Update on September 16th 2024

CARLO SANTORO

Associate Professor
09/D2 ssd. ING/IND 24 - Principle of Chemical Engineering
Department of Material Science
Leader of the Electrocatalysis and Bioelectrocatalysis Lab (EBLab)
University of Milano-Bicocca (UNIMIB)
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RESEARCH AREA and INTERESTS

Electrochemistry, environmental engineering, chemistry and microbiology. Renewable energies for energy production, wastewater treatment, hydrogen evolution and water desalination. Inorganic and abiotic materials (nanostructured and porous carbons, platinum group metals-free (PGM-free) electrocatalysts) synthesis and characterization for sustainable bio-electrochemical systems and oxygen reduction reaction, hydrogen evolution reaction, oxygen evolution reaction, carbon dioxide reduction reaction, ammonia electrosynthesis and urea electroproduction. Bioelectrochemical Systems. Supercapacitors for energy storage. Electroactive biofilm characterization. Functionalization of bio-char for specific reactions. Device engineering: from single components to overall system.

EDUCATION

UNIVERSITY OF CONNECTICUT, Storrs-CT, USA **08-2009 / 08-2013**
Department of Civil and Environmental Engineering
Environmental Engineering Program

- Doctor of Philosophy (GPA 4.0/4.0)
  Ph.D. Degree Thesis Title: "*Cathode improvements in microbial fuel cell (MFC): from the platinum-based cathode to the bio-cathode*"

POLITECNICO DI MILANO, Milan, Italy **09-2006 / 12-2008**
Department of Civil and Environmental Engineering

- Master of Science (with thesis)
  M.S. Degree Thesis Title: "*Mass transport phenomena in a direct methanol fuel cell"*

POLITECNICO DI MILANO, Milan, Italy **09-2002 / 07-2006**
Department of Civil and Environmental Engineering

- Bachelor of Science (with thesis)
  B.S. Degree Thesis Title: "*Experimental analysis of diphase anodic flow in a direct methanol fuel cell"*

RESEARCH APPOINTMENT and EXPERIENCE

Associate Professor **01-2024 / Currently**

Tenure Track Assistant Professor (RTD type b) **01-2021 / 01-2024**
Rita Levi Montalcini Program for Young Researchers
Responsible of the Electrocatalysis and Bioelectrocatalysis Laboratory (EBLab)
UNIVERSITY OF MILANO-BICOCCA (UNIMIB)
Department of Material Science

- Bioelectrocatalysis and bioelectrochemical systems
- Biochar production and functionalization for specific reactions
- Electrocatalysts for electrochemical applications

Lecturer **03-2020 / 01-2021**

UNIVERSITY OF MANCHESTER (UMAN)

School of Chemical Engineering and Analytical Science

- Integration of supercapacitive materials in bioelectrochemical systems
- Electrocatalysts for fuel cells and electrolyzers

Associate Professor (with tenure) **10-2017 / 01-2020**

Deputy Director of the Bristol BioEnergy Center (BBiC)

UNIVERSITY OF THE WEST OF ENGLAND (UWE Bristol)

Bristol BioEnergy Center, Bristol Robotics Laboratory (BRL)

- Integration of supercapacitive materials in microbial fuel cells for pulsed power generation.
- Integration of low-cost PGM-free catalysts iron-based for cathodes of bioelectrochemical systems.

Research Assistant Professor **09-2017 / 09-2020**

Academic Title. This UNM faculty title is conferred to recognize and facilitate the contributions to the academic mission of UNM during this time period.

UNIVERSITY OF NEW MEXICO (UNM)

UNM Center for Micro-Engineered Materials (CMEM)

Research Assistant Professor **03-2016 / 09-2017**

Post Doctoral Fellow **02-2015 / 02-2016**

Responsible of the microbial electrochemistry section of the group.

UNIVERSITY OF NEW MEXICO (UNM)

Department of Chemical and Biological Engineering

UNM Center for Micro-Engineered Materials (CMEM)

Main Advisor: Prof. Plamen Atanassov, Department of Chemical and Biological Engineering**,** University of New Mexico

- Synthesis and testing of novel low-cost platinum-free catalysts containing transition metals such as Fe-, Co-, Mn-, Ni- for cathodes of bioelectrochemical systems.
- Integration of supercapacitive materials in bioelectrochemical systems for wastewater treatment and simultaneous production of high power pulses.
- Design and development of portable wastewater treatment device using bioelectrochemical systems for the degradation of organic substances and contaminants of emerging concerns.

Post Doctoral Fellow **08-2014 / 12-2014**

NANYANG TECHNOLOGICAL UNIVERSITY (NTU)

Singapore Centre on Environmental Life Sciences Engineering (SCELSE)

Main Advisor: Prof. Enrico Marsili, Nanyang Technological University

- Design, development and optimization of a biosensor for the measurement of volatile organic carbon (VOC) molecules using specific engineered bacteria attached to an electrode of carbonaceous material.
- Study and interpretation of electro-active biofilm formation (Shewanella MR-1) on 3D carbon surfaces.

Post Doctoral Fellow **08-2013 / 07-2014**

Responsible of the microbial electrochemistry section of the group.

UNIVERSITY OF NEW MEXICO (UNM)

Department of Chemical and Nuclear Engineering

UNM Center for Emerging Energy Technologies (CEET)

Main Advisor: Prof. Plamen Atanassov, Dept. of Chemical and Nuclear Engineering, University of New Mexico

Other Advisor: Prof. Andrew Schuler, Dept. of Civil Engineering, University of New Mexico

- Investigation of bacterial attachment (pure and mixed culture) on flat surfaces and analysis of formation and biofilm development.
- Study of bacterial attachment and current generated by self-assembly monolayers functionalized electrodes.
- Modification, characterization and optimization of high-surface and innovative carbon materials for chemical and biological fuel cells.
- Development of a biosensor based on the enzyme bilirubin oxidase to measure the oxygen concentration in aqueous media.

Doctorate Research **08-2009 / 08-2013**

UNIVERSITY OF CONNECTICUT (UCONN)

Department of Civil and Environmental Engineering
Center for Clean Energy Engineering (C2E2)

Main Advisor: Prof. Baikun Li, University of Connecticut

- Study of the (bio)electrochemical conversion of organic compounds for the production of electricity using bioelectrochemical systems.
- Development, characterization and optimization of novel low-cost carbon and inorganic nanometric and micrometric materials for anode/cathode electrode.
- Design and development of a large-scale benthic (sediment) microbial fuel cell for power generation.
- Study of biological cathodes based on sulfate-reducing bacteria for the reduction reaction.
- Development of a bioelectrochemical system treating human urine with simultaneous generation of electricity, removal of organic compounds and recovery of nutrients.
- Integration of enzymes into cathodes of bioelectrochemical systems for the production of electricity.
- Study of bioelectrochemical system capable of simultaneously producing electricity and electro-synthesize sodium or potassium hydroxide.

Bachelor and Master Research **09-2002 / 12-2008**

POLITECNICO DI MILANO

Department of Energy**,** M.R.T. Fuel Cell Laboratory

Main Advisor: Prof. Andrea Casalegno, Politecnico di Milano

- Study of transport phenomena (water, carbon dioxide and methanol) in a direct methanol fuel cell (DMFC) under different operating conditions.
- Study of electrode materials for optimizing water management, reducing methanol crossover and improving energy production in DMFC.

INTERNSHIP

RSE (Ricerca sul Sistema Energetico) S.p.A. **05-08/2011**

Environmental and Sustainable Development Department, Milan, Italy.

Study of the bio-cathode in membraneless single chamber microbial fuel cell.

RSE (Ricerca sul Sistema Energetico) S.p.A. (part-time) **05-08/2010**

Environmental and Sustainable Development Department, Milan, Italy.

Electrochemical characterization of different platinum-free electrodes for microbial fuel cell system.

M.R.T. Fuel Cell Laboratory (part-time) **05-08/2010**

Department of Energy, Politecnico di Milano, Italy.

Characterization of different carbon porous media used for microbial fuel cell cathode. Examination of water diffusion fluxes and contact angles of carbonaceous materials.

Advanced Technologies for Energy Institute **09-11/2007**

ITAE-CNR “Nicola Giordano”, Messina, Italy

Study of drop pressure of different PEMFC flow field; assemble of a PEM fuel cell stack prototype; control of the mechanical power distribution in the prototype; experimental electrochemical tests of different PEMFC single cell.

Cesi Ricerca S.p.A. **08-10/2006**

Currently RSE (Ricerca sul Sistema Energetico) S.p.A. Milan, Italy.

Cogeneration tests of a Polymer Electrolyte Fuel Cell power system and related data analysis. Assistance and experimental activity with the solar thermodynamic generator EuroDish. Experimental data elaboration and reporting. Assistance to the maintenance activity of the biomass plant with an ORC turbo co-generator with elaboration data and reporting.

Zentrum fur Sonnen Energie und Wasserstoff Forschung (ZSW) **08-10/2004**

Centre for Solar Energy and Hydrogen Research, Ulm, Germany.

Electrical and leakage experimental tests on Power System with hydrogen fuel cell operating under different experimental conditions and related data analysis and reporting. Participation at the design and at the assembly of a PEM fuel cell stack.

Solarfocus GmbH **07/09-2003**
Solar, Biomass and Environmental Technology, Steyr, Austria.
Building and development of parabolic solar collector at concentration. Employee in the project and in the installation of solar thermal heating system. Employee in the development of biomass (pellet) boiler and of integrated system biomass boiler and solar collector.

LANGUAGE SKILLS

Italian: native language
English: excellent in writing, reading and speaking.

