

Meet the scientists exploring next-generation cooling materials

Vinzent Hana

David Boldrin

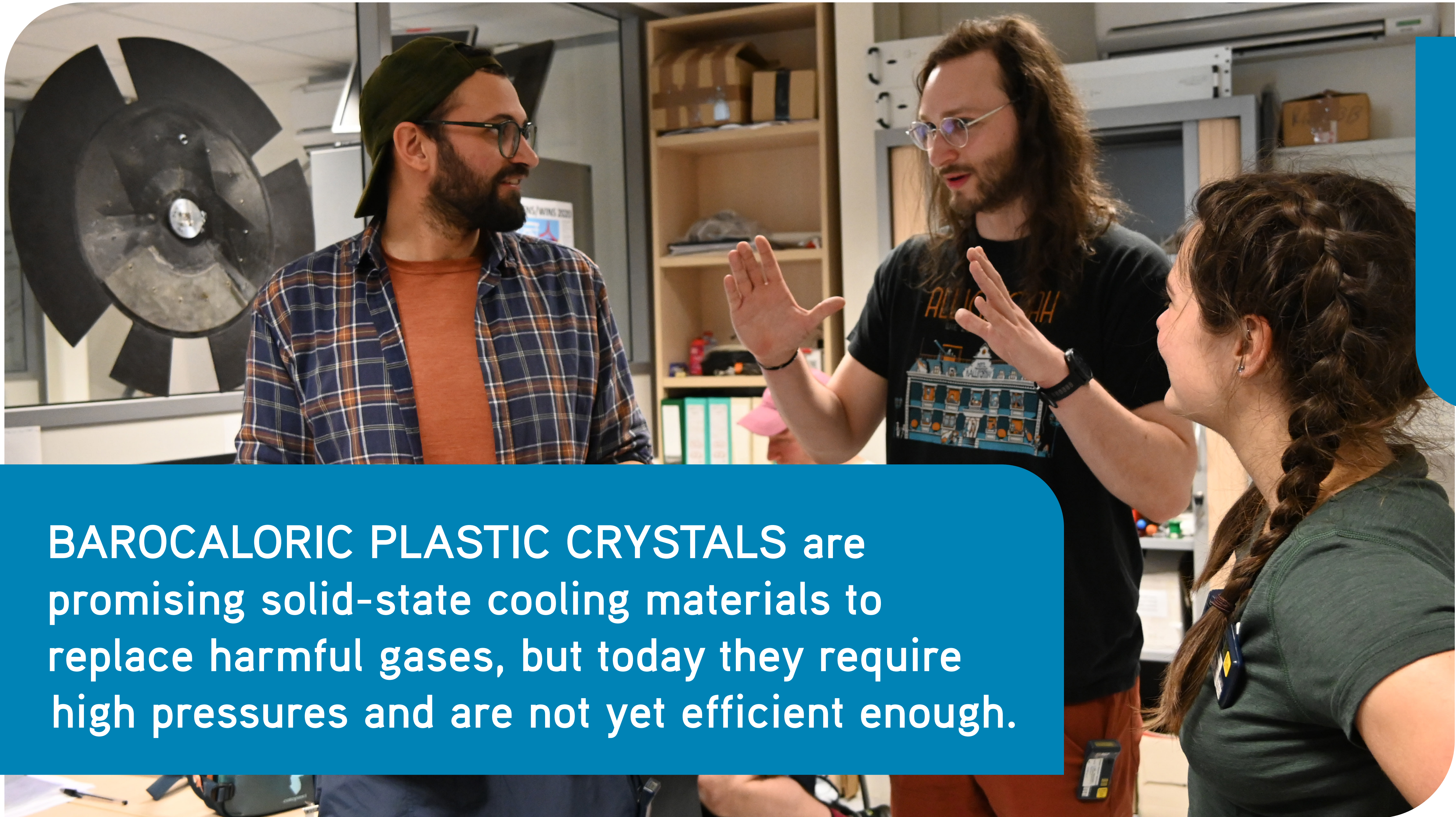
**Fred
Rendell-Bhatti**

Markus Appel

Celine Beck



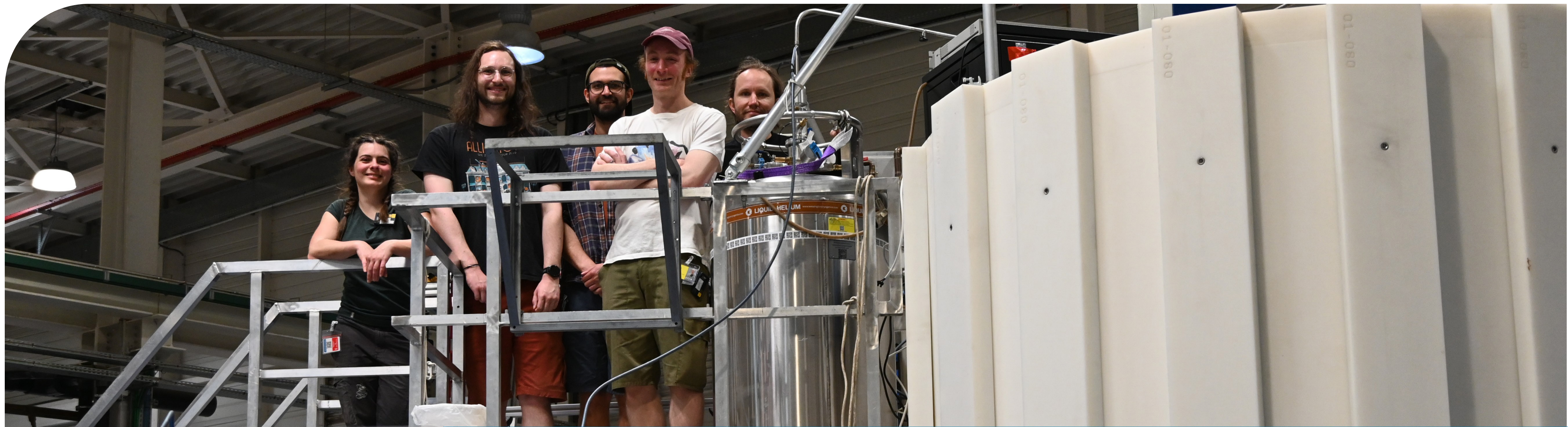
User cycle #199



BAROCALORIC PLASTIC CRYSTALS are promising solid-state cooling materials to replace harmful gases, but today they require high pressures and are not yet efficient enough.

They cool by exhibiting structural and dynamical changes under pressure. Understanding how the molecules move during phase transitions is key to improving them.





These materials are rich in hydrogen, and their behaviour is governed by a dynamic hydrogen bond network. High-pressure NEUTRON SCATTERING is particularly well suited for probing how this network forms, breaks and reorganises during phase transitions.

“On IN16B, thanks to its uniquely large dynamic range, we can observe all relevant molecular motions, from local group rotations to full molecular reorientation, within a single experiment.”

Celine Beck

