

Mechanical properties and structures of advanced metal alloys and multiscale simulations

27 February 2019, Wednesday
LEM3, Metz, Grande Salle de Réunion
Lectures in English

The lectures are for 30 minutes total, including discussion.
Please leave at least 5 minutes for questions.

9:00 – 9:30 Reception of the participants, introduction: Laszlo S. TOTH, Stéphane BERBENNI

Session 1, Chairman: Stéphane Berbenni

9:30-10:00 (WP4-T1) The Mechanics of High Pressure Shearing with Application to ARMCO® Steel, Laszlo S. Toth et al.

10:00-10:30 (WP5-T1) Lucile Dezerald et al. Multiscale modeling of dislocations in BCC metals from ab initio methods

10:30-10:45 Coffee break

Session 2, Chairman: Alain Jacques

10:45-11:15 (WP5-T3) Numerical modeling of X-ray diffraction pics using FFT techniques, Komlavi Eloh, Alain Jacques, Gabor Ribarik, Stephane Berbenni

11:15-11:45 (WP5-T5) Mesoscopic modeling of equiaxed dendritic solidification and upscaling to macroscopic models, Miha Založnik, Antonio Olmedilla et al. (30 min)

12h00-13h15 Lunch at CROUS Brasserie (inscription needed, see email with title: lunch WP4-WP5)

Session 4, Chairwoman: Sabine Denis

13:30-14:00 (WP4-T2) Shock mitigation in porous metals: the roles of micro-inertia and viscous effects, Christophe Czarnota, Alain Molinari

14:00-14:30 (WP5-T4) Micromechanical modeling of near β -Ti alloys : effect of elastic anisotropy on the elastoviscoplastic transition, incompatibility stresses and slip activity. S. Lhadi, S. Berbenni, N. Gey, T. Richeton, L. Germain

14:30-15:00 (WP4-T3) Multiscale complexity of plastic flow in aging alloys, Mikhail Lebedkin, Tatjana Lebedkina

15:00-15:15 pause café

Session 4, Chairman: Alain Molinari

15:15-15:45 (WP5-T2) Multiscale analysis of superelasticity and shape memory effect within architected shape memory alloys, H. Zahrouni, T. Ben Zineb et al.

15:45-16:15 (WP4-T4) Méthode de Trefftz et séries de Taylor, Michel Potier-Ferry

16:15-17:30 Discussion of new projects for the 9th year of the Labex DAMAS (1 Sept. 2019 – 31 August 2020).

17:30 End of the Workshop