INSTITUTIONAL RESPONSIBILITIES

ONGOING

Energy Cluster Regione Lombardia
Directive Council: Representative of the Rector for UNIMIB **03-2023 / Currently**

University of Milano-Bicocca (Department of Materials Science):
Committee for the Orientation Materials Science Degree **10-2022 / Currently**

University of Milano-Bicocca (Department of Materials Science):
National Doctoral Program in Scientific, Technological and Social Methods Enabling Circular Economy led by the University of Padua
Member of the Doctoral Council **07-2022 / Currently**

University of Milano-Bicocca (Department of Materials Science):
Departmental Communication Committee **02-2022 / Currently**

University of Milano-Bicocca (Department of Materials Science):
Departmental Research Quality Assurance Committee **01-2022 / Currently**

University of Milano-Bicocca (Department of Materials Science):
Member of the Chemistry and Chemical Technologies Degree Council **10-2021 / Currently**

University of Milano-Bicocca (Department of Materials Science):
Member of the Material Science Degree Council **01-2021 / Currently**

University of Milano-Bicocca (Department of Materials Science):
Member of the Department Council **01-2021 / Currently**

TERMINATED:

University of Milano-Bicocca (Department of Materials Science):
Departmental Quota University Fund Committee (FAQD) 2023,2024 **2023,2024**

University of Milano-Bicocca (Department of Materials Science):
Committee for the organization of the 25th Anniversary Event **07-2022 / 12-2023**

The University of Manchester
Member of the Department Council **03-2020 / 01-2021**

The University of The West of England
Member of the Department Council **10-2017 / 01-2020**

The University of The West of England
Deputy Director of the Bristol BioEnergy Center (BBiC) **10-2017 / 01-2020**

TEACHING EXPERIENCE and RESPONSIBILITIES

2024

Fundamentals of Industrial Chemical Technologies **(to be done)** **Fall 2024**
Lecturer (Module co-Leader, in charge Classes and Exercises). 4 CFU. 2122-3-E2702Q109.
(Entire course 8 CFU, in charge of 4 CFU)
Bachelor of Science Degree in Chemical Sciences and Technologies
Dept. of Material Science – University of Milano-Bicocca
Total teaching hours: 48h *(Face-to-Face)*

Introduction to Elementary Laboratory Operations **(to be done)** **Fall 2024**
Lecturer (Module co-Leader, in charge of the Exercises). 3 CFU. 2122-3-E2702Q109.
Bachelor of Science Degree in Chemical Sciences and Technologies
Dept. of Material Science – University of Milano-Bicocca
Total teaching hours: 36h *(Face-to-Face)*

Models and Materials for Electrochemical Energy Generation and Conversion **Spring 2024**
Lecturer (Module Leader, in charge of the Exercises). 4 CFU. 2324-1-FSM01Q018.
(Entire course 6 CFU, in charge of 4 CFU)
Master of Science Degree in Materials Science and Nanotechnologies
Dept. of Material Science – University of Milano-Bicocca
Total teaching hours: 32h *(Face-to-Face)*

Technologies for production and conversion of green hydrogen **Spring 2024**
Lecturer (Module Leader). 1 CFU
Doctoral Degree in Materials Science and Nanotechnology.
Dept. of Material Science – University of Milano-Bicocca
Total teaching hours: 8h *(Face-to-Face)*

BBetween Sustainability: Energy and Water for a Sustainable World **Spring 2024**
Lecturer (Module leader). 1 CFU.
Bachelor Degree in any topic
Open to every single Department – University of Milano-Bicocca
Total teaching hours: 12h *(Hybrid)*

2023

Fundamentals of Industrial Chemical Technologies **Fall 2023**
Lecturer (Module co-Leader, in charge of the Exercises). 2 CFU. 2122-3-E2702Q109.
(Entire course 8 CFU, in charge of 2 CFU)
Bachelor of Science Degree in Chemical Sciences and Technologies
Dept. of Material Science – University of Milano-Bicocca
Total teaching hours: 24h *(Face-to-Face)*

BBetween Sustainability: Energy and Water for a Sustainable World **Spring 2023**
Lecturer (Module leader). 1 CFU.
Bachelor Degree in any topic
Open to every single Department – University of Milano-Bicocca
Total teaching hours: 12h *(Hybrid)*

Applied Physical Chemistry with Laboratory **Spring 2023**
Lecturer (Module leader of the Laboratory). 3 CFU. 2021-1-F5302Q004.
(Entire course 8 CFU, in charge of 3 CFU of the Laboratory Module)
Master of Science Degree in Materials Science
Dept. of Material Science – University of Milano-Bicocca
Total teaching hours: 36h *(Face-to-Face)*

Technologies for production and conversion of green hydrogen **Spring 2023**
Lecturer (Module Leader). 1 CFU
Doctoral Degree in Materials Science and Nanotechnology.
Dept. of Material Science – University of Milano-Bicocca
Total teaching hours: 8h *(Face-to-Face)*

2022

Fundamentals of Industrial Chemical Technologies **Fall 2022**
Lecturer (Module co-Leader, in charge of the Exercises). 1 CFU. 2122-3-E2702Q109.
(Entire course 8 CFU, in charge of 1 CFU)
Bachelor of Science Degree in Chemical Sciences and Technologies
Dept. of Material Science – University of Milano-Bicocca
Total teaching hours: 12h *(Face-to-Face)*

Applied Physical Chemistry with Laboratory **Fall 2022**
Lecturer. 2 CFU. 2021-1-F5302Q004.
(Entire course 8 CFU, in charge of 2 CFU of classes)

Master of Science Degree in Materials Science
Dept. of Material Science – University of Milano-Bicocca
Total teaching hours: 16h *(Face-to-Face)*

Applied Physical Chemistry with Laboratory **Spring 2022**
Lecturer (Module leader of the Laboratory). 3 CFU. 2021-1-F5302Q004.
(Entire course 8 CFU, in charge of 3 CFU of the Laboratory Module)
Master of Science Degree in Materials Science
Dept. of Material Science – University of Milano-Bicocca
Total teaching hours: 36h *(Face-to-Face)*

2021

Applied Physical Chemistry with Laboratory **Fall 2021**
Lecturer. 1 CFU. 2021-1-F5302Q004.
(Entire course 8 CFU, in charge of 1 CFU of classes)
Master of Science Degree in Materials Science
Dept. of Material Science – University of Milano-Bicocca
Total teaching hours: 8h *(Face-to-Face)*

Fundamentals of Industrial Chemical Technologies **Fall 2021**
Lecturer (Module co-Leader, in charge of the Exercises). 1 CFU. 2122-3-E2702Q109.
(Entire course 8 CFU, in charge of 1 CFU)
Bachelor of Science Degree in Chemical Sciences and Technologies
Dept. of Material Science – University of Milano-Bicocca
Total teaching hours: 12h *(Face-to-Face)*

Applied Physical Chemistry with Laboratory **Spring 2021**
Lecturer (Module co-Leader of the Laboratory). 3 CFU. 2021-1-F5302Q004.
(Entire course 8 CFU, in charge of 3 CFU of the Laboratory Module)
Master of Science Degree in Materials Science
Dept. of Material Science – University of Milano-Bicocca
Total teaching hours: 36h *(Face-to-Face)*

2020

Master of Engineering Coordinator **Fall 2020**
Lecturer (Module Leader). 10 CFU. CHEN40100
Bachelor of Science and Master of Science in Chemical Engineering
Dissertation: Report & Individual Performance
Dept. of Chemical Engineering and Analytical Science – University of Manchester
Organization of the coursework and the available projects. Allocation of students to professors. Teaching classes related to Research Plan, Objectives and Coordination of the assignments and the deadlines. Marking and moderation of marking.
Total teaching hours: 12h *(VIRTUAL)*

2016

Sustainable Engineering **Fall 2016**
***Lecturer* (Module Leader)**. 3 CFU. CE 458-538
Bachelor of Science and Master of Science Degree in Civil Engineering
Dept. of Civil Engineering – University of New Mexico
Total teaching hours: 36h

Teaching Assistant

Fundamental of Environmental Engineering I **Fall 2012**
Bachelor of Science in Civil and Environmental Engineering
Department of Civil and Environmental Engineering – University of Connecticut
Guest lecturer on: i) reactor design with particular attention to PFR and CSTR; ii) kinetics of chemical and bacterial degradation; iii) principles of atmospheric pollution and diffusion of pollutants through the Gaussian model; iv) biological wastewater treatment.
Teaching Assistant
- ✓ Guided student learning through individual sessions during weekly office hours.
- ✓ Developed, administered and graded course homework assignments and exams.

Total teaching hours: 26h

Fundamental of Environmental Engineering I **Fall 2011**
Bachelor of Science in Civil and Environmental Engineering
Department of Civil and Environmental Engineering – University of Connecticut
Guest lecturer on: i) mass balance in environmental processes (air, water, soil); ii) kinetics of chemical and bacterial degradation; iii) thermodynamics and principles of heat transfer; iv) chemistry in aqueous environments, buffer capacity and gas dissolution in water.
Teaching Assistant
- ✓ Guided student learning through individual sessions during weekly office hours.
- ✓ Developed, administered and graded course homework assignments and exams.

Total teaching hours: 26h

Guest Lecturer

Analytical Chemistry **Fall 2020**
(GRADUATE COURSE)
Department of Chemistry – University of Florence
Guest Lecturer on: Microbial Electrochemical Technology
Total teaching hours: 2h *(VIRTUAL)*

Electrochemistry in Biomedicine and Nanobiotechnology **Spring 2020**
(GRADUATE COURSE)
Department of Biology – Aarhus University
Guest Lecturer on: i) Enzymatic Electrochemical Systems; ii) Biological Electrochemical Systems
Total teaching hours: 2h *(VIRTUAL)*

Physical Chemistry of Environment and Energy Devices **Spring 2020**
(UNDERGRAD COURSE)
Department of Chemistry "G. Ciamician" – University of Bologna
Guest Lecturer on: i) Fuel Cells and Platinum-free catalysts; ii) Biological Fuel Cells
Total teaching hours: 4h *(VIRTUAL)*

Sustainable Materials **Spring 2019**
(UNDERGRAD COURSE)
Environmental, Design and Mathematics Dept. – UWE Bristol
Guest Lecturer on sustainability of materials and Life Cycle Assessment (LCA)
Total teaching hours: 2h

Energy Technology **Spring 2019**
(UNDERGRAD COURSE)
Faculty of Health and Applied Sciences – UWE Bristol
Guest Lecturer on bioelectrochemical systems as energy technology
Total teaching hours: 2h

Physical Chemical Treatment Processes **Spring 2014**
(GRAD COURSE)
Department of Civil Engineering – University of New Mexico
Guest Lecturer on: i) filtration on granular support; ii) disinfection
Total teaching hours: 3h

