

TUMIEE TRAINING SCHOOL - PROGRAMME

First week								
	Monday, Sep. 23 (House of Culture)		Tuesday, Sep. 24 (House of Culture)		Wed., Sep. 25 (House of Culture)	Thursday, Sep. 26 (House of Culture)	Friday, Sep. 27 (House of Culture)	Saturday, Sep. 28
9.00 – 10.50	Introduction: Electronic excitation - COST Action CA17126 Rivera, Benítez		Experimental methods: irradiation and characterization Rivera, Peña		In situ optical characterization Peña	Time-resolved experimental techniques García-Lechuga	Molecular dynamics, Langevin dynamics Murphy	
11.10 – 13.00	Overview on Radiation-Matter interaction and methodologies from fs to mesoscopic scale Djurabekova		DFT: basic concepts and linear response Kohanoff, Sangalli		TD-DFT and NEGF: from coherent real time propagation to scattering and quantum kinetics Kohanoff, Sangalli	Quantum kinetic formalisms Apostolova	Minoan Civilization Owens	Guided visit to Archeological site of Eleuftherna Owens
Lunch (13.00 – 14.30)								
Tutorial Session 1: short time scales	Introduction to super-computing. Access to Magerit. Cubo	Quantum Espresso & Yambo Molina, Sangalli, Martín-Samos	Ground state and absorption with Quantum Espresso and Yambo Kohanoff, Sangalli, Martín-Samos, Molina	Ab-initio Real time simulations in presence of laser pulses with Yambo Molina, Sangalli, Martín-Samos	Hands on Quebec: quantum electronics Boltzmann equation code Apostolova, Rivera	Molecular dynamics Murphy		
14.30 – 18.00 (aprox.)*		Binary collision code SRIM Rivera, Djurabekova	Analysis of irradiation results: script development Rivera, Peña	Analysis of in situ irradiation experimental data: Track formation Rivera, Peña	Time-resolved experimental techniques García-Lechuga	Time-resolved experimental techniques García-Lechuga		
Tutorial Session 2: macroscopic	14.30-18.00 (aprox.)*							

(*) Tutorial Session 1 and Tutorial Session 2 will be held simultaneously. Trainees will be divided into 2 groups in most of these afternoon sessions as it is shown on the table (there are common sessions on the 23/09, 02/10 and 03/10). The sessions are expected to finish around 18.00 (apox.).

TUMIEE TRAINING SCHOOL - PROGRAMME

Second week						
	Monday, Sep. 30 (House of Culture)	Tuesday, Oct. 1 (House of Culture)	Wed., Oct. 2 (House of Culture)	Thursday, Oct. 3 (Institute for Plasma Physics and Lasers)	Friday, Oct. 4 (Institute for Plasma Physics and Lasers)	Saturday, Oct. 5
9.00 – 10.50	Radiation hydrodynamics Oliva	FEM and MHD Numerical Simulations on Radiation-Matter Interactions Dimitriou	Code couplin; MBN software De Vera, Verkhovtsev	Welcome on IPPL High Power Laser – Plasma Physics Tatarakis Ultrafast Lasers and high electronic excitation Papadogiannis	Visit the IPPL Laboratories Papadogiannis, Tatarakis, Ftilis	
11.10 – 13.00	Molecular dynamics, two-temperature models Duffy	Monte Carlo methods Medvedev	Coupling of methods (timescales) / experimental validation and applications Solov'yov	Coupling of methods (timescales) / experimental validation and applications II Solov'yov	Open discussion Summary and closing Tatarakis, Papadogiannis	
Lunch (13.00 – 14.30)						
Tutorial 1: short time scales 14.30 – 18.00 (aprox.)	Molecular dynamics Duffy	Monte Carlo Lipp	Code coupling; MBN software De Vera, Verkhovtsev	Code coupling; MBN software De Vera, Verkhovtsev		
Tutorial 2: macroscopic 14.30 – 18.00 (aprox.)	Radiation hydrodynamics Oliva	Laser matter interactions-Hands on FEM and MHD simulations Dimitriou, Kaselouris				

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