Contribution ID : **26** Type : **Poster**

A high-temperature furnace for MEX

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The Medium Energy X-ray Absorption Spectroscopy (MEX) Beamline at the Australian Synchrotron is currently being commissioned and is due to start running user experiments in the second half of 2022.
The facility will provide a series of specialised sample environments for users to conduct in situ measurements of important scientific processes. One of these sample environments will be a high-temperature furnace, which will provide users with world-class experimental conditions and bring MEX in line with the capabilities of other synchrotron facilities.
Based on the requirements specified by users in a 2020 survey of the Australian Synchrotron user community, the furnace will be designed to heat samples to- 500 – 1500 ℃, and will be compatible with a range of gases, including He, N2, CO2, O2, CO, and Ar.
The high-temperature, controlled-atmosphere experimental conditions that such a furnace will provide are useful in Earth science for examining processes occurring in silicate melts, emulating conditions in the Earth's crust. Some of the processes occurring at crustal conditions can only be observed in situ, rather than in the quenched products of experiments.
The furnace will also be useful in materials science and chemistry for examining the behaviour of metals at high temperatures in a controlled atmosphere.

Level of Expertise

Early Career <5 Years

Presenter Gender

Woman

Pronouns

She/Her

Which facility did you use for your research

Australian Synchrotron

Students Only - Are you interested in AINSE student funding

No

Do you wish to take part in the Student Poster Slam

No

Condition of submission

Yes

Primary author(s) : FINCH, Emily (Australian Synchrotron)

Co-author(s) : WYKES, Jeremy (Australian Synchrotron)

Presenter(s) : FINCH, Emily (Australian Synchrotron)

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