Water Quality Engineering **Spring 2013**
(UNDERGRAD & GRAD COURSE)
Department of Civil and Environmental Engineering – University of Connecticut
Guest lecturer on: i) nitrification and denitrification; ii) biological and chemical phosphorous removal
Total teaching hours: 3h

Environmental Biochemical Processes **Fall 2012**
(UNDERGRAD COURSE)
Department of Civil and Environmental Engineering – University of Connecticut
Guest lecturer on: i) aerobic and anaerobic processes; ii) anaerobic digester design
Total teaching hours: 3h

Environmental Microbiology **Fall 2010**
(UNDERGRAD COURSE)
Department of Civil and Environmental Engineering – University of Connecticut
Guest lecturer on: i) aerobic and anaerobic processes for water treatment
Total teaching hours: 1.5h

MAIN NATIONAL and INTERNATIONAL AWARDS

Zhaowu Tian Prize for Energy Electrochemistry **2023**
International Society of Electrochemistry (ISE)
https://www.ise-online.org/awards/zwt.php
Award total amount: 2,000 €

Premio Luisa Peraldo Bicelli **2023**
Italian Society of Chemistry – Division of Electrochemistry

Tajima Prize **2020**
International Society of Electrochemistry (ISE)
https://www.ise-online.org/awards/taj.php
Award total amount: 1,000 CHF

Carl Wagner Medal of Excellence in Electrochemical Engineering **2017**
European Federation of Chemical Engineering (Prague, Czech Republic, 4-8 June 2017)
https://www.chemicalprocessing.com/industrynews/2017/efce-honors-two-young-researchers/
Award total amount: 1,500 €

F.M. Becket Summer Research Fellowship **2013**
Electrochemical Society (ECS)
http://www.electrochem.org/awards/ecs/recipients/summer_fellowship_recipients.htm#d
Award total amount: 5,000 US$

OTHER AWARDS or RECOGNITION

Rising Star of Science **2024**
Ranked 13th in Italy and 519th in the world
This ranking considers H-Index and citations of Young Researchers that have published their first article less than 13 years ago (2012-2024). Only top 1000 scientists with the highest H-index are featured in the ranking.
https://research.com/scientists-rankings/rising-stars/it

Emerging Investigator **2024**
Nanoscale themed collection highlighting 2024's rising stars of nanoscience and nanotechnology research, which gathers the very best work from researchers in the early stages of their independent career.
https://pubs.rsc.org/en/journals/articlecollectionlanding?sercode=nr&themeid=18284e16-d5de-496d-a3ee-a0ee3f8c0335

Rising Star of Science **2023**
Ranked 9th in Italy and 442th in the world
This ranking considers H-Index and citations of Young Researchers that have published their first article less than 13 years ago (2011-2023). Only top 1000 scientists with the highest H-index are featured in the ranking.
https://research.com/scientists-rankings/rising-stars/it

Top 2% Scientists list **2023**
Ranked within the 2% of most cited authors for Elsevier
https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/4
https://www.unimib.it/news/59-ricercatori-bicocca-nella-world-ranking-scientists

Back Cover (Industrial Chemistry & Materials 7/2023) **2023**
"Mono-, bi- and tri-metallic platinum group metal-free electrocatalyst for hydrogen evolution reaction following a facile synthetic route". Industrial Chemistry and Materials. DOI: 10.1039/D3IM00058C

Oronzio and Niccolò De Nora Foundation Young Author Prize **2023**
Mohsin Muhyuddin, PhD student in Materials Science at the University of Milano-Bicocca for which I was his main supervisor was awarded by this recognition for the manuscript: M. Muhyuddin, D. Testa, R. Lorenzi, G. M.

Vanacore, F. Poli, F. Soavi, S. Specchia, W. Giurlani, M. Innocenti, L. Rosi, C. Santoro. Iron-based Electrocatalysts Derived from Scrap Tires for Oxygen Reduction Reaction: Evolution of Synthesis-Structure-Performance Relationship in Acidic, Neutral and Alkaline Media. Electrochimica Acta 2022, 433, 141254. DOI: 10.1016/j.electacta.2022.141254.

Top 2% Scientists list 2022

Ranked within the 2% of most cited authors for Elsevier
https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/4
https://www.unimib.it/news/59-ricercatori-bicocca-nella-world-ranking-scientists

Rising Star of Science 2022

Ranked 15th in the UK, 10th in Italy and 610th in the world
This ranking considers H-Index and citations of Young Researchers that have published their first article less than 12 years ago (2009-2021). Only top 1000 scientists with the highest H-index are featured in the ranking.
https://research.com/scientists-rankings/rising-stars

Front Cover (ChemSusChem 4/2021) 2021

"How comparable are microbial electrochemical systems around the globe? An electrochemical and microbiological cross-laboratory study". ChemSusChem DOI:10.1002/cssc.202100294

Front Cover (ChemElectroChem 4/2020) 2020

"Boosting Microbial Fuel Cell Performance by Combining with an External Supercapacitor: An Electrochemical Study". DOI: 10.1002/chem.202000084

Oronzio and Niccolò De Nora Foundation Young Author Prize 2019

Mounika Kodali, M.Sc. student in Chemical Engineering at the University of New Mexico for which I was her main supervisor was awarded by this recognition for the manuscript: M. Kodali, S. Herrera, S. Kabir, A. Serov, C. Santoro, I. Ieropoulos, P. Atanassov. Enhancement of Microbial Fuel Cell Performance by Introducing a Nano-composite Cathode Catalyst. Electrochimica Acta 2018, 265, 56-64. DOI: 10.1016/j.electacta.2018.01.118

Top 100 in Chemistry, Scientific Report 2018

#27 most accessed chemistry article in 2018.
C. Santoro, C. Flores-Cadengo, F. Soavi, M. Kodali, I. Merino-Jimenez, I. Gajda, J. Greenman, I. Ieropoulos, P. Atanassov. Ceramic Microbial Fuel Cells Stack: Power Generation in Standard and Supercapacitive Mode. Scientific Reports 2018, 8, 3281. DOI: 10.1038/s41598-018-21404-y.
https://www.nature.com/collections/fgacaghdej/

Cover Image for Biointerphases Volume 11, Issue 3, 2016 2016

K. Artyushkova, D. Roizman, C. Santoro, L.E. Doyle, A. Fatima Mohidin, P. Atanassov, E. Marsili. Anodic biofilms as the interphase for electro-active bacterial growth on carbon veil. Biointerphases. 2016, 11, 031013. doi: 10.1116/1.4962264 http://scitation.aip.org/content/avs/journal/bip/11/3

Cover Image for Biointerphases Volume 10, Issue 3, 2015 2015

M. Santini, M. Guilizzoni, M. Lorenzi, P. Atanassov, E. Marsili, S. Fest-Santini, P. Cristiani, C. Santoro. Three-Dimensional X-ray Micro Computed Tomography of Carbonates and Biofilm On Operated Cathode In Single Chamber Microbial Fuel Cell. Biointerphases. 2015, 10, 031009. http://scitation.aip.org/content/avs/journal/bip/10/3

Best Paper Award 2014 2014

Department of Civil Engineering, University of New Mexico
Manuscript: "Parameters characterization and optimization of activated carbon (AC) cathodes for microbial fuel cell applications". C. Santoro, K. Artyushkova, S. Babanova, P. Atanassov, I. Ieropoulos, M. Grattieri, P. Cristiani, S. Trasatti, B. Li, A.J. Schuler. Bioresource Technology, 2014, 163, 54-63.
http://civil.unm.edu/news/2014/10/dr.-andy-schuler-wins-best-paper-award.html

School of Engineering Fellowship 2013

University of Connecticut – School of Engineering for Graduate Doctoral Dissertation.
Total amount: 2,000 US$

Environmental Leadership Awards (2010 – 2012) 2012

Environmental Leadership at the University of Connecticut (Runner up)
(Graduate Student category). http://ecohusky.uconn.edu/outreach/elas.html

Student Travel Grant 2012

222th Electrochemical Society Meeting, 7-12 October, 2012. Honolulu-HI USA

Total amount: 1,000 US$

School of Engineering Fellowship 2012

University of Connecticut – Environmental Engineering pre-doctoral fellowship.
Total amount: 2,000 US$

Research Fellowship 2009

M.R.T. Fuel Cell Laboratory, Department of Energy, Politecnico di Milano, Italy.
Research project: "Development of micro and nano materials for direct methanol fuel cell".

GRANTS Total money secured: ≈2,992,002 €

PI (≈882,000 €**), Co-PI (**≈1,627,502 €**), Synchrotron (**equivalent ≈432,000 €**), Contracts (**24,000 €**), Other funding (**≈26,500 €**)**

Principal Investigator (≈882,000 €)

