International Summer School - HYDROGEN Nancy 2023 - Insights on hydrogen energy from production to applications							
Day/Venue	July 3 rd /ENSIC		July 4 th /ENSIC	July 5th/ENSIC	July 6 th /FST		July 7 th /ENSIC
Session Chair:	Assma EL KADDOURI	Session Chair:	Feina XU	Matthieu URBAIN	Julia MAINKA		Giuseppe SDANGHI
8.00-8.45 am	REGISTRATION	8.30-9.30 am	Proton exchange membrane fuel cells: rationale, principle of operation and core materials (M. Chatenet, <i>LEPMI</i>)	Power electronics for fuel cell (T. Boileau <i>, LEMTA</i>)	PEM Water Electrolyzers (F. Maillard, <i>LEPMI</i>)		Hydrogen compression driven by cyclic adsorption/desorption on microporous materials
8.45-9.00 am	Introduction (A. El Kaddouri <i>, LEMTA</i>)	(1h00)					(V. Fierro, IJL & G. Sdanghi, <i>LEMTA</i>)
9.00-9.45 am (45min)	LEMTA presentation (O. Lottin , J. Mainka, S. Pierfederici)		OD/1D Modeling and CFD Simulation at Alstom (M. Espinosa, Alstom/HELION Hydrogen Power)	Advanced power electronic and fuel cell security issues (A. De-Bernardinis, <i>LMOPS</i>)	Alcalin Electrolyzer (M. Nouaille-Degorce, <i>John Cockerill</i>)		H2 storage – industrial point of view (S. Gattelier, FORVIA)
9.45-10.30 am (45min)	Pave the way to Hydrogen Energy: promoting the collaboration between academics and industrial to develop the sector (M-C. Péra, Femto-ST)	9.30-10.30 am (1h00)					
Coffee break							
11.00-12.30 am (1h30)	The French Strategy for low-carbon hydrogen development: main objectives, and innovations addressed by the "Priority Research Program and Equipment" (H. Burlet, CEA)	11.00-12.00 am (1h00)	PEM Fuel Cells Focus on Electrocatalysts (E. Negro, UNIPD)	Cryogenic transfer systems to enable LH2 supply chains (A. Combessis, <i>Nexans</i>)	Hy2Car Project: from the technical aspect of a fuel cell-supercapacitors source in a car to its environment (F. Lapicque, LRGP)		Liquid organic hydrogen carriers (LOHC) (C. Coutanceau, <i>IC2MP</i>)
Lunch break							
Session Chair:	Assma EL KADDOURI	Session Chair:	Giuseppe SDANGHI		July 6 th /LEMTA		Assma El KADDOURI
2.00-3.00 pm (1h)	Is a PEMFC an environmentally friendly technology? (Lenka Svecova, <i>LEPMI</i>)	1.30-2.30 pm (1h00)	Anion exchange membrane fuel cell: state of the art and laboratory-scale development (F. Xu , <i>LEMTA</i>)	2.00 to 4.00 p.m City tour (Street art Nancy)	Platform I Microgrid and Fuel Cell management systems (1h30)	Platform II PEMFC, Electrolyzer and H2 compressor: testing and characterization (1h30)	Quiz & Closure (Award ceremony)
3.00-4.00 pm (1h)	Pitch presentation I	2.30-3.30 pm (1h)	Pitch presentation II		<u>Platform II</u> PEMFC,	<u>Platform I</u> Microgrid	
Coffee break				&	Electrolyzer and H2 and		
4.30-5.30 pm (1h)	Pitch presentation I	4.00-5.00 pm (1h)	Pitch presentation II	7.30 p.m	compressor: testing and characterization	management systems	
7 pm (1h30)	Welcoming cocktail			Gala Dinner	(1h30) (1h30)		