



SUMMER SCHOOL

Recrystallization Mechanisms in Materials

Sète, France

November 7 to 11, 2016

For info and registration see <http://lgge.osug.fr/article1072.html>

Scientific objectives :

There is in Europe a large interdisciplinary research community focusing on the study of recrystallization mechanisms in materials. The research fields are various (metals, ice, rocks...) and the questions are numerous, from the impact on materials forming to the role on texture development in the Earth's mantle. However, there are a still larger number of common points between these communities.

The understanding of the basic recrystallization mechanisms requires studies at various scales of the deformed state of materials, from dislocation fields to macroscopic responses, via the inter- and intra-granular heterogeneities. By consequence, to provide accurate predictions of the microstructure evolution, models with various levels of complexity need to be coupled.

This summer school, which is organized in the frame of the on-going French "Groupement de Recherche" on Recrystallization address the needs for a better coordination between the different actors in this field and for transmission of knowledge toward young researchers in the field. It will associate researchers and student from different backgrounds, Universities, public research organisations, and private companies.

The aim of this thematic school is to provide a wide overview of:

- the state-of-the-art in materials sciences (geosciences, glaciology, metallurgy) of recrystallization mechanisms in polycrystalline materials
- the experimental tools and approaches currently used to observe and characterize recrystallization mechanisms
- the modelling approaches developed to simulate the occurrence and the effect of recrystallization mechanisms on the mechanical behaviour

Meeting objectives

A maximum of 40 participants is envisaged for this summer school, ideally young European researchers and PhD students, and engineers seeking for collaborations. A basic engineering background or a Masters degree and some knowledge in material sciences is required. Courses will be provided in English.

The school, for its second edition, aims at reinforcing the scientific community on recrystallization, to enable long-term collaborations, and the development of a common language, knowledge, and shared tools.

Program

Monday	
8:30 – 10:00	Welcoming
10:00 – 10:30	Introduction
10:30 – 11:15	Course 1 “Recrystallization mechanisms” - M. Montagnat & R. Logé
11:15 – 11:30	Coffee break
11:30 – 12:15	Course 1 “Recrystallization mechanisms” - M. Montagnat & R. Logé
12:15 – 14:00	Lunch
14:00 – 15:30	Course 2 – Recrystallization and mechanical properties – R. Logé and M. Montagnat
15:30 – 16:00	Coffee break
16:00 – 17:30	Course 3 – Characterization tools for recrystallization mechanisms – C. Le Boulrot and D. Mainprice (A. Tommasi)
17:30 – 18:30	Discussion time – short presentations by the participants
Tuesday	
8:30 – 10:00	Course 4 – Modeling tools for recrystallization mechanisms – M. Bernacki
10:00 – 10:30	Coffee break
10:30 – 12:00	Course 5 – Recrystallization in natural conditions: rocks and ice, first part – A. Tommasi
12:00 – 14:00	Lunch
14:00 – 15:30	Workshop 1 - 2D characterization with EBSD and image analyses – D. Mainprice

(2 groups)	Workshop 2 - 3D characterization with X-Ray diffraction – C. Le Bourlot
15:30 – 16:00	Coffee break
16:00 – 17:30	Workshop 1 - 2D characterization with EBSD and image analyses – D. Mainprice Workshop 2 - 3D characterization with X-Ray diffraction – C. Le Bourlot
(2 groups)	
17:30 – 18:30	Discussion time – short presentations by the participants
Wednesday	
8:30 – 10:00	Course 5 - Recrystallization in natural conditions: rocks and ice, part 2 – M. Montagnat
10:00 – 10:30	Coffee break
10:30 – 12:00	Course 6 - Strategies and issues in metallurgical industry – R. Jacolot
12:00 – 14:00	Lunch
14:00 – 15:30	Workshop 1 - 2D characterization with EBSD and image analyses – D. Mainprice Workshop 2 - 3D characterization with X-Ray diffraction – C. Le Bourlot
(2 groups)	
15:30 – 16:00	Coffee break
16:00 – 17:30	Workshop 1 - 2D characterization with EBSD and image analyses – D. Mainprice Workshop 2 - 3D characterization with X-Ray diffraction – C. Le Bourlot
(2 groups)	
17:30 – 18:30	Discussion time – short presentations by the participants
Thursday	
8:30 – 10:00	Workshop 3 - Full field modelling of recrystallization and grain growth – M. Bernacki Workshop 4 - Mean field modelling of recrystallization and grain growth – D. Piot
(2 groups)	
10:00 – 10:30	Coffee break
10:30 – 12:00	Workshop 3 - Full field modelling of recrystallization and grain growth – M. Bernacki Workshop 4 - Mean field modelling of recrystallization and grain growth – D. Piot
(2 groups)	
12:00 – 14:00	Lunch
Afternoon	Excursion – Etang de Thau
Friday	

8:30 – 10:00 (2 groups)	Workshop 3 - Full field modelling of recrystallization and grain growth – M. Bernacki Workshop 4 - Mean field modelling of recrystallization and grain growth – D. Piot
10:00 – 10:30	Coffee break
10:30 – 12:00 (2 groups)	Workshop 3 - Full field modelling of recrystallization and grain growth – M. Bernacki Workshop 4 - Mean field modelling of recrystallization and grain growth – D. Piot
12:00 – 14:00	Lunch
Afternoon	Discussion time – short presentations by the participants
	Departure

Speakers

Speakers will be :

M. Bernacki, C. Le Boulrot, R. Jacolot, R. Logé, D. Mainprice, M. Montagnat, D. Piot, A. Tommasi

Excursion

A train and boat excursion will take place on thursday afternoon, departure from The Lazaret.

We will explore the Etang de Thau in a glass made boat, with SudSeaExplorer

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