7. **PhD fully funded through agreement between ENEA and University of Milano-Bicocca.** One PhD scholarship funded in the Doctorate in Materials Science and Nanotechnology at the University of Milano-Bicocca. **XL Doctorate Cycle 2024-2026.** Amount: 75,000 €.
6. **Industrial PhD funded through the Program Law 352.** Agreement X-NANO and University of Milano-Bicocca for two PhD scholarships in the Doctorate in Materials Science and Nanotechnology at the University of Milano-Bicocca. The amount is paid half by the Italian Ministry of University and Research (MUR) and half by the company. **XXXIX Doctorate Cycle 2023-2025.** Amount: 80,000 €.
5. **Electrocatalysts Testing and optimization of deposition methods for the preparation of the electrodes.** Procedure 1.1.3. Agreement ENEA – University of Milano-Bicocca. 2023-2025. Amount: 75,000 €. Duration: 3 years. (**Project PI**).
   This grant is competitive and peer reviewed. The work is based on electrocatalysts development for hydrogen evolution reaction and oxygen evolution reaction. The catalysts obtained are fully studied in terms of surface chemistry/morphology through microscopic and spectroscopic tools. The catalysts are also integrated into electrodes and tested electrochemically.
4. **Transformation of plastic waste in Electrocatalysts, Supported by exhausted gases recovery Layout.** Acronym: TESLA. Sponsor: Cariplo Foundation, Call for Circular Economy**.** June 2023 – June 2026. Amount: 300,000 €. Duration: 3 years. (**Project PI**). Other Universities or Research Centers involved: University of Brescia and CNR-ICCOM (Florence).
   This grant is competitive and peer reviewed. The work is based on valorization of waste plastic into electrocatalysts for oxygen evolution reaction & hydrogen evolution reaction. Waste plastics is characterized and the synthesis process is selected to optimize the carbon characteristics. The catalysts obtained are fully studied in terms of surface chemistry/morphology through microscopic and spectroscopic tools.
3. **Development of Ultra-active platinum-free electrocatalysts for water electrolysis: Breaking the glass ceiling and fulfilling the potential of alkaline water electrolysis and AEMFCs.** Acronym: WE-CAT**.** Sponsor: The Ministry of Foreign Affairs and International Cooperation (MAECI)**.** BILATERAL PROJECT (ITALY-ISRAEL). January 2023 – December 2024. Amount: 100,000 €. Duration: 2 years. (**PI**). Israeli University involved: Bar Ilan University (Prof. Lior Elbaz)
   This grant is competitive and peer reviewed. The work is based on synthesis of electrocatalysts for oxygen evolution reaction and hydrogen evolution reaction. The catalysts obtained are fully studied in terms of surface chemistry and morphology through various microscopic and spectroscopic tools. The catalysts are also tested electrochemically and exploited into an anion exchange membrane water electrolyzer and into an alkaline water electrolyzer. (**Project PI**)
2. **Pyrolysis processes for valorizing waste biomass and plastic through transformation into platinum-free catalysts for oxygen reduction and hydrogen evolution.** Sponsor: Program for Young Researchers "Rita Levi Montalcini" Italian Ministry of University and Research (MUR). January 2021 – January 2024. Amount: 315,081 €. Duration: 3 years. (**Project PI**)
   This grant is competitive and peer reviewed. The work is based on pyrolysis of waste biomass and plastic for synthesizing electrocatalysts for oxygen reduction reaction and hydrogen evolution reaction. The catalysts obtained are fully studied in terms of surface chemistry and morphology through various microscopic and spectroscopic tools.
1. **The development of air-breathing cathodes for BioElectrochemical Sanitation Technology (BEST) systems**. Sponsor: J. Craig Venter Institute. July 2015 – July 2016. Total amount: 20,000 US$. Duration: 1 year. (**Project PI**)

This grant is competitive and peer reviewed. The work is based on developing air-breathing cathodes containing platinum-free catalysts for the reduction of oxygen in bioelectrochemical systems. (**PI**)

Co-Principal Investigator (≈1,627,502 € excluding the amount of the Marie Curie Action)

9. **Biochar production for environmental remediation.** Sponsor: ENI Rewind S.p.A. Amount: 492,250 €. Duration: 4 years. 2025 –2028. (**co-PI**)
   Principal Investigator: Andrea Franzetti (@DISAT, UNIMIB)
   This contract was obtained through a scientific proposal submitted to ENI. The project is based on the production of biochar from waste biomass and its utilization for environmental remediation in a real site.
8. **TRAMPOLINe-: A training programme to promote the industrial adoption of microbial electrochemical technologies.** Sponsor: MARIE Skłodowska-CURIE ACTIONS, Doctoral Networks (DN). Amount: 2,644,560 €. Duration: 4 years. 2025-2028 (**Associate Partner**)
   Principal Investigator: Prof. Albert Guisasola (Universitat Autonoma de Barcelona).
   Call: HORIZON-MSCA-2023-DN-01-01. University of Milano Bicocca and particularly EBLab as: 1) Secondment hosting for research and training; 2) Co-Supervisor of a PhD student; 3) Provide specialized Training courses.
7. **Biochar production for environmental remediation.** University of Milano-Bicocca and Ente Nazionale Idrocarburi (ENI) agreement. Sponsor: ENI. Amount: 300,000 €. Duration: 3 years. 2022 –2025. (**co-PI**)
   Principal Investigator: Andrea Franzetti (@DISAT, UNIMIB)
   This grant was obtained through a scientific proposal submitted to ENI. The project is based on the production of biochar from waste biomass and its utilization for environmental remediation.
6. **Biochar production and utilization literature review.** Sponsor: Ente Nazionale Idrocarburi (ENI). Sponsor: ENI. Amount: 22,000 €. Duration: 0.3 years. 2022 (**co-PI**)
   Principal Investigator: Andrea Franzetti (@DISAT, UNIMIB)
   This grant was obtained through a scientific proposal submitted to ENI. The project is based on reviewing the existing literature related to the production of biochar from waste biomass and its utilization for environmental characterization.
5. **Project NOENDCAT**. Internal Italian CNR Funding. Amount: 120,576 €. Duration: 2 years. 2022-2023.
   Principal Investigator: Alessandro Lavacchi (@CNR-ICCOM)
   Role in the project: **External Collaborator**
   This grant is competitive and peer reviewed. This grant aims studying the fabrication of integrated electrocatalysts for electrochemical reactions.
4. **Bando Fondo di Ateneo – Quota Competitiva (FAQC)**. Call for proposals: Building a low-carbon, climate resilient future: Research and innovation in support of the European Green Deal (H2020-LC-GD-2020). TOPIC ID: LC-GD-8-1-2020: Innovative, systemic zero-pollution solutions to protect health, environment and natural resources from persistent and mobile chemicals. Sponsor: University of Milano-Bicocca. Amount: 25,000 €. Duration: 1 year. 2021 –2022. (**co-PI**)
   Principal Investigator: Andrea Franzetti (@DISAT, UNIMIB)
   This grant was obtained through the internal funding for rejected EU proposal with high score. The project is based on the degradation of PFAS into groundwater and soil through bioelectrochemical systems.
3. **Biofilm evolution in microbial fuel cells fed Yeo Valley wastewater**. Sponsor: National Biofilms Innovation Center (NBIC). Amount: 47,500 £. Duration: 6 months. June 2019 – December 2019. (**co-PI**)
   Principal Investigator: Jonathan Winfield (@UWE)
   This grant is competitive and peer reviewed. The work is based on analyzing the biofilm development over the anode electrodes of microbial fuel cells fuelled with dairy wastewater collected at different stage.
2. **BioElectrochemical Treatment System (BETS) to Remove Contaminants of Emerging Concern**. Sponsor: US Army Medical Research and Materiel Command. Total UNM amount: 300,000 US$. October 2015 – October 2017. Duration: 2 years. (**co-PI**)
   Principal Investigator: Plamen Atanassov (University of New Mexico)
   This grant is competitive and peer reviewed. The work is based on fabricating a large scale bioelectrochemical system capable of degrading organic molecules and producing useful electricity. Major attention is devoted on the analysis of influents and effluents for the determination of emerging contaminants through high performance liquid chromatography (HPLC).
1. **Efficient Microbial Bio-electrochemical Systems.** Sponsor: Bill & Melinda Gates Foundation. Total UNM: 350,000 US$. November 2015 – November 2017. Duration: 2 years. Investment ID OPP1139954. (**co-PI**)
   Principal Investigator: Plamen Atanassov (University of New Mexico)

This grant is competitive and peer reviewed. The work is based on synthesizing a new class of catalyst platinum-free for the reduction of oxygen in bioelectrochemical systems. The synthesis is based on high temperature and controlled atmosphere processes involving transition metals. The catalysts obtained are fully studied in terms of surface chemistry and morphology through various microscopic and spectroscopic tools.

Synchrotron Application (equivalent ≈432,000 €)
Co-Proposer (7); Total shifts: 120

7. **In house time ESRF (2024). Date: May 2024**
   Title: *Temperature dependant iron speciation by in-situ XAS during pyrolysis of Fe-based aerogel*
   PI: Dr. Jacopo Orsilli (UNIMIB, Milan, Italy)
   Funding scheme: Beamtime Allocation. In house time
   Facility: European Synchrotron Radiation Facility (ESRF, Grenoble), BM08
   Result: 12 shifts allocated
   Equivalent funded amount: € 43,200 (€ 3,600 per shift)

6. **CERIC. ESRF Proposal 20232052 (2023).** Date: **February 2024**.
   Title: *In-operando XAS to unravel the surface modifications of Nickel based electrocatalysts in the hydrogen evolution reaction. A comparison of pure nickel and nickel alloys*
   PI: Dr. Enrico Berretti (CNR-ICCOM, Florence, Italy)
   Funding scheme: Beamtime Allocation. International competitive call
   Facility: European Synchrotron Radiation Facility (ESRF, Grenoble)
   Result: 18 shifts allocated
   Equivalent funded amount: € 64,800 (€ 3,600 per shift)

5. **CERIC. Elettra Proposal 20220263 (2022).** Date: **December 2022**
   Title: *In situ XAS to unravel the nature of performance degradation in Direct Methanol Fuel Cells equipped with precious metal-free anode*
   PI: Dr. Enrico Berretti (CNR-ICCOM, Florence, Italy). Date: December 2022
   Funding scheme: Beamtime Allocation. International competitive call
   Facility: Elettra Synchrotron Trieste (Trieste, Italy)
   Result: 18 shifts allocated
   Equivalent funded amount: € 64,800 (€ 3,600 per shift)

4. **CERIC. ESRF Proposal 20222244 (2022).** Date: **June 2022**
   Title: *In situ XAS visualization of the formation of the active sites in NiN_xC catalysts for the hydrogen reduction reaction*
   PI: Dr. Enrico Berretti (CNR-ICCOM, Florence, Italy)
   Funding scheme: Beamtime Allocation. International competitive call
   Facility: European Synchrotron Radiation Facility (ESRF, Grenoble)
   Result: 18 shifts allocated
   Equivalent funded amount: € 64,800 (€ 3,600 per shift)

3. **CERIC. ESRF Proposal 20212033 (2021).** Date: **November 2021**
   Title: *Temperature dependant iron speciation by in-situ XAS during pyrolysis: Unravelling the formation of the active sites in FeNCs catalysts for the oxygen reduction reaction*
   PI: Dr. Enrico Berretti (CNR-ICCOM, Florence, Italy)
   Funding scheme: Beamtime Allocation. International competitive call
   Facility: European Synchrotron Radiation Facility (ESRF, Grenoble)
   Result: 18 shifts allocated
   Equivalent funded amount: € 64,800 (€ 3,600 per shift)

2. **CERIC. ESRF Proposal 20207089 (2020).** Date: **July 2021**
   Title: *Understanding the iron center anion interaction in FeNCs catalysts for the oxygen reduction reaction*
   PI: Dr. Enrico Berretti (CNR-ICCOM, Florence, Italy)
   Funding scheme: Beamtime Allocation. International competitive call
   Facility: European Synchrotron Radiation Facility (ESRF, Grenoble)
   Result: 21 shifts allocated
   Equivalent funded amount: € 75,600 (€ 3,600 per shift)

1. **Elettra Proposal 20205285 (2020)**. Date: **May 2021**
   Title: *XPS and XAS techniques for unraveling anions interaction with the active sites in Fe-N_x-C catalysts for the oxygen reduction reaction*
   PI: Dr. Valerio Ficca (University of Rome Tor Vergata, Italy)

Funding scheme: Beamtime Allocation. International competitive call
Facility: Elettra Synchrotron Trieste (Trieste, Italy)
Result: 15 shifts allocated
Equivalent funded amount: € 54,000 (€ 3,600 per shift)

CONTRACTS (≈24,000 €)

Consultant for Fondazione Lombardia Ambiente (FLA). Consultant within the European project INTERREG Alpine "building hydrogen infrastructure in the Alpine Region". University of Milano-Bicocca. **24000** €.

