**Workshop “Recrystallization and Grain Growth”**

**26 – 31 January 2020**

**Les Houches School of Physics, France**

(https://www.houches-school-physics.com/)

**PROGRAM (01/22/2019)**

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| SUNDAY | **Arrival at the School of Physics at Les Houches and installation in the rooms.** All instructions will be in a mailbox with your name in the hall of the main building.  **IMPORTANT:** No arrival before 3pm! If you arrive before, please make a halt at the village, since the School will be closed and it is located 2km uphill from the village. |
| 6 pm | Welcoming drinks |

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| MONDAY 27 |  |
| 8:45 – 9:00 | Introduction |
| 9:00 – 10:00 | **Invited Talk – Marc Legros**  Shear-migration coupling of grain boundaries in metals: an alternative plastic deformation process |
| 10:00 – 10:30 | High-resolution 3D synchrotron X-rays methods for full field in-situ recrystallization studies  Yubin Zhang |
| 10:30 – 11:00 | Coffee break |
| 11:00 – 11:30 | Dislocation-driven static recrystallization in AZ31B magnesium alloy imaged by quasi-in-situ EBSD experiments  Marco Antonio López Sánchez, Andrea Tommasi, Fabrice Barou, Romain Quey |
| 11:30 – 12:00 | Deformation of polycrystalline forsterite at 900-1200 °C and grain boundary activity  Sylvie Demouchy, Julien Gasc, Fabrice Barou, Sanae Koizumi, Patrick Cordier |
| 12:00 – 12:30 | On-Axis Transmission Kikuchi Diffraction on the SEM. Performances and Applications  Emmanuel Bouzy, , Clement Ernould, Benoit Beausir, Jean-Jacques Fundenberger, Vincent Taupin |
| 12:30 – 2:00 | Lunch |
| 2:00 – 5:00 | Free time |
| 5:00 – 7:00 | Practical workshops |
| 7:00 | Welcome drink - Diner |

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| TUESDAY 28 |  |
| 8:30 – 9:30 | **Invited Talk – Marc Bernacki**  Full field modeling of recrystallization in polycrystalline nickel base superalloys |
| 9:30 – 10:00 | Optimized manufacture of nuclear fuel cladding tubes by numerical modeling of processes and microstructure evolution analysis  Alexis Gaillac, Pierre Barberis, Isabelle Crassous, Florian Lyonnet |
| 10:00 – 10:30 | Indutrial needs regarding solving recrystallization issues  Antoine Courtoux |
| 10:30 – 11:00 | Coffee Break |
| 11:00 – 11:30 | Texture formation during hot rolling of ferritic stainless steel  Jean-Denis Mithieux, Arthur Després, Chad Sinclair, Francis Chassagne |
| 11:30 – 12:00 | A new lagrangian strategy for the simulation of boundary migration applied to microstructure evolutions  Sebastian Florez, Marc Bernacki |
| 12:00 – 12:30 | A new level set-finite element formulation for anisotropic grain boundary migration  Julien Fausty, Nathalie Bozzolo, Marc Bernacki |
| 12:30 – 2:00 | Lunch |
| 2:00 – 5:00 | Free time |
| 5:00 – 7:30 | Practical workshops |
| 7:30 – 9:00 | Diner |

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| WEDNESDAY 29 | Session organized by young researchers. Program will be modified |
| 8:30 – 9:30 | **Invited Talk – Håkan Halberg**  “Modeling and simulation of recrystallization and grain growth” |
| 9:30 – 9:50 | Material parameters identification in the context of full field modelling of grain growth and recrystallization,  Baptiste Flipon, Nathalie Bozzolo, Marc Bernacki |
| 9:50 – 10:20 | Coffee Break |
| 10:20 – 10:40 | A semi-topological approach for mean-field models of dynamic and metadynamic recrystallization (as an introduction to some practical workshops)  David Piot |
| 10:40 – 11:00 | Grain growth based on Orientated Tessellation Updating Method  Daniel Weisz-Patrault, Sofia Sakout, Alain Ehrlacher |
| 11:00 – 11:40 | Co-working reflexion and preparation of questions |
| 11:40 – 12:30 | Questions and discussions |
| 12:30 – 2:00 | Lunch |
| 2:00 – 5:00 | Free time |
| 5:00 – 7:30 | Practical workshops |
| 7:30 – 9:00 | Diner |
| 9:00 – 10:30 | Collective work “After GDR Recrystallization, what’s next for our community?” |

