

Publication List

Dr. Bettina Scheu

1. Kremers S., Barsu S., Scheu B., and Dingwell D.B. Decompression rate vs. fragmentation speed in volcanic explosions. *Submitted to Bulletin of Volcanology*.
2. Breard E.C.P., Lube G., Cronin S.J., Fitzgerald R., Kennedy, B., Scheu B., Montanaro C., White J.D.L., Tost M., Procter J.N., and Moebis, A. Using the spatial distribution and lithology of ballistic blocks to interpret eruption sequence and dynamics: August 6 2012 Upper Te Maari eruption, New Zealand. *Under Revision for Journal of Volcanology and Geothermal Research*.
3. Arciniega-Ceballos, A., Alatorre-Ibarguengoitia M., Scheu B., Dingwell D.B., and Delgado Granados H. Understanding volcanic conduit dynamics: from experimental fragmentation to volcanic eruptions, a seismological perspective, *Accepted for publication at Journal of Geophysical Research, Solid Earth*.
4. Cimarelli C., Alatorre-Ibarguengoitia M., Kueppers U., Scheu B., and Dingwell D.B. (2014) Experimental Generation of Volcanic Lightning, *Geology*, 12 (1), 79-82, doi:10.1130/G34802.1.
5. Rager A.H., Smith E.I., Scheu B., and Dingwell D.B. (2014) The effects of water vaporization on rock fragmentation during rapid decompression: Implications for the formation of fluidized ejecta on Mars, *Earth and Planetary Science Letters*, 385, 68-78, doi:10.1016/j.epsl.2013.10.029
6. Richard D., Scheu B., Mueller S.P., Spieler O., and Dingwell D.B. (2013) Outgassing: influence on speed of magma fragmentation, *Journal Geophysical Research, Solid Earth*, 118, doi:10.1002/jgrb.50080.
7. McGuinness M.J., Scheu B., and Fowler A.C. (2012) Explosive fragmentation criteria and velocities for vesicular magma, *Journal of Volcanology and Geothermal Research*, 237, (81-96), doi:10.1016/j.jvolgeores.2012.05.019.
8. Lavallée Y., Varley N., Alatorre-Ibargüengoitia M.A., Hess K.-U., Kueppers U., Mueller S., Richard D., Scheu B., Spieler O., and Dingwell D.B. (2012) Magmatic architecture of dome-building eruptions at Volcán de Colima, Mexico, *Bulletin of Volcanology*, 74 (1), 249-260, doi:10.1007/s00445-011-0518-4
9. Mueller S., Scheu B., Kueppers U., Spieler O., Richard D., and Dingwell D.B. (2011) The porosity of eruptive deposits as indicator for volcanic explosivity, *Journal of Volcanology and Geothermal Research*, 203 (3-4), 168-174, doi:10.1016/j.jvolgeores.2011.04.006
10. Alatorre-Ibargüengoitia M.A., Scheu B., and Dingwell D.B. (2011) Influence of the fragmentation process on the dynamics of Vulcanian eruptions: an experimental approach, *Earth and Planetary Science Letters*, 302, (1-2) 51–59, doi:10.1016/j.epsl.2010.11.045.
11. Kremers S., Scheu B., Cordonnier B., Spieler O., and Dingwell D.B. (2010) Influence of decompression rate on fragmentation processes: An experimental study, *Journal of Volcanology and Geothermal Research*, 193 (3-4), 182-188, doi:10.1016/j.jvolgeores.2010.01.015.
12. Fowler A.C., Scheu B., Lee W.T., and McGuinness M.J. (2010) A theoretical model of the explosive fragmentation of vesicular magma, *Proceedings of the Royal Society A*, 466, 731–752, doi:10.1098/rspa.2009.0382.