OTHER FUNDING (≈26,500 €)

Research Fund University of Milano Bicocca 2023. University of Milano Bicocca. **1,500** €.
Research Fund University of Milano Bicocca 2023. University of Milano Bicocca. **750** €.
Research Fund University of Milano Bicocca 2022. University of Milano Bicocca. **1,350** €.
Startup Funding University of Manchester 2020. The University of Manchester. **20,000** £.
Personal Development Research Fund (PDRF) 2019. UWE Bristol. **750** £.
Personal Development Research Fund (PDRF) 2018. UWE Bristol. **750** £.
Personal Development Research Fund (PDRF) 2017. UWE Bristol. **750** £.

PATENTS

2. **C. Santoro**, A. Serov, P. Atanassov, C. Arbizzani, F. Soavi. **Biological and Stand Alone Super-Capacitors for Water Treatment.** *U.S. Patent number No. 10,784,548*
1. A. Serov, **C. Santoro**, P. Atanassov, **Catalysts for Bio-Electrochemical Systems**, *Provisional US Patent Application* 61/996,813 filed on May 14, 2014 (UNM 2014-110). This Patent Application is **Exclusively Licensed** by Pajarito Powder Co.

MAIN ADVISOR (3 Post Doc, 9 PhD, 6 M.S., 4 B.S., 1 visiting PhD)

Post-Doctoral Fellow MAIN ADVISOR (3)

3. **Mohsin Muhyuddin.** Post-Doctoral Fellow. **09-2024 / 09-2026.** Department of Material Science, University of Milano-Bicocca (Italy). **Mohsin will defend his PhD on September 24th and he will be joining the group with a Post Doctoral fellowship.**
2. **Lorenzo Mirizzi.** Post-Doctoral Fellow. **11-2023 / 11-2024.** Department of Material Science, University of Milano-Bicocca (Italy). **(IN PROGRESS)**
1. **Leire Caizan Juanarena.** Post-Doctoral Fellow visiting from the University of Malaga (Spain). Six months exchange program. **07-2023 / 12-2023.** Department of Material Science, University of Milano-Bicocca (Italy).

PhDs MAIN ADVISOR (9)

9. **Simone Lombardi. XL Cycle.** *Philosophy Doctorate Degree***.** Department of Material Science, University of Milano-Bicocca (Italy). **EXPECTED GRADUATION 2027 (IN PROGRESS)**
8. **Muhammad Atta. XXXIX Cycle.** *Philosophy Doctorate Degree***.** Department of Material Science, University of Milano-Bicocca (Italy). **EXPECTED GRADUATION 2026 (IN PROGRESS)**
7. **Lorenzo Dell'Acqua. XXXIX Cycle.** *Philosophy Doctorate Degree***.** Department of Material Science, University of Milano-Bicocca (Italy). **EXPECTED GRADUATION 2026 (IN PROGRESS)**
6. **Nicolò Lamanna. XXXIX Cycle.** *Philosophy Doctorate Degree***.** Department of Earth and Planetary Science, University of Milano-Bicocca (Italy). **EXPECTED GRADUATION 2026 (IN PROGRESS)**
5. **Francesko Malaj. XXXVIII Cycle.** *Industrial Higher Apprenticeship Philosophy Doctorate Degree***.** Department of Material Science, University of Milano-Bicocca (Italy). **EXPECTED GRADUATION 2026 (IN PROGRESS)**
4. **Nicolò Giulini. XXXVIII Cycle.** *Philosophy Doctorate Degree***.** Department of Material Science, University of Milano-Bicocca (Italy). **EXPECTED GRADUATION 2026 (IN PROGRESS)**
3. **Giovanni Zuccante. XXXVIII Cycle.** *Philosophy Doctorate Degree***.** Department of Material Science, University of Milano-Bicocca (Italy). **EXPECTED GRADUATION 2026 (IN PROGRESS)**
2. **Ariana Seyed Mirshokraee. XXXVII Cycle.** *Philosophy Doctorate Degree***.** Department of Material Science, University of Milano-Bicocca (Italy). **EXPECTED GRADUATION 2025 (IN PROGRESS)**
1. **Mohsin Muhyuddin. XXXVI Cycle.** *Philosophy Doctorate Degree***.** Department of Material Science, University of Milano-Bicocca (Italy). Thesis title: "Low cost platinum group metal-free electrocatalysts for hydrogen evolution reaction and oxygen reduction reaction". **GRADUATION September 24th, 2024**

Visiting PhD student (1)

1. **Sumanth Dongre.** Visiting PhD student from Jain University (India) through the exchange program with the The Ministry of Foreign Affairs and International Cooperation (MAECI)**. 01-2024 / 06-2024.**

Master of Science MAIN ADVISOR (9)

9. **Roberto Landone.** *Master of Science Degree.* Department of Material Science, Chemistry and Chemical Technologies Degree. University of Milano-Bicocca (Italy). Thesis Title: "***ONGOING***" **(2024) (IN PROGRESS)**
8. **Loris Sallaku.** *Master of Science Degree.* Department of Material Science, Materials Science degree. University of Milano-Bicocca (Italy). Thesis Title: "***ONGOING***" **(2024) (IN PROGRESS)**
7. **Simone Lombardi.** *Master of Science Degree.* Department of Material Science, Chemistry and Chemical Technologies Degree. University of Milano-Bicocca (Italy). Thesis Title: "***ONGOING***" **(2024) (IN PROGRESS)**
6. **Davide Testa.** *Master of Science Degree.* Department of Material Science, Materials Science degree. University of Milano-Bicocca (Italy). Thesis Title: "Iron-Based Oxygen Reduction Reaction Electrocatalyst Derived From Extinguished Cigarettes" **(2022)**
5. **Nicolo' Zocche.** *Master of Science Degree.* Department of Material Science, Chemistry and Chemical Technologies Degree. University of Milano-Bicocca (Italy). Thesis Title: "Synthesis and characterization of platinum group metal-free electrocatalysts for fuel cells and electrolyzers starting from waste biomass". **(2022)**
4. **Francisco Moruno Lopez**. Advisor and Committee Member. *Master of Science Degree.* Department of Civil Engineering, University of New Mexico (USA). Thesis Title: "Investigation of anion and cation exchange membranes for enhancing desalination and power generation in a microbial desalination cell". **(2018)**.
3. **Mounika Kodali**. Advisor and Committee Member. *Master of Science Degree.* Department of Chemical and Biological Engineering, University of New Mexico (USA). Thesis Title: "Usage of Platinum Group Metal-free catalysts for Oxygen Reduction Reaction for Microbial Fuel Cells". **(2017)**.
2. **Mosaddek Hossen**. Advisor and Committee Member. *Master of Science Degree.* Department of Chemical and Biological Engineering, University of New Mexico (USA). Thesis Title: "Electrochemical oxidation of antibiotic, antihistaminic, analgesic and CNS stimulant pharmaceuticals". **(2016)**.
1. **Jeremiah Houghton**. Advisor and Committee Member. *Master of Science Degree* in Nanoscience and Microsystems Engineering Program, Department of Chemical and Biological Engineering, University of New Mexico (USA). Thesis title: "The effect of relative electrode size on the performance of a supercapacitive microbial fuel cell design". **(2016)**.

Bachelor of Science MAIN ADVISOR (7)

7. **Gaia Spinoni.** Advisor and Committee Member. *Bachelor of Science Degree* in Chemistry and Chemical Technologies. Department of Materials Science, University of Milano-Bicocca (Italy). Thesis Title: "***ONGOING***" **2024.** ***(IN PROGRESS)***
5. **Leonardo Cazzaniga.** Advisor and Committee Member. *Bachelor of Science Degree* in Chemistry and Chemical Technologies. Department of Materials Science, University of Milano-Bicocca (Italy). Thesis Title: "***ONGOING***" **2024.** ***(IN PROGRESS)***
5. **Chiara Pozzi.** Advisor and Committee Member. *Bachelor of Science Degree* in Chemistry and Chemical Technologies. Department of Materials Science, University of Milano-Bicocca (Italy). Thesis Title: "Production and recovery of gas boil-off in LPG storage plants" **2024.**
4. **Alessandra Frigerio.** Advisor and Committee Member. *Bachelor of Science Degree* in Chemistry and Chemical Technologies. Department of Materials Science, University of Milano-Bicocca (Italy). Thesis Title: "Synthesis of electrocatalysts with carbon matrix for the oxygen reduction reaction" **2024.**
3. **Antonio Leccese.** Advisor and Committee Member. *Bachelor of Science Degree* in Chemistry and Chemical Technologies. Department of Materials Science, University of Milano-Bicocca (Italy). Thesis Title: "Deposition Methods for the development of innovative electrodes for electrolyzers applications" **March 2024**
2. **Roberto Landone.** Advisor and Committee Member. *Bachelor of Science Degree* in Materials Science. Department of Materials Science, University of Milano-Bicocca (Italy). Thesis Title: "Study and characterization of electrocatalysts for the oxygen reduction reaction derived from urban waste". **March 2022**
1. **Axel Scommegna.** Advisor and Committee Member. *Bachelor of Science Degree* in Chemistry and Chemical Technologies. Department of Materials Science, University of Milano-Bicocca (Italy). Thesis Title: "Study of electrocatalysts derived from waste for fuel cells". **March 2022**

