

**Preliminary** Program of ESFR-SMART workshop on  
**Instrumentation for the Safety of Liquid Metal Facilities**  
 HZDR Dresden, April 10th – 12th, 2019

### Day 1 (April 10th, 2019)

Time	Title	Lecturer	Organization
13:00	Registration		
<b>Session 1: Introduction</b>			
14:00	Introduction of HZDR	G. Gerbeth	HZDR
14:20	Overview ESFR-SMART	K. Mikityuk	PSI
15:00	Overview on instrumentation for SFRs	F. Baqué	CEA
<b>Session 2: Flow Measurements</b>			
15:40	Local inductive flow measurements	N. Krauter	HZDR
16:10	Coffee Break		
16:30	Contactless inductive flow tomography	T. Wondrak	HZDR
17:00	Ultrasound doppler velocimetry	S. Eckert	HZDR
17:30	Magnetic field measurements for qualitative flow regime assessment. Application to induction electromagnetic pumps	L. Buligins	UL
18:00	End of day 1, transfer back to the hotels		
19:30	<b>Dinner</b> at Schloss Eckberg - Bautzner Straße 134, 01099 Dresden		

### Day 2 (April 11th, 2019)

Time	Title	Lecturer	Organization
08:30	Introduction of student activity	N. Krauter	HZDR
<b>Session 3: Na quality control</b>			
08:50	Instrumentation for sodium quality control	C. Latgé	CEA
<b>Session 4: Leakage Detection</b>			
09:30	Leak detection in the MEGAPIE target and a radiation resistant pressure gage	K. Thomsen	PSI
10:10	Coffee Break		
10:30	Sodium leakage detection	M. Girard	CEA
<b>Session 5: Gas Detection</b>			
11:00	TBD ( UTTT and X-ray)	T. Richter	HZDR
11:30	Inductive and resistive methods	T. Wondrak	HZDR
<b>Session 6: Level detection</b>			
12:00	Inductive Level Sensors	N. Krauter	HZDR

12:20	Distance and contour measurements of liquid metal free surfaces	R. Stieglitz	KIT
13:00	Lunch		
<b>Session 7: In-service inspection</b>			
14:10	Telemetry in Na	G. Gobillot	CEA
<b>Session 8: Nuclear instrumentation</b>			
14:50	In-vessel detectors and measurement systems for SFR	P. Filliatre	CEA
15:30	Coffee Break		
15:50	Overview DRESDYN Project	F. Stefani	HZDR
16:10	Lab Tour		
18:00	End of day 2, transfer back to the hotels		

### Day 3 (April 12th, 2019)

Time	Title	Lecturer	Organization
08:30	Students session: Experiments in 3 groups 1. Flow measurements with the Eddy Current Flow Meter (ECFM) in GaInSn 2. UDV flow measurements in GaInSn 3. Numerical Simulation of ECFM with COMSOL Multiphysics		
10:00	Coffee Break		
<b>Session 9: Simulations and validations</b>			
10:20	CFD	TBD	HZDR
10:50	Modelling tools and design of SFRs	E. Schwageraus	UCAM
11:30	Students session (presentation of results)		
12:00	Discussion	All	
12:20	Conclusions	ESFR-SMART	
12:30	Lunch		
13:30	End of day 3, transfer back to train station and airport		