

SummerLIB (11-15 July 2022) Lectures (on line)

Monday, July 11th

Introduction

09:00 History and batteries essentials [1]

10:00 Fundamental components of current aprotic batteries [2]

Cell & Battery configuration and performance

11:30 LIB's components (Anode and cathode materials) [3]

12:30 LIB's additional components (Electrolytes, separators and other constituents) [4]

Tuesday, 12th July

09:00 Electrochemical analysis. Part I [3]

10:00 Electrochemical analysis. Part II [3]

LIBs characterization

11:30 Operando battery tests: SAXS [5]

12:30 Characterization by XPS [6]

Wednesday, 13th July

09:00 Synchrotron-based characterization techniques [7]

10:00 Fundamental studies at the nanoscale (AFM-based techniques) [8]

Solid State Li Batteries, SSLB

11:30 Solid Li-ion conductors [1]

12:30 Single Li-ion conducting polymers [1]

Thursday, 14th July

09:00 Composite anodes for all-solid-state LIBs [9]

10:00 Mechanical properties of LIB interfaces [10]

Next generation LIBs

11:30 LIBs based on silicon [11]

12:30 Safer Li-metal batteries: ionic liquid additives and gel polymer electrolytes [12]

Friday, 15th July

Post Li-ion

09:00 Sodium-Ion Batteries (NIBs) [4]

10:00 Redox Flow Batteries (RFBs) [13]

Environmental and cost assessment of LIBs

11:30 Risk and safety issues [14]

12:30 Recycling LIBs: towards direct production of new energy storage materials [15]

Speakers:

- [1] Philippe Knauth, Aix-Marseille Université (France)
- [2] Sergio Brutti, Sapienza University of Rome (Italy)
- [3] Florence Vacandio, Aix-Marseille Université (France)
- [4] J. Carlos Pérez, Universidad de Castilla-La Mancha (Spain)
- [5] Giorgia Greco, Sapienza University of Rome (Italy)
- [6] Carlo Mariani, Sapienza University of Rome (Italy)
- [7] Enrique Garcia Michel, Universidad Autónoma de Madrid (Spain)
- [8] Celia Polop, Universidad Autónoma de Madrid (Spain)
- [9] Akiko Tsurumaki, Sapienza University of Rome (Italy)
- [10] Enrique Vasco, Spanish National Research Council (Spain))
- [11] Carmen Morant, Universidad Autónoma de Madrid (Spain)
- [12] Maria Assunta Navarra, Sapienza University of Rome (Italy)
- [13] Pilar Ocón, Universidad Autónoma de Madrid (Spain)
- [14] Adam Slabon and Bruno Rodrigues, University of Wuppertal (Germany)
- [15] Dr Pier Giorgio Schiavi, Sapienza University of Rome (Italy)