

Korea-EU Horizon Europe Researchers Networking Forum on Energy & Advanced Mobility

• **Akiko Tsurumaki**

• **Junior Assistant
Professor**

• **Sapienza
University of Rome**

• **Energy**



1. Short Introduction of your Organization



Sapienza University of Rome



- QS World University Rankings = 128
- Founded in 1303
- 122,000 students + 7000 employees
- 11 faculties, 63 departments
- Notable Alumni: Enrico Fermi

Department of Chemistry

Three courses: Chemistry, Analytical Chemistry, and Industrial Chemistry
52 Full/Associate professors and 21 Assistant professors

Group ENAM

The group Electrochemistry and Nanotechnology for **A**dvanced **M**aterials (ENAM), with 2 PIs, focuses on the development of advanced materials for electrochemical devices, including Li-ion and beyond-lithium batteries, fuel cells, and electrolyzers.



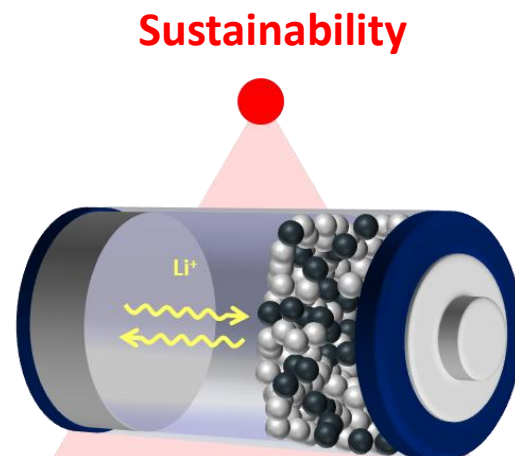
2. Expertise

Prof. Sergio Brutti (PI) – Electrodes

Dr. Arcangelo Celeste

Prof. Marco Agostini

	Anode		Cathode		
	Carbon	A. less	TM	S	O ₂
Li	v	v	v	v	v
Na	v	v	v		v
K	v				
Zn			v		v

