UNIVERSITÀ DI TRENTO | Dipartimento di Ingegneria Industriale

MARCH 17TH 2025, H. 14:30
SEMINAR ROOM, POLO FERRARI 2 - VIA SOMMARIVE 9, TRENTO

Beyond its role in sintering, flash experiments have been utilized to simultaneously synthesize and sinter ceramic materials. Using in-situ synchrotron X-ray diffraction (XRD), we demonstrate that reactive flash sintering can significantly influence the crystallization and reaction pathways of various materials compared to conventional heating.
In this talk, I will present examples where electric-field-assisted flash processing either suppresses or enhances the formation of intermediate phases. Additionally, a case
where flash processing accelerates the synthesis rate without altering the reaction pathway will be discussed.
Finally, I will explore recent advancements in leveraging flash processing to controllably crystallize glass-ceramics by monitoring electrical parameters in real time and precisely regulating the power dissipation during flash experiments.

Speaker: Lilian Menezes de Jesus,
Federal University of São Carlos

Unveiling Reaction Pathways and Crystallization Dynamics in Flash Experiments via In-Situ Measurements

DII SEMINAR

+39 0461 282500 | comunicazione.dii@unitn.it | www.dii.unitn.it | Local contact: mattia.biesuz@unitn.it