

# JAMIE FARQUHARSON

 [jifarquharson.github.io](https://github.com/jifarquharson)  [jifarq89@googlemail.com](mailto:jifarq89@googlemail.com)  [in /in/jamie-farquharson](https://in.linkedin.com/in/jamie-farquharson)  [/jifarquharson](https://orcid.org/0000-0001-9411-1111)

## FULL LIST OF PUBLICATIONS

---

- [32] **Farquharson, J. I.** and F. Amelung [in review]. Volcanic hazard exacerbated by future global warming–driven increase in heavy rainfall. [preprint DOI: <https://doi.org/10.31223/X5Z906>]
- [31] **Farquharson, J. I.**, H. Tuffen, F. B. Wadsworth, J. M. Castro, and C. I. Schipper [in review]. In-conduit capture of sub-micron volcanic ash particles via turbophoresis and sintering. [preprint DOI: <https://doi.org/10.21203/rs.3.rs-1152244/v1>]
- [30] Tuffen, H., **J. I. Farquharson**, F. B. Wadsworth, C. Webb, J. Owen, J. Castro, K. Berlo, C. I. Schipper, and K. Wehbe. Mid-loaf crisis: Internal breadcrust surfaces in rhyolitic bombs reveal the role of permeable fracture pathways in degassing damaged magma. *Geology* [In Press]. [preprint available via email]
- [29] Aubry, T., **J. I. Farquharson**, C. Rowell, S. Watt, V. Pinel, F. Beckett, J. Fasullo, P. Hopcroft, D. Pyle, A. Schmidt, and J. Staunton Sykes, 2022. Impact of climate change on volcanic processes: current understanding and future challenges. *Bulletin of Volcanology*. DOI: <https://doi.org/10.1007/s00445-022-01562-8>.
- [28] Wadsworth, F. B., E. W. Llewellyn, **J. I. Farquharson**, J. Gillies, A. Loisel, L. Frey, E. Ilyinskaya, T. Thordarson, S. Tramontano, E. Lev, M. Pankhurst, A. Galdeano Rull, M. Asensio-Ramos, Nemesio M. Pérez, P. Hernandez Perez, D. Calvo Fernández, M. Carmen Solana, U. Kueppers, A. Polo Santabábara, 2022. Crowd-sourced observations of volcanic eruptions: The 2021 Fagradalsfjall and Cumbre Vieja events. *Nature Communications*. DOI: <https://doi.org/10.1038/s41467-022-30333-4>.
- [27] Chevrel, O., Wadsworth, F., **Farquharson, J.**, Kushnir, A., Heap, M., Williams, R., Delmelle, P. and Kennedy, B., 2021. Publishing a Special Issue of Reports from the volcano observatories in Latin America: Editorial to Special Issue on Volcano Observatories in Latin America. *Volcanica*, DOI: <https://doi.org/10.30909/vol.04.S1.iv1>.
- [26] Wadsworth, F. B., Vossen, C. E. J., Heap, M. J., Kushnir, A. R. L., **Farquharson, J. I.**, Schmid, D., Dingwell, D. B., Belohlavek, L., Huebsch, M., Carbillet, L., and Kendrick, J. E., 2021. The force required to operate the plunger on a French press. *American Journal of Physics*. DOI: <https://doi.org/10.1119/10.0004224>.
- [25] **Farquharson, J. I.**, A. R. L. Kushnir, B. Wild, and P. Baud, 2020. Physical property evolution of granite during experimental chemical stimulation. *Geothermal Energy*. DOI: <https://doi.org/10.1186/s40517-020-00168-7>.
- [24] **Farquharson, J. I.** and F. Amelung, 2020. Extreme rainfall triggered the 2018 rift eruption at Kīlauea Volcano. *Nature*. DOI: <https://doi.org/10.1038/s41586-020-2172-5>.  
</> <https://doi.org/10.5281/zenodo.3635944>
- [23] Heap, M. J., M. Villeneuve, F. Albino, **J.I. Farquharson**, E. Brothelande, F. Amelung, J.-L. Got, and P. Baud, 2019. Towards more realistic values of elastic moduli for volcano modelling. *J. Volcanol. Geoth. Res.* DOI: <https://doi.org/10.1016/j.jvolgeores.2019.106684>.
- [22] Mordensky, S. P., M. J. Heap, B. M. Kennedy, H. A. Gilg, M. C. Villeneuve, **J. I. Farquharson**, and D. M. Gravley, 2019. Influence of alteration on the mechanical behaviour and failure mode of andesite: implications for shallow seismicity and volcano monitoring. *Bull. Volcanol.* DOI: <https://doi.org/10.1007/s00445-019-1306-9>.
- [21] Narock, T., E. Goldstein, C. A.-L. Jackson, A. Bubeck, A. Enright, **J. I. Farquharson**, A. Fernandez, D. Fernández-Blanco, S. Girardclos, D. E. Ibarra, and S. Lengger, 2019. Earth Science is Ready for Preprints. *Eos*. DOI: <https://doi.org/10.1029/2019EO121347>.