13. Alatorre-Ibargüengoitia M.A., Scheu B., Dingwell D.B., Delgado-Granados H., and Taddeucci J. (2010) Energy consumption by magmatic fragmentation and pyroclast ejection during Vulcanian eruptions, *Earth and Planetary Science Letters*, 291 (1-4), 60-69, doi:10.1016/j.epsl.2009.12.051.
14. McGuinness M.J., Fowler A.C., Scheu B., and Lee W.T. (2009) Exploding Rocks, *Numerical Analysis and Applied Mathematics*, 1168 (1-2), 1442-1445.
15. Koyaguchi T., Scheu B., Mitani N.K., and Melnik O. (2008) A fragmentation criterion for highly viscous bubbly magmas estimated from shock tube experiments. *Journal of Volcanology and Geothermal Research*, 178 (1), 58-71, doi:10.1016/j.jvolgeores.2008.02.008.
16. Scheu B., Kueppers U., Mueller S., Spieler O. and Dingwell D.B. (2008) Experimental volcanology on eruptive products of Unzen volcano. *Journal of Volcanology and Geothermal Research*, 175 (1-2), 110-119, doi:10.1016/j.jvolgeores.2008.03.023.
17. Müller S., Scheu B., Spieler O. and Dingwell D.B. (2008) Permeability control on magma fragmentation, *Geology*, v.36 (5), 339-402, doi:10.1130/G24605A.1.
18. Schwarzkopf L.M., Spieler O., Scheu B. and Dingwell D.B. (2006) Fall-experiments on Merapi basaltic andesite and constraints on the generation of pyroclastic surges, *eEarth Discussions*, 1, 81-96, SRef-ID:1815-3844/eed/2006-1-81.
19. Scheu B., Spieler O. and Dingwell D.B. (2006) Dynamics of Explosive Volcanism at Unzen: an experimental Contribution, *Bulletin of Volcanology*, 69 (2), 175-187, doi:10.1007/s00445-006-0066-5.
20. Scheu B., Kern H., Spieler O., and Dingwell D.B. (2006) Temperature Dependence of Elastic P- and S-Wave Velocities in Porous Mt. Unzen Dacite. *Journal of Volcanology and Geothermal Research*, 153 (1-2), 136-147, doi:10.1016/j.jvolgeores.2005.08.007.
21. Kueppers U., Scheu B., Spieler O. and Dingwell D.B. (2006) Fragmentation efficiency of explosive volcanic eruptions: a study of experimentally generated pyroclasts, *Journal of Volcanology and Geothermal Research*, 153 (1-2), 125-135, doi:10.1016/j.jvolgeores.2005.08.006.
22. Scheu B (2005) Understanding silicic volcanism: Constraints from elasticity and failure of vesicular magma. Dissertation, LMU München: Faculty of Geosciences, <http://edoc.ub.uni-muenchen.de/4401/>
23. Mueller S., Spieler O., Scheu B. and Dingwell D.B. (2005) Permeability and degassing of dome lavas undergoing rapid decompression: an experimental determination, *Bulletin of Volcanology*, 67 (6), 526-538, doi:10.1007/s00445-004-0392-4.
24. Kennedy B., Spieler O., Scheu B., Kueppers U., Taddeucci J. and Dingwell D.B. (2005) Conduit implosion during Vulcanian eruptions, *Geology*, v. 33 (7), 581-584, doi:10.1130/G21488.1.
25. Kueppers U., Scheu B., Spieler O. and Dingwell D.B. (2005) Field-based density measurements as tool to identify pre-eruption dome structure: set-up and first results from Unzen volcano, Japan., *Journal of Volcanology and Geothermal Research*, 141 (1-2), 65-75, doi:10.1016/j.jvolgeores.2004.09.005.
26. Spieler O., Kennedy B., Kueppers U., Dingwell D.B., Scheu B., and Taddeucci J. (2004) A fragmentation threshold for the initiation and cessation of explosive eruptions. *Earth and Planetary Science Letters* 226 (1-2), 139-148, doi:10.1016/j.epsl.2004.07.016.
27. Mueller S, Spieler O, Scheu B and Dingwell, DB (2004) A new method for unsteady-state permeability measurements of volcanic rocks at high temperature. *LITHOS* 73 (1-2), 77-77.