Giulia Sorbino

Sorbino Giulia
E-mail: giulia.sorbino@stems.cnr.it; giuliasorbino@pec.it

Research Area

Heterogeneous catalysis. Development of catalytic materials, processes for energy production, emission control. Application of catalysts in lab-scale plants for steam methane reforming reaction and water gas shift reaction.

Keywords

Energy, Materials, Catalysis, steam methane reforming reaction, water gas shift reaction, bimetallic catalysts, hydrogen, biogas .

Current Position

February 2023 – Present
Research Fellow
Prin 2020 - "Process for low carbon blue hydrogen generation via intensified electrified reforming of biogas/natural gas"
Scientific Responsible: Ing. Gianluca Landi
Institute of Sciences and Technologies for Sustainable Energy and Mobility (STEMS) – CNR, Naples, Italy

Education and Training

January 2021 – June 2021
Training Course for Cambridge Assessment English: B2 First (FCE)
CLA – Language Centre of University "Federico II", Naples, Italy

December 2019 - December 2022
Master's Degree in Chemical Engineering
"CO upgrading to H2 via WGS: bimetallic catalysts based on iron and copper on ceria"
Scientific Responsible: Prof. A. Di Benedetto
DiCMAPI - University of Naples "Federico II", Naples, Italy
Final score: 104/110

October 2016 - December 2019
Bachelor's Degree in Chemical Engineering
"Potential applications of lignocellulosic materials"
Scientific Responsible: Prof. Domenico Pirozzi
DiCMAPI - University of Naples "Federico II", Naples, Italy
Final score: 93/110

Specialization Courses

15-17-19 February 2021
Specific training course on safety in the workplace for workers particularly exposed to risk, pursuant to the combined article 37 - paragraph 1 letter b) - of Legislative Decree 81/2008 and point 4 of State-Region Agreement of 21/12/2011.
DiCMAPI - University of Naples "Federico II", Naples, Italy

Giulia Sorbino

List of publications

1)Enhanced activity of bimetallic Fe-Cu catalysts supported on ceria toward water gas shift reaction: synergistic effect
G. Landi, G. Sorbino, F. Migliardini, G. Ruoppolo, A. Di Benedetto
13 October 2023, Frontiers of Chemical Science and Engineering
https://doi.org/10.1007/s11705-023-2359-z

Submitted:

1)Novel Ni-Ru/CeO_2 catalysts for low-temperature steam reforming of methane
G. Sorbino, A. Di Benedetto, G. Ruoppolo, G. Landi

Conference Proceedings

23-25 October 2023
Contribution to the HYPOTHESIS XVIII Conference
Muscat, Oman
G. Sorbino, A. Di Benedetto, G. Ruoppolo, G. Landi
"Novel Ni-Ru/CeO_2 catalysts for low-temperature steam reforming of methane"

23-25 October 2023
Contribution to the HYPOTHESIS XVIII Conference
Muscat, Oman
G. Sorbino, S. Scognamiglio, G. Ruoppolo, A. Di Benedetto, G. Landi
"Synergy between bimetallic Fe-Cu sites and ceria towards water gas shift reaction"

28-31 May 2023
Poster Session to joint meeting of the belgian and italian sections of the combustion institute, 45th Meeting of the Italian Section of the Combustion Institute Combustion for Energy Transition and Sustainable Mobility
Florence, Italy
G. Sorbino, S. Scognamiglio, G. Ruoppolo, A. Di Benedetto, G. Landi
"Bimetallic Fe-Cu catalysts supported on Ceria for CO_2 valorization by reverse water gas shift reaction "

Technical Skills

- Preparation of catalysts;
- Characterization of materials ie determination of surface properties with the adsorption/ desorption technique of nitrogen and other probe molecules, TPR, TPD, SEM, EDX, XRD;
- Setting up and experimental tests on lab-scale systems such as steam methane reforming and water gas shift.

Personal skills and Competences

First language: Italian
Other languages: English (good reading, writing, speaking)
Technical skills: Office, Matlab, Origin, AspenPlus, Sigmaplot.
Driving: License B