Research & Services | Laboratory for High Temperature-Pressure Experimental Petrology (Yissum)

code: 34-2007-1758

Ronit Kessel, HUJI

Categories	Petrology, experimental magmatic petrology, metamorphic petrology, thermodynamic modeling

Objective/function

- The laboratory combines experimental petrology and thermodynamic modelling to provide powerful insights into the igneous and metamorphic processes by which the Earth and the other planets evolved. We develop experimental techniques and use data modelling to constrain the nature of both terrestrial and extraterrestrial environments through the study of synthetic analogs.

Research provided

- Understanding how deep Earth fluids trigger igneous and metamorphic processes by which Earth and other planets are built and evolve.
- Expanding the existing thermodynamic database of important phases as petrogenetic indicators for equilibrium conditions of various rocks
- Understanding the formation conditions of different meteorite groups.

Advantages

- Our rocking multi-anvil and piston-cylinder apparatus, second in the world to the prototype at ETH in Z?rich, makes this lab one of only two labs with the required equipment and experience to perform fluid-saturated experiments. The apparatus allows for frequent inversion of the experimental charge in the gravitational field, leading to convection in the fluid and thus to re-homogenization and interaction of the fluid phase along the whole capsule.

Available equipment

- 675-ton rocking multi-anvil with a piston-cylinder option
- 600-ton static piston cylinder
- 1600^{o}C gas-mixing vertical furnace

Staff

- Ronit Kessel, PhD
- Omri Dvir, M.Sc.

Contact for more information:

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