CO-ADVISOR (4 PhD, 3 M.S., 20 Undergraduate)

PhD Co-ADVISOR (4)

4. **Kayode Olaifa**. Co-advisor and Committee Member. *Philosophy Doctorate Degree***.** School of Engineering and Digital Sciences, Nazarbayev University (Kazakhstan). Thesis Title: "Electroanalysis of microbial biofilms and antibiofilm drug testing" **2022**

3. **Fatemeh Parnianchi.** Co-advisor and Committee Member. *Philosophy Doctorate Degree***.** Faculty of Chemistry. Razi University (Iran). Thesis title: "Fabrication of electrochemical-based diagnostic sensors to detect biological analytes such as bilirubin in serum and saliva" **2022**.
2. **Valerio C.A. Ficca**. Co-advisor and Committee Member. *Philosophy Doctorate Degree***.** Department of Chemical Science and Technology, University of Rome Tor Vergata (Italy). Thesis title: "Platinum-group-metal-free nano-electrocatalysts for energy conversion and storage: effects and application of active sites poisoning" **2022.**
1. **Federico Poli.** Co-advisor and Committee Member. *Philosophy Doctorate Degree***.** Department of Chemistry "G. Ciamician", University of Bologna (Italy). Thesis title: "Green Supercapacitive Systems" **2022**.

Master of Science Co-ADVISOR (3)

3. **Diego Stucchi.** Co-advisor and Committee Member. *Master of Science Degree.* Department of Materials Science, University of Milano-Bicocca (Italy). **2022**.
2. **Samuele Galli**. Co-advisor and Committee Member. *Master of Science Degree.* Department of Materials Science, University of Milano-Bicocca (Italy). **2022**
1. **Jacopo Seri.** Co-advisor and Committee Member. *Master of Science Degree.* Department of Chemistry "G. Ciamician", University of Bologna (Italy). **2022**.

Undergraduate student co-ADVISOR (23)

23. **Valerie Sozzi -** University of Milano-Bicocca (Materials Science) **2024**
22. **Martina Bombara -** University of Milano-Bicocca (Materials Science) **2024**
21. **Marta Mastrosimone -** University of Milano-Bicocca (Materials Science) **2024**
20. **Riccardo Fumagalli -** University of Milano-Bicocca (Materials Science) **2024**
19. **Marta Franchini -** University of Milano-Bicocca (Optic and Optometric) **2024**
18. **Matteo Folci** – University of Milano-Bicocca (Chemistry) **2023**
17. **Paolo Valagussa** – University of Milano-Bicocca (Chemistry) **2022**
16. **Matteo Morigi** – University of Bologna **2019**
15. **Roxanne Awais** - University of New Mexico. **(McNair Fellowship)** **2017**
14. **Sergio Herrera -** University of New Mexico **2015-2017**
13. **Alexandra Yingling** - University of New Mexico **2016**
12. **Jonathan Gordon** - University of New Mexico **2016**
11. **Fernando Benito Abad** – University of New Mexico **2016**
10. **Lydia Stariha –** Grinnel College **2015**
9. **Abeed Fatima Mohidin** - Nanyang Technological University **2014**
8. **Angie Galanto** - University of Connecticut **2013**
7. **Robert J. Raggio** - University of Connecticut **2013**
6. **Sharon Scott** - University of Connecticut **2013**
5. **Michelle De Blasio** - University of Connecticut **2012**
4. **Celicia Boyde** - University of Connecticut **2012**
3. **William Hale** - University of Connecticut **2011**
2. **Nirav Patel** – University of Connecticut **2011**
1. **Matthew Cremins** - University of Connecticut **2010-2012**

INTERNAL and EXTERNAL EXAMINER

PhD Thesis (6), M.Sc (6), M.Eng (6)

Philosophy Doctorate (6)

6. **Gabriele Brugnetti.** *Internal Examiner Committee.* Secretary. **Philosophy Doctorate Degree.** Chemical, Geological and Environmental Sciences: Curriculum in Chemical Science, University of Milano-Bicocca (Italy). Thesis title: "Preparation and Characterization of Electrode Materials for Sodium-Ion Batteries". April **2023**
5. **Federica Arena.** *External Examiner Committee.* Secretary. **Philosophy Doctorate Degree.** Energy and Nuclear Science and Technology Doctoral Degree, Politecnico di Milano (Italy). Thesis title: "Electrochemically enhanced biorefinery: converting wastewater to bioplastics through a competitive and green process". January **2023**
4. **Gabriele Rossetti.** *External Examiner Committee.* **Philosophy Doctorate Degree.** Energy and Nuclear Science and Technology Doctoral Faculty, Politecnico di Milano (Italy). Thesis title: "Study and Development of a Durable and High Performance Non Carbon Support for PEM Fuel Cell Application". July **2021**
3. **Maida Aysla Costa De Oliveira**. *External Examiner Committee.* **Philosophy Doctorate Degree.** Department of Chemical Science and Technology, University of Rome Tor Vergata (Italy). Thesis title:

"Development and Optimization of Nanostructured Carbon-based Materials for Energy Applications". October **2019**

2. **Simona Pentassuglia**. *External Examiner Committee.* **Philosophy Doctorate Degree.** Department of Chemical Engineering, Politecnico di Torino (Italy). Thesis title: "Novel Microbe-Based Technologies for Bioelectricity and Biofuel Production". September **2019**
1. **Patrick Mclee**. *External Examiner Committee.* **Philosophy Doctorate Degree**. Department of Civil Engineering, University of New Mexico. Thesis Title: "Moving Bed Biofilm Reactors: Evaluation of Geometry, Attachment Surface Material and Biofilm Populations on the Uptake of Ammonia and Synthetic Organic Contaminants In Wastewater". November **2016**.

Master of Science (7)

7. **Marta Palmieri.** *External Assessor.* **Master of Science Degree. Master Program on Sustainable Materials.** Department of Materials Science. University of Milano-Bicocca and University of Leuven. Thesis Title: "Optimizing the adhesion of PSU parts for the production of green hydrogen". **2024**. ***(IN PROGRESS)***
6. **Bestetti Emanuele.** *External Assessor.* **Master of Science Degree. Master Program on Sustainable Materials.** Department of Materials Science. University of Milano-Bicocca and University of Leuven. Thesis Title: "Electrochemical memory for the post-NAND era". **2023**.
5. **Wasiu Agboladuro Alatishe.** *External Assessor.* **Master of Science Degree. Master Program on Sustainable Materials.** Department of Materials Science. University of Milano-Bicocca and University of Leuven. Thesis Title: "A More Interesting Building Block III". **2023**.
4. **Ayoade Yusuf Oyeyimika.** *External Assessor.* **Master of Science Degree. Master Program on Sustainable Materials.** Department of Materials Science. University of Milano-Bicocca and University of Leuven. Thesis Title: "Recuperation of wastewater in metallurgical processes". **2022**.
3. **Martinez Cayo Hector Javier** *External Assessor.* **Master of Science Degree. Master Program on Sustainable Materials.** Department of Materials Science. University of Milano-Bicocca and University of Leuven. Thesis Title: "A more interesting building block". **2022**.
2. **Luca Aimone.** *External Assessor.* **Master of Science Degree. Master Program on Sustainable Materials.** Department of Materials Science. University of Milano-Bicocca and University of Leuven. Thesis Title: "A more interesting building block". **2022**.
1. **Yahya Al Ismaili. External Examiner. Master of Science Degree.** Dept. of Chemical Engineering and Analytical Science. The University of Manchester, UK. Thesis Title: "Production of Limonene Using Fractionation of Tire Derived Oil (TDO) from Waste Tire Pyrolysis". October **2020**

Master of Engineering (6)

6. **Taylor Duncan.** *External Examiner.* **Master of Engineering Degree.** Dept. of Chemical Engineering and Analytical Science. The University of Manchester, UK. Thesis Title: "The Advantages of Titanium Oxide Doped Polyaniline for Ammonia Sensing". June **2020**
5. **Katja Eeckelers.** *External Examiner.* **Master of Engineering Degree.** Dept. of Chemical Engineering and Analytical Science. The University of Manchester, UK. Thesis Title: "Detection of ammonia in wastewater using a Polyaniline/Carbon Black Composite sensor". June **2020**
4. **Fred Erwin.** *External Examiner.* **Master of Engineering Degree.** Dept. of Chemical Engineering and Analytical Science. The University of Manchester, UK. Thesis Title: "A Theoretical Study of the Columnar Mesophase Structures Produced by Ternary and Quaternary Amphiphiles using Dissipative Particle Dynamics". May **2020**
3. **Christopher Oram.** *External Examiner.* **Master of Engineering Degree.** Dept. of Chemical Engineering and Analytical Science. The University of Manchester, UK. Thesis Title: "An Investigation into the Self-Assembly of Soft- Matter Systems using Dissipative Particle Dynamics: T- and X-Shaped Bolaamphiphiles". May **2020**
2. **Rosemary Hargrove.** *External Examiner.* **Master of Engineering Degree.** Dept. of Chemical Engineering and Analytical Science. The University of Manchester, UK. Thesis Title: "Investigating the Impact of Gender Diversity on Group Work in Chemical Engineering Education". May **2020**
1. **Jingyi Li.** *External Examiner.* **Master of Engineering Degree.** Dept. of Chemical Engineering and Analytical Science. The University of Manchester, UK. Thesis Title: ""Mind the Gap": A Study of Chemical Engineering Transferable Skills' Development in Practical Sessions". May **2020**

EXTERNAL REVIEWER

PhD Thesis (11), PhD Proposal (3)

Philosophy Doctorate Thesis (11)

11. **Simone Fiorini Granieri.** *External Reviewer.* **Philosophy Doctorate Degree.** Energy and Nuclear Science and Technology Doctoral Degree, Politecnico di Milano (Italy). Thesis title: "Turbostratic carbon nano onion for high power densty Vanadium Flow Batteries". May **2024**

