Principal Investigator: Dr. Vivek Ramakrishnan

Funding Agency: SERB (DST), Government of India

Project: Major

Year: 2023-2025

Topic: Development of hybrid metal oxide/carbon nanostructures on rigid substrates for photo-electrochemical applications and mechanistic study through operando Infrared/Raman spectroscopy

Research Area : Energy, Materials, Solid State and Nanotechnology (Chemical Sciences)

Research Background: Cost-effective hydrogen production is the major objective and our research strategy is based up on the same. Photochemical and electrochemical water splitting produces molecular hydrogen. Until now, no proficient methods to produce and store 'clean' hydrogen fuel. More importantly the combustion will give only water while retracing energy. The main component of photoelectrochemical (PEC) approach requires an efficient, robust photoelectrodes - organic/inorganic hybrids of carbon nanostructures/metal oxides.