

# European School on Nuclear Materials Science 2020

## Final Time Schedule

Monday 9/11		Tuesday 10/11	Wednesday 11/11	Thursday 12/11	Friday 13/11
8.30 – 9.00	Connection/Welcome	Atom probe tomography in NMS	Semi-empirical models and approximations	Calphad modelling	Study of defects, in particular using positron annihilation spectroscopy
9.00 – 9.30	Introduction to Nuclear Materials Science	Machine Learning in NMS	Thermochemical and physical property measurement techniques	Ion irradiation techniques	Nano-to-macroscale modelling of mechanical properties
9.30 – 10.00					
10.00 – 10.30	Self-introduction 1	Break	Break	Break	Break
10.30 – 11.00	Break	CS1 a) Modelling-oriented experiments b) Experiment-oriented modelling	Molecular dynamics using empirical or quantum forces	CS3 a) Thermochemical properties of fuels b) corrosion issues in heavy liquid metal environment	CS5 a) Radiation damage b) microstructure evolution in structural materials
11.00 – 11.30	Multiscale modelling in NMS	Lunch	Self-introduction 5		
11.30 – 12.00					
12.00 – 12.30	Self-introduction 2	Break	Break	Break	Break
12.30 – 13.30	Lunch	Electron microscopy in NMS	CS2 Margin to fuel melting a) Definition, determination b) Impact of composition and irradiation	CS4 Transport properties in metallic structural materials and fuels: a) modelling b) experiments	CS6 Creep and mechanical evolution of a) pressure vessel b) fuel elements
13.30 – 14.00	Diffraction techniques	Self-introduction 4	Break		
14.00 – 14.30					
14.30 – 15.00	Self-introduction 3	Fuel performance codes	Kinetic Monte Carlo modelling	Application of EELS in NMS	Quizz-closing
15.00 – 15.30	Break	Wrap-up -Questions	Wrap-up -Questions	Wrap-up -Questions	
15.30 – 16.00	Electronic structure theory and specificities for NMS				
16.00 – 16.30					
16.30 – 16.45	Wrap-up -Questions				