

<b>Day 1 (June 11th, 2019) UPM</b>			
<b>Time</b>	<b>Title</b>	<b>Lecturer</b>	<b>Organization</b>
12:30	<b>Registration</b>		
13:00	<b>Session 1: Introduction</b>		
13:00	Introduction of UPM & CIEMAT		UPM/CIEMAT
13:15	Overview ESFR-SMART	C. Latgé	CEA
13:30	<b>Session 2: General aspects of Liquid Metal Fast Reactors</b>		
13:30	Why Fast Reactors / versus Thermal reactors?	F. Álvarez-Velarde	CIEMAT
13:45	Sodium cooled fast reactors: description, status of development	C. Latgé	CEA
14:05	Coffee break		
14:25	Sodium cooled fast reactors: coolant properties and main consequences on materials & Technologies	C. Latgé	CEA
15:00	Lead/lead-bismuth cooled fast reactors: description, status of development, coolant properties and main consequences on materials & Technologies	M.Tarantino	ENEA
15:30	<b>Session 3: Liquid Metal Thermal Hydraulics and numerical tools</b>		
15:30	Thermal hydraulics of liquid metals: fundamentals	F. Roelofs	NRG
16:05	Environmental effects of Thermal hydraulics on materials: stratification, stripping, jet effect	A.Gerschenfeld	CEA
16:40	Discussions: 10'		
16:50	Selection of the simulation tool considering the purpose/calculation domain/required accuracy. Code coupling	A.Gerschenfeld	CEA
17:15	CFD codes, Sub-channel codes	G. Jiménez	UPM
17:35	System codes	C. Queral	UPM
18:20	Discussions: 10'		
18:30	End of day		
<b>Day 2 (June 12th, 2019) UPM</b>			
09:00	<b>Session 4: Heat transfer and hydrodynamics in specific scenarios. Experimental facilities</b>		
09:00	Pin, assembly and core resolution: experiments on NACIE	M.Tarantino	ENEA
09:30	Thermal hydraulics; heat transfer & pressure drop correlations in Na	S. Pérez Martin	KIT
10:00	Pool Systems & Components thermal-hydraulics tests in CEA (H <sub>2</sub> O): Simultaneous Measurements of Temperature and Velocity using Optical Methods in mixing jets: Experiments and Challenges on a Complex Mock Up	M. Chitt	CEA
10:30	Coffee break		
10:50	KASOLA Thermal hydraulics test on transitional conditions for CP-ESFR (SMART Project)	W.Herring	KIT
11:20	Instrumentation to support thermo-hydraulics experiments	S. Eckert	HZDR
11:50	Thermal hydraulics Operational feedback from SFRs (PX, SPX, ...)	J. Guidez	CEA
12:20	Discussion (10')		
12:30	Lunch		
13:30	<b>Session 6: Fuel safety in steady-state &amp; severe accidents</b>		
13:30	SFR fuel: fundamentals SFR fuel: fundamentals and behavior in steady state conditions	N. Chauvin	CEA
14:30	SFR fuel safety behavior experiments during transients & severe accidents: main aspects & source terms	N. Girault	CEA
15:05	SFR fuel safety behavior modeling during transients & severe accidents: main aspects & source terms	F. Gabrielli	KIT
15:40	Discussion: 20'		
16:00	Coffee break		
16:20	<b>Session 7: Sodium fires and aerosol behavior</b>		
16:20	Current predicatibility of in-containment aerosol behavior during BDBAs in SFRs	L.E. Herranz	CIEMAT
16:55	Aerosols generation from pool fire in the reactor, source terms (comparison between PWR and SFR)	L.E. Herranz	CIEMAT
17:30	Discussion: 10'		
17:40	End of day		

<b>Day 3 (June 13th, 2019) UPM</b>			
<b>08:30</b>	<b>Session 7: Sodium fires and aerosol behavior (cont.)</b>		
08:30	Sodium fires experiments & radio-nuclides scavenging	N. Girault	IRSN
09:05	Aerosols behavior out of the SFR: carbonation during atmospheric dispersion (40') (T. Gilardi CEA)	T. Gilardi	CEA
09:40	Atmospheric dispersion of Na aerosols : modeling and simulation with Code_SATURNE"	A. Defossez	EDF
10:15	Discussion: 15'		
10:30	Coffee break		
<b>10:50</b>	<b>Session 5: Poster Session for PhD students (50')</b>		
10:50			
<b>11:40</b>	<b>Session 8: 4 PhD presentation (15' + 5' questions)</b>		
11:40	PhD 1 on Thermal hydraulics		
12:00	PhD 2 on Fuel safety		
12:20	PhD 3 on Sodium fires : "Na fragmentation and impact on spray fire phenomenology"		
12:40	PhD 4 on Heat transfer		
13:00	Lunch		
<b>14:00</b>	<b>Session 9: Computational exercises (to test an education methodology proposed in Task 3.1.1)</b>		
	Calculation on SFR thermal-hydraulics	S. Pérez Martin	KIT
	Calculation of SFR FA cooling	D.Cuervo	UPM
17:00	End of day		
<b>21:00</b>	<b>Social Dinner</b>		
<b>Day 4 (June 14th, 2019) CIEMAT</b>			
	<b>Session 10: Visits at CIEMAT (3h to be detailed and duration to be confirmed))</b>		
09:00	Visits at CIEMAT		
	The Helic Flexible TJ-II Facility, a large scientific installation in the National Magnetic Confinement Fusion Laboratory.		
	The Neutron Standards Laboratory of the Ionization Radiation Metrology Laboratory, for the calibration of neutron detectors.		
	Neutron Detector Laboratory, to develop and characterize detectors for a wide range of applications for experimental nuclear, particle and astro-particle physics. (TBC)		
12:30	End of workshop		