

JESS 2016 - Programme WEEK 1

		Joint lectures		
Module 1	Introduction to SOFC / SOEC		Introduction to LT Fuel Cells and Electrolysers	Introduction to Batteries
Module 2				
Module 3				
Sunday	11 Sep 2016	Arrival		
Monday	12 Sep 2016			
08:00	08:30	Registration		
08:30	09:00	Welcome and General Introduction	Jens Oluf Jensen (DTU)	
09:00	09:45	Sustainable and Renewable Energy Future	Rüdiger-A. Eichel (FZJ)	
09:45	10:00	coffee break	coffee break	coffee break
10:00	11:15	Introduction to Batteries	Rüdiger-A. Eichel (FZJ)	
11:15	11:30	break	break	break
11:30	12:45	Introduction to Fuel Cells and Electrolysis	Robert Steinberger-Wickens (U Bham)	
13:00	14:00	lunch		
16:00	17:30	Thermodynamics and Efficiency of Electrochemical Cells	Jens Oluf Jensen (DTU)	
17:30	18:00	coffee break	coffee break	coffee break
18:00	19:30	Introduction to Solid State Chemistry & Ionics	Rüdiger-A. Eichel (FZJ)	
19:30	19:45	Introduction to the Students' Project	Robert Steinberger-Wickens (U Bham)	
19:45	21:15	welcome reception / dinner		
21:15	22:00	Students' Presentations I	Jens Oluf Jensen (DTU)	
Tuesday	13 Sep 2016			
		Introduction to SOFC / SOEC	Introduction to LT Fuel Cells and Electrolysers	Introduction to Batteries
08:30	09:45	Electrolyte materials for SOFC / SOEC	Alan Atkinson (ICL)	Electrolyte materials for LT fuel cells and electrolysers
09:45	10:00	coffee break	coffee break	Cell and Pack designs for batteries
10:00	11:15	Anode materials for SOFC / SOEC	Alan Atkinson (ICL)	Catalyst and kinetics for LT fuel cells and electrolysers I
11:15	11:30	break	break	Manufacturing of batteries
11:30	12:45	Cathode materials for SOFC / SOEC	Alan Atkinson (ICL)	Catalyst and kinetics for LT fuel cells and electrolysers II
13:00	14:00	lunch		
16:00	17:15	Cell and Stack designs for SOFC / SOEC	Ico Vinke (FZJ)	Cells, bipolar plates, and stacks for LT fuel cells
17:15	17:30	coffee break	coffee break	Anode materials for batteries
17:30	18:45	Manufacturing of SOFC / SOEC	Ico Vinke (FZJ)	Cells, bipolar plates, and stacks for LT electrolysers
18:45	19:00	break	break	Cathode materials for batteries
19:00	20:15	Students' Presentations II		
20:30	21:30	dinner		
Wednesday	14 Sep 2016			
		Introduction to SOFC / SOEC	Introduction to LT Fuel Cells and Electrolysers	Introduction to Batteries
08:30	09:45	Exercise on materials / design	Ico Vinke (FZJ)	Hydrogen compression and storage
09:45	10:00	coffee break	coffee break	All solid state batteries
10:00	11:15	System technology for SOFC	Ico Vinke (FZJ)	System design and operation for LT fuel cells
11:15	11:30	break	break	Metal-Air batteries
11:30	12:45	Degradation in SOFC / SOEC	Anke Hagen (DTU)	System design and operation for LT electrolysers
13:00	14:00	lunch		
15:00	20:45	Excursion		
21:00	22:00	dinner		
Thursday	15 Sep 2016			
		Introduction to SOFC / SOEC	Introduction to LT Fuel Cells and Electrolysers	Introduction to Batteries
08:30	09:45	Characterisation Methods for Fuel Cell, Electrolyser and Battery Materials		
09:45	10:00	coffee break	coffee break	coffee break
10:00	11:15	Exercise on Characterisation, Electrochemistry and Thermodynamics		
11:15	11:30	break	break	break
11:30	12:45	Student project time		
13:00	14:00	lunch		
16:00	17:00	System technology for SOEC	Oliver Posdziech (SunFire)	Challenges for LT electrolysers
17:00	17:15	coffee break	coffee break	Electrolyte materials for batteries
17:15	18:30	Exercise on system technology	Robert Steinberger-Wickens (U Bham)	Challenges for LT fuel cells
18:30	18:45	break	break	Transport modelling of batteries
18:45	19:45	Atomistic Modelling in fuel cell, electrolyser and battery research		
20:00	21:00	dinner		
Friday	16 Sep 2016			
		Introduction to SOFC / SOEC	Introduction to LT Fuel Cells and Electrolysers	Introduction to Batteries
08:30	09:45	Exercise on degradation	Anke Hagen (DTU)	Application of LT fuel cells and electrolysers
09:45	10:00	coffee break	coffee break	Beyond Lithium - resource-efficient batteries
10:00	11:15	New trends in SOFC / SOEC	Anke Hagen (DTU)	New trends in LT fuel cells and electrolysers
11:15	11:30	break	break	Degradation and Lifetime-Prediction in batteries
11:30	12:45	Power to Gas, Fuels and Chemicals	Oliver Posdziech (SunFire)	Exercise on in-operando characterization & degradation
13:00	14:00	lunch		
16:00	17:00	ECTS exams		
17:00	17:15	coffee break	coffee break	coffee break
17:15	18:45	Students' projects presentations		
18:45	19:00	break	break	break
19:00	19:30	Farewell		
20:30	open	Gala dinner		