10. **Marco Mazzuccato.** *External Reviewer.* **Philosophy Doctorate Degree.** Molecular Science, University of Padua (Italy). Thesis title: "M-N-C electrocatalysts supported on engineered carbon materials for the reduction of Oxygen". November **2022**
9. **Federica Arena.** *External Reviewer.* **Philosophy Doctorate Degree.** Energy and Nuclear Science and Technology Doctoral Degree, Politecnico di Milano (Italy). Thesis title: "Electrochemically enhanced biorefinery: converting wastewater to bioplastics through a competitive and green process". August **2022**
8. **B.A.M. Mahmoud.** *External Examiner.* **Philosophy Doctorate Degree.** Faculty of Natural and Agricultural Sciences, University of Pretoria (South Africa). Thesis Title: "Synthesis and characterization of ammonium transition metal phosphates and their carbon nanocomposites electrode materials for supercapacitors applications". July **2021**
7. **Jan Kruid.** *External Examiner.* **Philosophy Doctorate Degree.** Rhodes University Biotechnology Innovation Centre. Rhodes University (South Africa). Thesis Title: "Integration of dual metallophthalocyanine catalysis and green energy for sustainable oxidative removal of endocrine disrupting compounds". July **2021**
6. **Gabriele Rossetti.** *External Reviewer.* **Philosophy Doctorate Degree.** Energy and Nuclear Science and Technology Doctoral Faculty, Politecnico di Milano (Italy). Thesis title: "Study and Development of a Durable and High Performance Non Carbon Support for PEM Fuel Cell Application". June **2021**
5. **Michele Ferri.** *External Reviewer.* **Philosophy Doctorate Degree.** Department of Chemistry, University of Milan (Italy). Thesis Title: "Hydroxyapatite based materials for environmental processes". March **2021**
4. **Giorgia Daniel.** *External Reviewer.* **Philosophy Doctorate Degree.** Department of Chemistry, University of Padua (Italy). Thesis Title: "PGM-free cathode catalysts for PEM fuel cell based on M-N-C active sites starting by non-conventional polymer precursor materials". January **2021**
3. **Rosaceleste Zumpano.** *External Reviewer.* **Philosophy Doctorate Degree.** Department of Chemistry and Drug Technologies, University of Rome La Sapienza (Italy). Thesis title: "Nanostructure-based enzymatic biosensors and biofuel cells: characterization and applications". December **2020**
2. **Sara Busatto.** *External Reviewer.* **Philosophy Doctorate Degree.** Department of Molecular and Translational Medicine, University of Brescia (Italy). Thesis title: "Novel Routes for Manipulating and Engineering Extracellular Vesicles''. January **2019**
1. **Ademola Adekunle**. *External Reviewer.* **Philosophy Doctorate Degree.** Department of Bioresource Engineering, McGill University (Canada). Thesis title: "Development of an autonomous biobattery/biosensor system for remote applications". May **2018**

Philosophy Doctorate Proposal (3)

3. **Kayode Olaifa.** *External Examiner*. **Philosophy Doctorate Proposal**. Department of Chemical and Materials Engineering. Nazarbayev University. Kazakhstan. Proposal Title: "Bioelectrochemical Characterization of Candida Biofilms". November **2020**.
2. **Mariana Rodrigues.** *External Examiner.* **Philosophy Doctorate Proposal.** Wageningen Institute for Environment and Climate Research (WIMEK, Dutch acronym) at Wageningen University, The Netherlands. Proposal Title: "Optimization and upscaling of Electrochemical ammonia recovery". March **2019**.
1. **Steffen George.** *External Examiner.* **Philosophy Doctorate Proposal.** Wageningen Institute for Environment and Climate Research (WIMEK) at Wageningen University, The Netherlands. Proposal Title: "Application of Bio-Electrochemical Systems for Current Driven Ammonium Recovery". March **2018**.

PROFESSIONAL ACTIVITIES

Consultant and external expertise in identifying Low Carbon Energy Supply

Workshop on Identification of Future Emerging Technologies for Low Carbon Energy Supply was organized by the European Union Joint Research Centre (JRC) in Ispra (Italy) developing an inventory of future emerging technologies relevant to energy supply, as part of the Commission's internal Low Carbon Energy Observatory project. The purpose was to address those technologies using the experience in specific fields and the relevant science and engineering aspects. TRLs were identified. 1 December 2016, JRC, Ispra (Italy).

Project Reviewers for:

International Funding Agency

- Austria Science Fund (FWF) - **Austria**
- Call Strategic Basic Research - Industrial Research Fund Antwerp University Association (SBO IOF AUHA - 2018) – **Belgium**
- FWO, Fonds Wetenschappelijk Onderzoek – **Belgium**
- Natural Sciences and Engineering Research Council of Canada (NSERC) - **Canada**
- Chilean Antarctic Institute - **Chile**
- Czech Science Foundation - **Czech Republic**
- ERC Consolidator Part 2 – **European Union**

- ERC Synergy Part 2 – **European Union**
- General Call for Proposal 2017 - Agence Nationale De La Recherche – **France**
- National Research, Development and Innovation Office (NDRI) - **Hungary**
- The National Center of Scientific and Technical Evaluation (NCSTE) – **Kazakhstan**
- Irish Research Council – **Ireland**
- Mobility proposal calls - **Israel**
- National Research Foundation of Korea – **South Korea**
- Spanish Research Agency – **Spain**
- State Research Agency (AEI) - **Spain**
- National Science Center - **Poland**
- Biotechnology and Biological Science Research Council (BBSRC) – **UK**
- US Department of Energy (DOE) – **USA**

National Funding Agency

- G@V - Research and Training for Global Challenges Cofund Fellowship (https://www.unive.it/pag/40610/), a programme implemented by Ca' Foscari University of Venice (UNIVE) – **Italy**
- FAR 2023 - Projects Call for Applications – University of Modena and Reggio Emilia (UNIMORE) – **Italy**
- Fondazione Cariplo - Progetti biennali FdS - Bando 2022 – **Italy**

Journal Editorial Board

ACTIVE

- ✓ **Industrial Chemistry and Materials**. Royal Society of Chemistry. Editorial Board Member. **(From 2024)**.
- ✓ **Discover Catalysis**. **Springer Nature.** Editorial Board Member. **(From 2024)**.
- ✓ **Journal of Power Sources, Elsevier**. International Editorial Board. **(From 2023)**. IF: 8.1 (2023)
- ✓ **Journal of Energy Chemistry, Elsevier**. Youth Editorial Board (**Term 2023-2024**). IF: 14 (2023)
- ✓ **Materials for Renewable and Sustainable Energy**. **Springer Nature.** Advisory Editorial Board. **(From 2022)**. IF: 3.6 (2023)
- ✓ **Molecules,** MDPI **(From 2019).** *Section Green Chemistry.* Editorial Board Member. IF: 4.6 (2022)
- ✓ **Catalysts,** MDPI **(From 2018).** *Section Electrocatalysis.* Editorial Board Member. IF: 3.9 (2022)

PAST

- ✓ **Chemosensors,** MDPI **(2020-2022).** *Section Electrochemical Devices and Sensors.* IF: 4.229 (2021)

Editorial Activity

17. **Guest Editor** for the Special Issue related to the 37th Topical Meeting of the International Society of Electrochemistry for **Electrochimica Acta (Elsevier, IF 2022: 6.6)**. *December 2024* **(IN PROGRESS)**
16. **Guest Editor** for the Special Issue to Bioelectrochemistry and Bioelectrochemical Systems on **Journal of Power Sources (Elsevier, IF 2022: 9.2)**. Title Special Issue: "*Bioelectrochemical systems for production of electricity and value added products*". *Expected December 2024* **(IN PROGRESS)**
15. **Guest Editor** for the Special Issue for **Electrochimica Acta (Elsevier, IF 2022: 6.6)**. Title Special Issue: "*Activation of Small Molecules*". *December 2024* **(IN PROGRESS)**
14. **Guest Editor** for the Special Issue related to Symposium 6th of the 74th Annual Meeting of the International Society of Electrochemistry for **Electrochimica Acta (Elsevier, IF 2022: 6.6)**. *June 2024* **(IN PROGRESS)** https://www.sciencedirect.com/special-issue/10F86DV7WH7
13. **Guest Editor** for the Special Issue to Fuel Cells, Electrolyzers and other hydrogen related technologies on **Industrial Chemistry & Materials (Royal Society of Chemistry)**. Title Special Issue: "*Frontiers of Hydrogen Energy and Fuel Cells*". *August 2023* https://pubs.rsc.org/ca/journals/articlecollectionlanding?sercode=im&themeid=afc501b4-645c-4e1b-bec9-d8a6ea51b256
12. **Guest Editor** for the Special Issue related to Symposium 15th of the 73rd Annual Meeting of the International Society of Electrochemistry for **Electrochimica Acta (Elsevier, IF 2022: 6.6)**. *June 2023* https://www.sciencedirect.com/journal/electrochimica-acta/special-issue/107T699C6FH
11. **Guest Editor** of a Special Issue related to Fuel Cells and Electrolyzers on **Journal of Power Sources (Elsevier, IF 2022: 9.2)**. Title Special Issue: "*Low temperature fuel cells and electrolysers*". *February 2023* https://www.sciencedirect.com/journal/journal-of-power-sources/special-issue/10FM7631C07
10. **Guest Editor** of a Special Issue on electrochemistry to celebrate Prof. Plamen Atanassov turning 60 on **ChemElectroChem (Wiley, IF 2021: 4.782)** https://chemistry-europe.onlinelibrary.wiley.com/doi/toc/10.1002/(ISSN)2196-0216.plamen-atanassov
9. **Guest Editor** of a Special Issue related to Decarbonization on **iScience (Cell Press, IF 2021: 6.107)**. Title Special Issue: "*Difficult to Decarbonize Energy Sectors: Challenges and Opportunities for Electrochemistry, Engineering, and Policy*". *April 2023*

