

EGU21-16014, updated on 03 Jul 2022

<https://doi.org/10.5194/egusphere-egu21-16014>

EGU General Assembly 2021

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Experimental access to Volcanic Eruptions and their role in the Earth System.

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Few things are more central to earth history, planetary evolution and the earth system, than volcanism. Explosive volcanism in particular exhibits individual events whose impact can range from local to global. Developing a mechanistic understanding of the inner workings of volcanic systems is essential for understanding their behavior and modelling their impact. Experiments form a fundamental part of our modern scientific approach to volcanic research, an approach which relies heavily on materials characterisation. In the year 2021, we can look back on decades of novel and highly innovative experimental approaches applied to the investigation of volcanic processes. The focus has ranged from pre-eruptive and eruptive dynamics all the way to the fate and importance of volcanic materials in the Earth System. The applied aspects of the work reach, for example, into eruption forecasting, hazard mapping and aviation safety. I will attempt portray the the long term strategy of the approach we have taken as well as providing comments on the likelihood of certain further developments in the near future.