tracing a primordial deep mantle component in the near-rift Fjallgarðar Volcanic ridge, Iceland. Goldschmidt 2025, Abstract.
204. Halldórsson, S. A., **Barry, P. H.**, Kurz, M., Curtice, J. J., Stefánsson, A., Robin, J. G., Fiebig, J., Ono, S., Scarsi, P., Kulongoski, J. T., Natukunda, J. F., Bahati, G., & Castillo, P. R. (2025). Helium, carbon, nitrogen, and sulfur isotopes in thermal fluids from the Albertine Rift sw Uganda. Goldschmidt 2025, Abstract.

203. Tyne, R. L., Broadley, M. W., Bekaert, D. V., Seltzer, A. M., Hudak, M. R., Karolyte, R., Ballentine, C. J., Marty, B., Lloyd, K. G., Cascone, M., Gallo, G., Giovannelli, D., Young, E. D., & **Barry, P. H.** (2025). Origins of methane within diverse geothermal systems. Goldschmidt 2025, Abstract.
202. Anderson, M. K., **Barry, P. H.**, Li, K., Curtice, J., Broadley, M. W., Le Roux, V., Horton, F., Kurz, M., & Sinton, J. (2025). Diverse volatile origins along the East Pacific Rise determined from near-epr seamount nitrogen and noble gases. Goldschmidt 2025, Abstract.
201. Migliaccio, F., Corso, D., Cascone, M., Bastoni, D., Montemagno, F., Selci, M., Oliva, F., Gallo, G., Bastianoni, A., Ricciardelli, A., Barosa, B., Tonietti, L., Correggia, M., di Iorio, L., Vetriani, C., **Barry, P. H.**, Tyne, R. L., Lloyd, K. G., Jessen, G. L., Chiodi, A., de Moor, M. J., Ramirez, C. J., Cordone, A., & Giovannelli, D. (2025). Environmental diversity, distribution, and evolution of microbial metal ion transport systems in global hydrothermal systems. Goldschmidt 2025, Abstract.
200. Bekaert, D. V., Seltzer, A. M., Broadley, M. W., Marty, B., **Barry, P. H.** (2025). Reappraising mantle heavy noble gas isotope systematics and their geodynamical implications. Goldschmidt 2025, Abstract.
199. Werner, C., Collins, N., Cronin, S. J., **Barry, P. H.**, Stewart, M. K., Christenson, B., Hughes E. (2024). New insights from hydrothermal spring monitoring on Taranaki volcano, New Zealand. GSNZ 2024, Abstract.
198. Melaku, A., Hutchinson, W., Teferi, G., Mihrete, T., Gudbrandsson, S., **Barry, P. H.**, Fischer, T. P., Stuart, F. M., Balci, U., Bates, C. R. (2024). Mantle plume linked to high volatile emissions in the Central Ethiopian Rift. AGU 2024, Abstract.
197. McCormick Kilbride, B., **Barry, P. H.**, Fischer, T. F., Holland, G., Hudak, M., Nowicki, S., Ballentine, C. J., Fox, M. D., Höhn, M., Itikarai, I., Johnson, M., Mulina K., Nicholson E. (2024). Helium, carbon and nitrogen isotope evidence for slab influence on Volcanic gas emissions at Rabaul caldera, Papua New Guinea. AGU 2024, Abstract.
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