

ILARIA RIZZARDI

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| DATE OF BIRTH | 06/07/1992 |
| ADDRESS | via Belfiore 5, 16126 Genova (GE) |
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| EMAIL | ilaria.rizzardi@unige.it |
| SKYPE | ilaria_rizzardi |
| AREAS OF INTEREST | Industrial chemistry, membrane processes, wastewater treatments, sustainable processes, catalysis, chemical processes, reactors |
| NUMERO DI TESSERA SCI | 24394 |

EDUCATIONAL QUALIFICATIONS

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| 2020-present | <p>PhD student in Chemical Science and Technology PhD course in Chemical and Materials Sciences and Technologies XXXVI cycle Università degli studi di Genova Project: Membrane application in wastewater treatment Supervisors: Prof. Antonio Comite, Ing. Daniele Matteucci Research areas: Industrial chemistry, membrane process, wastewater treatments sustainable processes, process intensification. Abstract: Membranes are devices that can be used within water purification processes to make the operation more efficient and sustainable. They are typically employed as separation units, but new uses such as aeration system will be investigated as part of the doctoral program.</p> |
| 2017–2020 | <p>Master's degree in Industrial Chemistry Università degli studi di Genova Final score: 107/110 Thesis: Dry reforming in rhodium-based catalytic membrane reactors Research Areas: Industrial chemistry, Catalysis, Plant and reactors, Sustainable process, Membrane. Abstract of the thesis: Dry reforming of methane (MDR) is a process which produce syngas while consuming the two main greenhouse gases (CO₂ and CH₄). The purpose of the work is to develop an effective catalytic system consisting of a catalytic membrane that could be used in flow through mode in order to overcome the deactivation issue that affects the traditional Ni based catalyst.</p> |
| 2011–2017 | <p>Bachelor's degree in Chemistry and Chemical Technologies Università degli studi di Genova, Genova (Italia) Final score: 96/110 Internship report: Development of a plant for the evaluation of fuel cells and characterization of electrode membrane assembly (MEA). Research areas: Industrial chemistry, membranes and catalysts, chemical technologies for industry and the environment, energy production from renewable sources. Abstract: DMFCs (Direct Methanol Fuel Cell) are a type of proton exchange membrane fuel cell (PEMFC) in which the fuel is methanol. During the internship, a plant was set up for the characterization of the performance of methanol-powered fuel cells equipped with an electrode-membrane assembly (MEA).</p> |

| WORK EXPERIENCES | |
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| 2020-2022 | <ul style="list-style-type: none"> • Laboratory tutoring, Fondamenti di Tecnologie Chimiche per l'Industria e per l'Ambiente (2° modulo). • Laboratory tutoring, Chemistry and Technology of Catalysis. |
| 07/2020-11/2020 | <p>Internship with grant</p> <p>Within the membrane & membrane research group, Università degli studi di Genova (http://unige-membrane.weebly.com)</p> <p>Topic: Characterization of membranes and materials with image analysis and gas and liquid permeation</p> |
| 03/2019-03/2020 | <p>Master's thesis</p> <p>Within the membrane & membrane research group, Università degli studi di Genova</p> <p>Acquired knowledge:</p> <ul style="list-style-type: none"> • Good knowledge of catalyst preparation techniques (ion exchange, homogeneous precipitation, wet impregnation, dry impregnation) and characterization • Experience in the control of the dry reforming process in pilot plant • Good knowledge of membrane processes • Good knowledge of inorganic ceramic membranes (morphology, properties, uses, treatments) • Good knowledge of Gas chromatography • Good FAAS knowledge <p>Good knowledge of some techniques for characterization of porous materials (77K nitrogen physisorption and pure gas permeation)</p> |
| 11/2016-02/2017 | <p>Bachelor's degree internship</p> <p>Within the membrane & membrane research group, Università degli Studi di Genova</p> <p>Acquired knowledge:</p> <ul style="list-style-type: none"> • Experience in using fuel cells • Good knowledge of the influence of operational variables on the performance of a fuel cell • Basic knowledge of Gas chromatography • Good knowledge of HPLC |
| PUBLICATIONS | |
| Book chapter | <ul style="list-style-type: none"> • Rizzardi, I.; Costa, C.; Pagliero, M.; Comite, A. "Hydrophobic membranes", in Engineering with Membranes, Serie: Current Trends and Future Developments on (Bio-) Membranes, Elsevier (Accepted) |
| PUBLICATIONS AS CO-AUTHOR | |
| <ul style="list-style-type: none"> • <u>Comite, A.</u>; Costa, C.; Pagliero, M.; Rizzardi, I.; "Influence of Carbon Based Nanofillers Addition on the Properties of Microporous Layers Prepared via Phase Inversion", Chemical engineering transactions (AIDIC), 2021, VOL. 84 • <u>Pagliero, M.</u>, Comite, A., Costa, C., Rizzardi, I., Soda, O., A Single Step Preparation of Photothermally Active Polyvinylidene Fluoride Membranes Using Triethyl Phosphate as a Green Solvent for Distillation Applications, Membranes 2021, 11(11), 896. DOI: 10.3390/membranes11110896. | |
| COMMUNICATIONS AT CONFERENCES AS PRESENTER AUTHOR | |
| Oral | <ul style="list-style-type: none"> • Rizzardi, I.; Costa, C.; Comite, A.; Pagliero, M.; Santacesaria, E. "Study on the deactivation of Ni/Al₂O₃ based catalysts in methane dry reforming" CAMURE-11 ISMR-10, Milan (on line), March 21-24, 2021 |

