

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	Multiscale modelling in NMS	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									
11.30 – 12.00									
12.00 – 12.30	Self-introduction 2	Lunch		Self-introduction 5		Lunch		Lunch	
12.30 – 13.30	Diffraction techniques	Electron microscopy in NMS		Lunch		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									
14.00 – 14.30									
14.30 – 15.00	Self-introduction 3	Self-introduction 4		CS2 Margin to fuel melting a) Definition, determination b) Impact of composition and irradiation		Break		Break	
15.00 – 15.30	Break	Break		Break		Break		Break	
15.30 – 16.00	Electronic structure theory and specificities for NMS	Fuel performance codes		Kinetic Monte Carlo modelling		Application of EELS in NMS		Quizz-closing	
16.00 – 16.30									
16.30 – 16.45	Wrap-up -Questions	Wrap-up -Questions		Wrap-up -Questions		Wrap-up -Questions			