

# **Designing and Executing a Computational Petrology Research Project using Rhyolite-MELTS & Magma Chamber Simulator (MCS)**

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## **Description**

This workshop will provide strategies and techniques for designing and executing computational petrology research projects and will engage participants in using software called Rhyolite-MELTS and the Magma Chamber Simulator (MCS) to address questions about open system magma evolution.

Participants will:

- Be introduced to petrologic and geochemical questions that can be addressed by computational tools such as Rhyolite-MELTS and MCS.
- Be presented with case studies that utilize these computational tools to address petrologic questions.
- Be introduced to computational research design strategies and data management techniques.
- Learn the limits of thermodynamic databases and the functionality of computational methods when applied to natural systems.
- Collaborate and discuss strategies to apply these techniques to petrologic scenarios provided by the conveners.
- Have the opportunity to pose questions to MCS and Rhyolite-MELTS experts that will aid in the set-up of their computational projects.
- Network and benefit from the experiences and expertise of other scientists.

Petrologists of all levels are encouraged to join the workshop!

If you need training on the use of these tools, we will provide Zoom sessions prior to the workshop, with dates to be determined. If you have already taken an MCS workshop or attended a MELTS short course, please consider joining us again for additional training on research project design and execution.

MCS and rhyolite-MELTS can also be used as teaching tools for those interested in integration into petrology/geochemistry classes, so please sign up if you would like to use these tools in your classes.

The workshop will take place **Tuesday, 1st October and Wednesday, 2 October**, 08:00-13:30 MST/UTC-7 on both days.

Registration is done through the [Goldschmidt2024 conference registration form](#). **If you are registering for the workshop only and not participating in the conference**, on the Registration Options page of the form, under "Conference Options", please select "Science Workshop Only Remote (no conference attendance)", then choose this workshop in the section "Post-Conference Science Workshop: Remote (October 2024)" before proceeding to payment.