

MatISSE Projet – Final Plenary Meeting

9-10 October 2017, Paris

25, rue des Jeûneurs
75002 Paris France

Formeret meeting room

Day 1: Monday 9 th October 2017	
9:00 – Welcome by the project coordinator, agenda review and approval	P.F. Giroux (CEA)
9:15 – The MatISSE project after four years, final overview - Objectives achieved - Activities carried out	P.F. Giroux (CEA)
09:30 – WP2 – Modelling of irradiation-induced hardening and creep in F/M alloys (RTD) 09:30 – 09:40: Introduction to WP2 09:40 – 10:10: Keynote: “High-dose damage evolution in Fe, FeCr and high-entropy alloys”	L. Malerba (SCK•CEN) K. Nordlund (U. Helsinki)
10:10 - 10:30 – Coffee break	
10:30 – WP2 – Modelling of irradiation-induced hardening and creep in F/M alloys (RTD) 10:30 – 11:40: MEFISTO 10:30 – 10:40 Overview of activities 10:40 – 11:00 Microstructural characterisation of neutron and ion irradiated Fe-Cr-X model alloys 11:00 – 11:20 Microstructural evolution under irradiation in Fe-Cr-X model alloys: kinetic Monte Carlo models 10:20 – 11:40 Radiation strengthening in Fe-Cr alloys: a dislocation dynamics model 11:40 – 12:30: MOIRA 11:40 – 11:50 Overview of activities 11:50 – 12:10 Effect of isotropic and shear stresses on dislocation bias factor in bcc iron: an atomistic study 12:10 – 12:30 Derivation of irradiation creep constitutive laws for finite element codes	C. Pareige (U. Rouen) C. Pareige (U. Rouen) N. Castin (SCK-CEN) G. Monnet (EDF) E. Clouet (CEA) A. Bakaev (SCK-CEN) M. Sauzay (CEA)
12:30 - 14:00 – Lunch	

14:00 – WP5 – Support to Design, Selection and Qualification of Materials and Components for the ESNII Reactors (RTD) 14:00 – 14:10: Introduction of WP5 14:10 – 14:40: Keynote “High temperature evaluation of fatigue crack growth for bare and coated materials” 14:40 – 15:30: Creep-fatigue: cyclic softening and crack growth • Cyclic softening and Relaxation: Experimental observations and models • Creep-fatigue crack propagation: Experiments and first models	K. F. Nilsson (JRC) V. Maurel (Ecole des Mines, Paris) M. Sauzay (CEA) K-F Nilsson (JRC)
15:30 - 15:50 – Coffee break	
15:50 – WP5 – Support to Design, Selection and Qualification of Materials and Components for the ESNII Reactors (RTD) 15:50 - 16:40: Functional coatings and modified surface layers • Overview on activities • Bulk FeCrAl-RE – optimizing oxidation properties • Modified surface layers for mitigation of material degradation in HLM • Al₂O₃ deposition by detonation gun 16:40 - 17:30: Fuel-cladding interaction • State-of-the-art review of data on fuel cladding interaction in advanced fuels for Gen IV reactors • Fuel clad chemical interaction of un-irradiated nitride fuel samples with 15-15Ti • Models and Data for assessment procedures fuel-cladding interaction 17:30 - 18:20: Investigation of Env. Assisted Degradation of materials in liquid lead alloys • Overview of Task 5.4 • High resolution microscopy on T91 tested in HLM • Low cycle fatigue of structural materials in LBE	A. Weisenburger (KIT) P. Dömstedt (KTH) A. Jianu (KIT) M. Utili (ENEA) E. D'Agata (CEA) P. Dömstedt (KTH) E. D'Agata (JRC) E. Stergar (SCK•CEN) T. Auger J-B Vogt (CNRS)
18:20 – End of 1st day	
20:00 Dinner - Restaurant Point ZERO (9 rue Paul Lelong, 75002, Paris)	

Day 2: Tuesday 10th October 2017

09:00 – WP4 – Characterization of ODS alloys for LFR and SFR cladding (RTD)	
09:00 – 09:10: Introduction of yhe WP4	M. Hernandez (CIEMAT)
09:10 – 09:40: Status of ODS development for Gen IV cladding	Y. de Carlan (CEA)
09:40 – 10:20: Ion irradiation behaviour od ODS bars	C. Heintze (HZDR)
10:00- 10:20: Deformation mechanisms of ODS alloys	M. Hernandez-Mayoral (CIEMAT)
10:20 - 10:40 – Coffee break	
10:40-11:00: Mechanical behaviour of ODS cladding tubes	U. Ehrnsten (VTT)
10:40 – 11:30: ODS compatibility with liquid metals	A. Heinzel (KIT)
11:30 – WP1 – Coordination and Support for an Integrated Research Programme on Nuclear Materials (COORD)	A. Bohnstedt (KIT)
12:00 - 13:30 – Lunch	
13:30 – WP3 – Characterization of ceramic composites for GFRs and LFRs (RTD)	
13:30 – 13:40: Status of WP3	C. Mingazzini (ENEA)
13:40 – 14:10: Reducing the processing cost of SiC matrix composites by using non-conventional energy sources: the experience of a new CVI pilot plant with hybrid-MW heating	A. Lazzeri (University of Pisa, FP7 HELM coordinator)
14:10 – 14:50: MAX phases development within WP3.4.	T. Lapauw (KU Leuven)
14:50 - 15:15 – Coffee break	
15:15 – 15:30: In situ observation of mechanical damage within a SiC-SiC ceramic matrix composite	J. Marrow (UOXF)
15:30 – 16:00: Experimental study of the corrosion behaviour of SiC/SiC in reference chemistry under expected working and accident conditions (contribution from WP3.3 partners (NNL, PoliTo, CVRez))	M. Steinbruck (KIT)
16:00 – 16:15: Processing and mechanical characterizations of SiC/SiC and sandwich clad sections. Leak tightness characterization of sandwich clads up to 1000°C	C. Sauder / J. Braun (CEA)
16:15 – 16:30: Thermal diffusivity measurements by flash laser analysis	C. Lorrette (CEA)
16:30 – 16:45: Thermal meconductivity measurement of SiC/SiC and sandwich clads based on the radial heat flow method.	J. Chen (PSI)
16:45 – WP6 – Dissemination, communication, E&T (OTHER)	P.F. Giroux (CEA)
17:15 – Questions and conclusions on the final meeting	P.F. Giroux (CEA)
17:30 – End of the MatISSE Final Plenary Meeting	

Recommended hotels around the meeting venue

1. [Hôtel Viviane](#)
2. [Hôtel Bellan](#)
3. [Hôtel Sainte-Marie](#)
4. [Hôtel Zora](#)

More information about the event

- [Official MatISSE Website](#)
- [EERA-JPNM website](#)

Transports publics

-  Sentier
-  Grands Boulevards (Rue Montmartre)
-  Bonne Nouvelle
-  Bourse