- [20] **Farquharson, J. I.**, B. Wild, A. R. L. Kushnir, M. J. Heap, P. Baud, and B. Kennedy, 2019. Acid-induced dissolution of andesite: evolution of permeability and strength. *J. Geophys. Res.* DOI: <https://doi.org/10.1029/2018JB016130>.
- [19] Heap, M. J., M. C. Villeneuve, A. R. L. Kushnir, **J. I. Farquharson**, P. Baud, and T. Reuschlé, 2018. Rock mass strength and elastic modulus of the Buntsandstein: An important lithostratigraphic unit for geothermal exploitation in the Upper Rhine Graben. *Geothermics*. DOI: <https://doi.org/10.1016/j.geothermics.2018.10.003>.
- [18] Mordensky, S. P., M. C. Villeneuve, **J. I. Farquharson**, B. M. Kennedy, M. J. Heap, and D. M. Gravely, 2018. Rock mass properties and edifice strength data from Pinnacle Ridge, Mt. Ruapehu, New Zealand. *J. Volcanol. Geoth. Res.* DOI: <https://doi.org/10.1016/j.jvolgeores.2018.09.012>.
- [17] **Farquharson, J. I.**, and F.B. Wadsworth, 2018. Upscaling permeability anisotropy in volcanic systems. *J. Volcanol. Geoth. Res.* DOI: <https://doi.org/10.1016/j.jvolgeores.2018.09.002>.
- [16] **Farquharson, J. I.**, and F.B. Wadsworth, 2018. Introducing Volcanica: The first diamond open-access journal for volcanology. *Volcanica*. DOI: <https://doi.org/10.30909/vol.01.01.i-ix>.
- [15] Heap, M. J., **J. I. Farquharson**, A. R. L. Kushnir, Y. Lavallée, P. Baud, H. A. Gilg, and T. Reuschlé, 2018. The influence of water on the strength of Neapolitan Yellow Tuff, the most widely used building stone in Naples (Italy). *Bull. Volcanol.* DOI: <https://doi.org/10.1007/s00445-018-1225-1>.
- [14] Heap, M. J., T. Reuschlé, **J. I. Farquharson**, and P. Baud, 2018. Permeability of volcanic rocks to gas and water. *Journal of Volcanology and Geothermal Research*. DOI: <https://doi.org/10.1016/j.jvolgeores.2018.02.00>.
- [13] Mordensky, S. P., M.C.Villeneuve, B. M. Kennedy, M. J. Heap, D. M. Gravely, **J. I. Farquharson**, and T. Reuschlé, 2018. Physical and mechanical property relationships of a shallow intrusion and volcanic host rock, Pinnacle Ridge, Mt. Ruapehu, New Zealand. *J. Volcanol. Geoth. Res.* DOI: <https://doi.org/10.1016/j.jvolgeores.2018.05.020>.
- [12] **Farquharson, J. I.**, F.B. Wadsworth, M. J. Heap, and P. Baud, 2017. Time-dependent permeability evolution in compacting volcanic fracture systems and implications for gas overpressure. *J. Volcanol. Geoth. Res.* DOI: <https://doi.org/10.1016/j.jvolgeores.2017.04.025> </> <https://github.com/jifarquharson/FRACkR>.
- [11] **Farquharson, J. I.**, P. Baud, and M. J. Heap, 2017. Inelastic compaction and permeability evolution in volcanic rock. *Solid Earth*. DOI: <https://doi.org/10.5194/se-8-561-2017>.
- [10] Heap, M.J., B.M. Kennedy, **J. I. Farquharson**, J. Ashworth, K. Mayer, M. Letham-Brake, T. Reuschlé, H.A. Gilg, B. Scheu, Y. Lavallée, P. Siratovich, J. Cole, A.D. Jolly, P. Baud, and D.B. Dingwell, 2016. A multidisciplinary approach to quantify the permeability of the Whakaari/White Island volcanic hydrothermal system (Taupo Volcanic Zone, New Zealand). *J. Volcanol. Geoth. Res.* DOI: <https://doi.org/10.1016/j.jvolgeores.2016.12.004>.
- [9] **Farquharson, J. I.**, M. J. Heap, P. Baud, 2016. Strain-induced permeability increase in volcanic rock. *Geophys. Res. Lett.* DOI: <https://doi.org/10.1002/2016GL071540>.
- [8] **Farquharson, J. I.**, M. J. Heap, Y. Lavallée, N. R. Varley, P. Baud, 2016. Evidence for the development of permeability anisotropy in lava domes and volcanic conduits. *J. Volcanol. Geoth. Res.* DOI: <https://doi.org/10.1016/j.jvolgeores.2016.05.007>.
- [7] **Farquharson, J. I.**, M. J. Heap, P. Baud, T. Reuschlé, N. R. Varley, 2016. Pore pressure embrittlement in a volcanic edifice. *Bull. Volcanol.* DOI: <https://doi.org/10.1007/s00445-015-0997-9>.
- [6] **Farquharson, J. I.**, M. James, H. Tuffen, 2015. Examining rhyolite lava flow dynamics through photo-based 3D reconstructions of the 2011–2012 lava flowfield at Cordon-Caulle, Chile. *J. Volcanol. Geoth. Res.* DOI:

<https://doi.org/10.1016/j.jvolgeores.2015.09.004>.

[5] Heap, M. J., **J. I. Farquharson**, F. B. Wadsworth, S. Kolzenburg, and J. K. Russell, 2015. Timescales for permeability reduction and strength recovery in densifying magma. *Earth Plan. Sci. Lett.* DOI: <https://doi.org/10.1016/j.epsl.2015.07.053>.

[4] Heap, M. J., **J. I. Farquharson**, P. Baud, Y. Lavallée, and T. Reuschlé, 2015. Fracture and compaction of andesite in a volcanic edifice. *Bull. Volcanol.* DOI: <https://doi.org/10.1007/s00445-015-0938-7>.

[3] **Farquharson, J. I.**, M. J. Heap, N. Varley, P. Baud, and T. Reuschlé, 2015. Permeability and porosity relationships of edifice-forming andesites: A combined field and laboratory study. *J. Volcanol. Geoth. Res.* DOI: <https://doi.org/10.1016/j.jvolgeores.2015.03.016>.

[2] Heap, M. J., B. Kennedy, N. Perrin, L. Jacquemard, P. Baud, **J. I. Farquharson**, B. Scheu, Y. Lavallée, H. A. Gilg, M. Letham-Brake, K. Mayer, A. D. Jolly, T. Reuschlé, and D. B. Dingwell, 2015. Mechanical behaviour and failure modes in the Whakaari (White Island volcano) hydrothermal system, New Zealand. *J. Volcanol. Geoth. Res.* DOI: <https://doi.org/10.1016/j.jvolgeores.2015.02.012>.

[1] Heap, M. J., S. Kolzenburg, J. K. Russell, M. E. Campbell, J. Welles, **J. I. Farquharson**, A. Ryan, 2014. Conditions and timescales for welding block-and-ash flow deposits. *J. Volcanol. Geoth. Res.* DOI: <https://doi.org/10.1016/j.jvolgeores.2014.11.010>.