

*Invitation to a lecture*

Hydrogen and Fuel Cell research towards Carbon Neutrality –  
Promising materials for green hydrogen production and fuel  
cells for HDVs

Prof. Dr. Akihiro IYAMA,

*Director, Hydrogen and Fuel Cell Nanomaterials Center, University of Yamanashi, Japan*

Friday, 6th September 2024 at 12.45 – 13.45, Leskovar's room, **UL Faculty of  
Mechanical Engineering, Aškerčeva 6, Ljubljana**

Green hydrogen is a key material for carbon neutrality. It can be utilized as fuels for fuel cells for mobility and industry, boilers for steam generation at factories, and also be utilized as raw materials to make e-fuels combining with CO<sub>2</sub> in air and to make ammonia combining with N<sub>2</sub> in air. Large scale water electrolysis is necessary to produce low cost green hydrogen, but their cost should be low enough and they should tolerate against fluctuating solar or wind power, i.e. renewable energy. Recent research for Anion Exchange Membrane Water Electrolysis (AEMWE) is gathering more attention, because its low cost, no usage of precious metal for the catalysts and high fidelity to cope with fluctuating solar or wind power. Fuel cells is highly expected to be adapt to Heavy Duty Trucks (HDV) because Lithium-ion battery might not be able to satisfy the HDV requirements, in weight and energy. This lecture introduces latest research results enabling the AEMWE and FCs for HDVs industrialization done in University of Yamanashi, Japanese No.1 university in the number of papers and patents in these fields.

The lecture will be followed by refreshments and networking.

Registration: [HERE](#)

The lecture is free, but registration is required by September 2, 2024.

*Prof. Dr. Tomaž Kutrašnik,  
head of Laboratory for Internal Combustion  
Engines and Electromobility LICeM*

*Prof. Dr. Mihael Sekavčnik,  
dean of UL Faculty of Mechanical  
Engineering*