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| THURSDAY 30 |  |
| 8:30 – 9:30 | **Invited Talk – Cecilia Poletti**  “Dynamic recovery and recrystallization at large strains in aluminium and titanium alloys: experiments and models” |
| 9:30 – 9:50 | Microstructure evolution during multiaxial processing of Ti-6Al-4V  Margaux Saint Jalme, Julien Favre, Sylvain Dancette, Damien Fabregue, Christophe Schuman, Jean-Sébastien Lecomte, Etienne Archaud, Christian Dumont, Christophe Desrayaud |
| 9:50 – 10:10 | Texture evolution during dynamic recrystallization in olivine-rich rocks  Marco Antonio López Sánchez, Andrea Tommasi, Walid Ben Ismail, Fabrice Barou |
| 10:10 – 10:40 | Coffee Break |
| 10:40 – 11:00 | Xenolith Constraints on Rheology of Heterogeneous Deep Crust Beneath the Eastern Mojave Desert, California  Lonnie Hufford, Emily Chin, Sarah Perry, Elena Miranda, John Hanchar |
| 11:00 – 11:20 | Deformation of oceanic crust at slow-spreading ridges: microstructures in gabbros from the SouthWest Indian ridge (IODP Hole U1473A)  Maël Allard, Benoît Ildefonse, Emilien Oliot |
| 11:20– 12:20 | CLEAR / UNCLEAR Discussion |
| 12:30 – 2:00 | Lunch |
| 2:00 – 5:00 | Free time |
| 5:00 – 7:30 | Collective work organised by young researchers |
| 7:30 – 9:00 | Diner |

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| FRIDAY 31 |  |
| 8:30 – 9:30 | **Invited Talk – Benoit Appolaire**  “Phase-field models for grain growth and recrystallization” |
| 9:30 – 9:50 | Grain growth in polycrystals - 3D experimental observation and phase field modeling  Jin Zhang, Wolfgang Ludwig, Y. Zhang, P. Vorhees, H. Poulsen |
| 9:50 – 10:10 | Misorientation dependence of the grain boundary migration rate: role of elastic anisotropy  Thiebaud Richeton, Xiaolei Chen, Stephane Berbenni |
| 10:10 – 10:40 | Coffee Break |
| 10:40 – 11:00 | Using second-order bounds to parametrize the anisotropic elastic tensor of snow, firn and ice microstructures  Kavitha Sundu, Henning Löwe |
| 11:00 – 11:20 | Accounting for elastic anisotropy in crystal plasticity within the context of olivine dynamic recrystallization using a level-set framework  Jean Furstoss, Carole Petit, Daniel Pino Muñoz, Clement Ganino, Marc Bernacki |
| 11:20– 12:20 | CLEAR / UNCLEAR Discussion |
| 12:30 – 2:00 | Lunch & Departure |

**Free time:**

- Ski in the Les Houches resort (2km downhill, informations at the housing centre)

- Rooms are available for discussions and exchanges

**Practical workshops:**

Time to discover specific tools for modeling and data treatment, in small groups.

Please come with our labtop if possible.

- Full-field modeling with DIGIMU, Pascal de Micheli (TSV) and Baptiste Flipon (CEMEF)

- Mean-field modeling, Baptiste Flipon (CEMEF)

- High-resolution EBSD, Claire Maurice (EMSE) - CANCELED

- X-ray peak profile analysis using the method of moments. Evaluation of the dislocation density and coherent crystal size, Andràs Borbely (EMSE)

- EBSD data treatment with MTEX, Marco Lopez-Sanchez, Mael Allard, and Andréa Tommasi (Géosciences Montpellier), Daniel VARADARADJOU (Lab. Roberval)