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| | <ul style="list-style-type: none"> • Rizzardi, I.; Costa, C.; Pagliero, M.; Comite, A. “Contactor membrane reactors in the process of methane dry reforming” WOCST (world online conference on sustainable technologies), March 17-19, 2021, p 82 • I. Rizzardi, A. Bottino, G. Capannelli, C. Costa, R. Firpo, D. Matteucci, M. Pagliero, A. Comite, E. “Application of hydrophobic hollow fibers polypropylene membranes as aerator devices in wastewater treatment”, Euromembrane 2021, Copenhagen, November 28/11/2021-02/12/2021. |
| Poster | <ul style="list-style-type: none"> • A. Comite, C. Costa, M. Pagliero, I. Rizzardi “Dry reforming of methane in catalytic rhodium-based membrane reactors”, HYPOTHESIS XV, Cape Town (Online), June 3-5 2020 • Rizzardi, I., Bottino, A.; Capannelli, G; Costa, C.; Firpo, R.; Pagliero, M.; Comite, A. “Biological nitrification process for ammonia removal in wastewater”, Green Chemistry Summer School, Venice (on line), July 4-10, 2021 • Rizzardi, I.; Bottino, A.; Capannelli, G; Costa, C.; Firpo, R.; Matteucci, D.; Pagliero, M.; Comite, A. “Nitrification process for ammonia removal in biological reactor aerated with porous polymeric membranes”, XXVII Congresso nazionale della società chimica italiana, September 14-23, 2021. • Rizzardi, I.; Costa, C; Pagliero, M.; Comite, A. “Aeration unit by a membrane system in biological wastewater treatment”, EMS summer school, Aldeia da Serra (Portugal), 29/05- 3/06 2022. |
| COMMUNICATIONS AT CONFERENCES AS CO-AUTHOR | |
| Oral | <ul style="list-style-type: none"> • <u>M. Pagliero, I. Rizzardi</u>, R. Firpo, C. Costa, A. Comite, “Photoactive PVDF membranes for direct solar membrane distillation”, • Desalination for the Environment: Clean Water and Energy, Las Palmas, 20/06/2022-23/06/2022. |
| Poster | <ul style="list-style-type: none"> • <u>Pagliero, M.</u>; Costa, C.; Rizzardi, I.; Comite, A. “Preparation of hydrophobic porous membranes for membrane distillation using pore forming agents”, XXVII Congresso nazionale della società chimica italiana, September 14-23, 2021. • <u>M. Pagliero</u>, A. Comite, C. Costa, I. Rizzardi, O. Soda, E. A. Mideksa “Preparation of mixed matrix hydrophobic PVDF membranes for distillation using carbon black” Euromembrane 2021, Copenhagen, 28/11/2021/ -2/12/ 2021. • <u>M. Pagliero</u>, A. Comite, C. Costa, I. Rizzardi, O. Soda, R. Firpo “A single step preparation of photothermally active PVDF membranes using TEP as green solvent for distillation application”, XIII INSTM conference, Sestriere, 23/01/2022-26/01/2022. |
| PERSONAL SKILLS | |
| English | B2 PET Certificate |
| Technical skills | <ul style="list-style-type: none"> • Great command of the Windows operating system • Microsoft Office (Word, Excel, PowerPoint, Teams) • Basic Knowledge of Matlab • Basic Knowledge of Experimental design methods |