

Call for Applications for the Award of No. 1 Research Position pursuant to Article 22-ter of Law No. 240/2010, Scientific-Disciplinary Group 09/ICHI-01 - System Methods and Technology of Chemical and Process Engineering, Scientific-Disciplinary Sector ICHI-01/B - Chemical Engineering Fundamentals, at the facilities of the Research Unit Chemical-Physical Fundamentals of Chemical Engineering and of the Departmental Faculty of Engineering of Università Campus Bio-Medico di Roma.

Competition code: IR/13_26

Research positions available	1
Contract duration (at least one year)	12 months
Departmental Faculty/Research Unit of affiliation	Departmental Faculty of Engineering/Research Unit Chemical-Physical Fundamentals of Chemical Engineering
Place where the activities will be carried out	Università Campus Bio-Medico di Roma
Scientific Disciplinary Group	09/ICHI-01 - System Methods and Technology of Chemical and Process Engineering
Scientific-Disciplinary Sector	ICHI-01/B - Chemical Engineering Fundamentals
Subject of the contract (title of the research program)	Process and Environmental Assessment of Integrated Systems for the Production and Industrial Use of Renewable Hydrogen
Brief description of the research program to which the position is linked	The research activity will focus on the development and validation of an integrated model of the HyCOMB prototype, designed for the production, storage, and local utilization of electrolytic hydrogen in industrial settings. The candidate will contribute to the characterization and simulation of the various subsystems, using available experimental data to assess model reliability and improve predictive performance. A central role will be assigned to the analysis of the overall plant performance through the development of an integrated process model in Aspen Plus, aimed at investigating material and energy balances, energy consumption, interactions among the operating units, and opportunities for system optimization. In parallel, an environmental assessment based on the Life Cycle Assessment (LCA) methodology will be carried out to quantify the impacts associated with the different life-cycle stages, identify the main contributors to the environmental footprint, and define improvement strategies aimed at enhancing sustainability and reducing greenhouse gas emissions.
Research Supervisor/Tutor	Prof. Vincenzo Piemonte
Maximum number of publications	3
Language knowledge and skills	Good knowledge of written and spoken english



Date and time of the interview	19th November 2026, at 3 p.m. Remote candidates on Microsoft Teams platform
Funding body	Ministero dell'Ambiente e della Sicurezza Energetica (MASE)
Funding Programme / Call for Proposals	Public Notice for the Submission of Research, Development and Technological Innovation Projects in the Strategic Area of Energy Flexibility and Storage, Eligible for Funding under the "Mission Innovation 2.0" Initiative (Protocol No. 130 of 3 April 2025), Project ID MI_FAE_00343 – HyCOMB, CUP (Unique Project Code) F53C25002100001