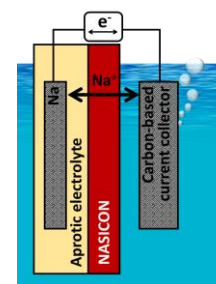


Performance

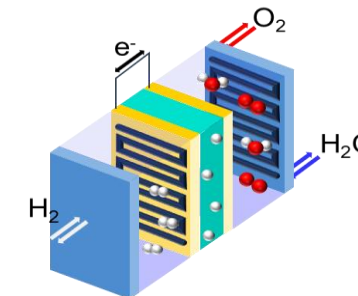
Safety

Prof. Maria Assunta Navarra (PI) – Fuel cells

PGM free electrocatalysts and AEM/PEM



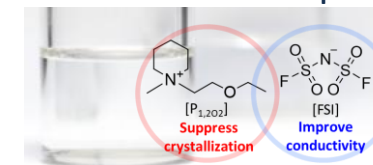
Seawater batteries



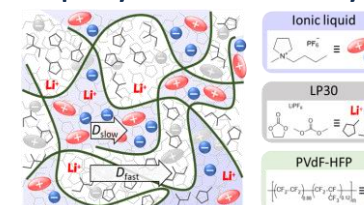
Fuel cell/electrolyzers

Dr. Akiko Tsurumaki – Electrolytes

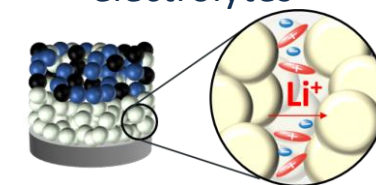
Functional ionic liquids



Gel polymer electrolytes



(quasi)-solid-state electrolytes



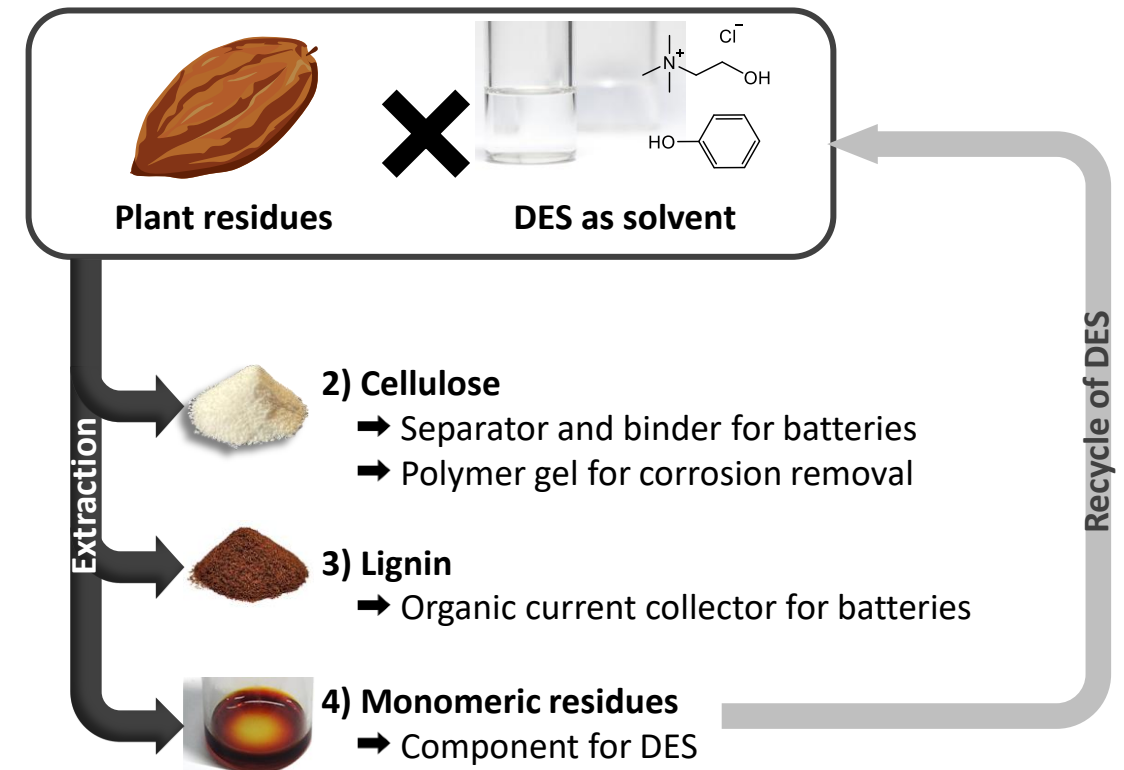
3. Your Project Idea

Targeted call: HORIZON-CL5-2026-09-D2-01

Main objectives: Utilising Bio-based Raw Materials for Battery Electrode Materials

Current problem: Isolated case studies and weak communication between energy and forest/agriculture sectors.

- Extraction of biomass from agricultural or forest industry residues with green solvent (like DES) and their recycling
- Utilization of extracted biomass for the synthesis of graphite or carbon materials
- As one extent, synthesize carbon material from black liquor, which is currently combusted to create energy in industry
- Show strategy to synthesize appropriate carbon for diverse battery system from the viewpoint of biomass composition of plants and synthesis procedure





4. Profile You are Seeking and Why

IF YOU PRESENT A PROJECT IDEA

We are looking for:

Any partners in academia to develop and assess green materials together

Industrial partner in forest or agriculture industry

IF YOU PRESENT YOUR ORGANIZATION / RESEARCH TEAM ONLY

We can provide:

Electrochemical and physico-chemical analyses

Provide battery components, both electrodes and electrolytes



5. Contact Details

e-mail:
akiko.tsurumaki@uniroma1.it



ENAM lab is active on LinkedIn!