https://www.sciencedirect.com/journal/iscience/special-issue/10XC8GMFTJ9

8. **Guest Editor** of a Special Issue related with electrochemical energy storage and conversion on **Electrochimica Acta (Elsevier, IF 2022: 6.6)**. Title Special Issue: "*And Yet Electrochemical Energy Storage and Conversion Moves in 2021*" (EESC 2021). *November 2022.* https://www.sciencedirect.com/journal/electrochimica-acta/special-issue/103K2HF9107
7. **Guest Editor** of a Special Issue related with electrocatalysts for electrochemical energy devices on **Catalysts (MDPI: IF 2021: 4.501)**. Title Special Issue: "*10th Anniversary of Catalysts: Achievements in Electrocatalysis for Sustainable Energy Technologies*". *December 2021.* https://www.mdpi.com/journal/catalysts/special_issues/10th_anniversary_electrocatalysis
6. **Guest Editor** of a Special Issue related with bioprocesses for energy and environment on **Journal of Environmental Chemical Engineering (Elsevier: IF 2021: 7.968)**. Title Special Issue: "*Recent Advances in Bioprocess for Sustainable Environment and Energy*". *September 2021.* https://www.sciencedirect.com/journal/journal-of-environmental-chemical-engineering/special-issue/10T7SDR5V14
5. **Guest Editor** of a Special Issue related with microbial electrochemical technology on **Chemosensors (MDPI: IF 2021: 4.229)**. Title: "*Recent Advancements in Microbial Electrochemical Technologies*". https://www.mdpi.com/journal/chemosensors/special_issues/AMET. *August 2021*
4. **Associate Editor** for **Proceedings of the IEEE Conference on Nanotechnology** related to the IEEE Nano 2020 (Institute of Electrical and Electronics Engineers) (2020)
3. **Editorial** for **ChemElectroChem (Wiley, IF 2019: 4.154)** with a Special Collection on Bioelectrochemistry to Prof. Gorton on the occasion of his 70th birthday. **EDITORIAL.** P. Bollella, **C. Santoro**, P. Cristiani, P. Atanassov. "*Bioelectrochemistry: An Electrifying Experience Over 70 Years*". ***ChemElectroChem*** **2019**, 6(21), 5356-5357. DOI: 10.1002/celc.201900945 https://chemistry-europe.onlinelibrary.wiley.com/doi/toc/10.1002/(ISSN)2196-0216.Bioelectrochemistry
2. **Guest Editor** of a Special Issue related with Microbial Electrochemical Technology on **Bioresource Technology Reports (Elsevier, Cite Score 2022: 7.8)**. Title Special Issue: "*Microbial Electrochemical Technology*". **EDITORIAL.** S. Patil, A. Schievano, **C. Santoro**, D. Pant. Preface - Microbial electrochemical technologies. ***Bioresource Technology Reports*** **2019**, 8, 100336 DOI:10.1016/j.biteb.2019.100336. https://www.sciencedirect.com/journal/bioresource-technology-reports/special-issue/10LQMD9G0H8
1. **Lead Guest Editor** of a Special Issue related with Microbial Fuel Cell and Bioelectrochemical Systems on **Journal of Power Sources (Elsevier, IF 2017: 6.945)**. Title Special Issue: "*Microbial Fuel Cell: From Fundamentals to Applications*". **EDITORIAL**. **C. Santoro**, C. Arbizzani, B. Erable, I. Ieropoulos. Special Issue: "Microbial fuel cell: From Fundamentals to Applications": Guest Editors note. ***Journal of Power Sources*** **2017***,* 356, 223-224. DOI: 10.1016/j.jpowsour.2017.04.071 https://www.sciencedirect.com/journal/journal-of-power-sources/vol/356/suppl/C

Journal Reviewer for 155 journals

ACS Publications (10): ACS Applied Electronic Materials, ACS Applied Energy Letters, ACS Applied Energy Materials, ACS Environmental Au, ACS Omega, ACS Sustainable Chemistry & Engineering, Environmental Science and Technology Letters, Environmental Science and Technology, Industrial & Engineering Chemistry Research, Journal of the American Chemical Society.
AIP (1): Applied Physics Review
ASME Journal Program (1): Journal of Electrochemical Energy Conversion and Storage.
Cell (1): Cell Reports Physical Chemistry
Elsevier (61): Agricultural Water Management, Applied Catalysis B: Environmental, Applied Energy, Applied Surface Science, Biochemical Engineering Journal, Bioelectrochemistry, Bioenergy Biomass, Biofilm, Bioresource Technology, Bioresource Technology Reports, Biosensors Bioelectronics, Biosensors Bioelectronics: X, Biotechnology Advances, Catalysis Communication, Chemical Engineering Journal, Chemical Engineering Journal X, Chemical Engineering Research and Design, Chemical Engineering Science, Chemosphere, Coordination Chemistry Review, Current Opinion in Green and Sustainable Chemistry, Electrochemistry Communication, Electrochimica Acta, Energy Strategies Reviews, Environmental Research, Environmental Technology and Innovation, Enzyme and Microbial Technology, Energy, Fuel, Helyion, International Journal of Hydrogen Energy, International Journal of Sediment Research, Journal of Alloys and Compounds, Journal of Catalysis, Journal of Cleaner Production, Journal of CO_2 Utilization, Journal of Electroanalytical Chemistry, Journal of Energy Chemistry, Journal of Energy Storage, Journal of Environmental Sciences, Journal of Hazardous Materials, Journal of Industrial and Engineering Chemistry, Journal of Power Sources, Journal of Water Process Engineering, Materials & Design, Material Science and Engineering B, Material Science of Energy Technologies, Materials Today Energy, Microchemical Journal, Nano Energy, Polymer, Process Biochemistry, Renewable & Sustainable Energy Reviews, Renewable Energy, Resource, Conservation and Recycling, Science of the Total Environment, Sensor and Actuators A: Physical, Separation

and Purification Technology, Surface and Coatings Technology, Sustainable Energy Technologies and Assessments, Trends in Biotechnology.
Frontiers (2): Frontiers in Energy Research, Frontiers in Robotics and AI
IOP Science (3): iScience, Journal of Physics: Energy, Nanotechnology
IWA Publishing Group (1): Water Science and Technology
MDPI (18): Applied Microbiology, Applied Sciences, Biosensors, BioTech, Catalysts, Chemosensors, Coatings, Electrochem, Energies, Materials, Micromachines, Microorganisms, Minerals, Molecules, Oxygen, Processes, Sensors, Water.
Nature Publishing Group (NPG) (3): Nature Communication, Nature Reviews Microbiology, Scientific Reports.
OMICS Group (1): Journal of Microbial & Biochemical Technology.
Oxford Academic (2): FEMS Microbiology Letters, FEMS Microbiology Reviews
Royal Society of Chemistry (RSC) (10): Chemical Science, Chemistry Communication, Dalton Transaction, Environmental Science: Water Research & Technology, Journal of Materials Chemistry A, Materials Advances, Nanoscale, RSC Advances, RSC Applied Interfaces, Sustainable Energy & Fuels.
Springer (15): Applied Microbiology and Biotechnology, Biomass Conversion and Biorefinery, Biotechnology for Biofuel, Biotechnology Letters, Environmental Chemistry Letters, Environmental Monitoring and Assessment, Environmental Processes, Ionics, Journal of Industrial Microbiology & Biotechnology, Journal of Materials Science, Materials for Renewable and Sustainable Energy, Microbial Cell Factories, Nano-Micro Letters, SN Applied Sciences, Waste and Biomass Valorization.
Taylor & Francis Online (4): Critical Reviews in Environmental Science and Technology, Environmental Technology, European Journal of Materials, International Journal of Green Energy, Smart Science.
Wiley (21): Advanced Electronic Materials, Advanced Energy Materials, Advanced Energy and Sustainability Research, Advanced Functional Materials, Advanced Materials, Advanced Sustainable Systems, Biofuels, Bioproducts & Biorefining, ChemistrySelect, ChemCatChem, ChemSusChem, Electrochemical Science Advances, Environmental Quality Management, Fuel Cells, International Journal of Energy Research, Journal of Chemical Technology and Biotechnology, Macromolecolar Bioscience, Small, SusMat, The Canadian Journal of Chemical Engineering, The Chemical Record, Water and Environmental Journal.

Professional memberships

- ✓ **ECS** - Electrochemical Society
- ✓ **ACS** - American Chemical Society
- ✓ **ISE** – International Society of Electrochemistry
- ✓ **BES** – Bioelectrochemical Society
- ✓ **ISMET** – International Society for Microbial Electrochemical Technologies
- ✓ **SCI** – Societa' Italiana di Chimica (Italian Society of Chemistry) – Electrochemistry Division
- ✓ **EFCE** – European Federation of Chemical Engineering - Electrochemical Engineering

International Societies Responsibilities

- ✓ **Chair Elected** of Division 2 (Bioelectrochemistry) for the International Society of Electrochemistry (ISE). 2023-2024
- ✓ **Vice-Chair** of Division 2 (Bioelectrochemistry) for the International Society of Electrochemistry (ISE). 2021-2022
- ✓ **Guest member of the Working Party** - **EFCE** – European Federation of Chemical Engineering - Electrochemical Engineering. Since 2017

CONFERENCE RESPONSABILITIES

Symposium Organizer (8)

8. **Symposium Coordinator** for Division 2 and 3 at the 76th Annual Meeting of the International Society of Electrochemistry. 07-12 September **2025**, Mainz, Germany. **(IN PROGRESS)**
7. **Symposium Organizer** for Division 2 and 3 at the 74th Annual Meeting of the International Society of Electrochemistry. Fuel cells, electrolysis and electrofuel synthesis. 03-08 September **2023**, Lyon, France.
6. **Symposium Organizer** for the 17th European Conference and Exhibition on Advanced Materials and Processes – FEMS EUROMAT 2023, 03 - 07 September **2023**, Frankfurt on the Main, Germany.
5. **Symposium Organizer** for Division 2, 3 and 5 "**Electrochemical Technologies for Sustainability within the Water/Energy Nexus**" at the 73rd Annual Meeting of the International Society of Electrochemistry. 12-16 September **2022**. *VIRTUAL CONFERENCE*
4. **Symposium Organizer** for Division 2**.** Regional Meeting International Society of Electrochemistry. 12-16 August **2022**. Prague, Czech Republic
3. **Symposium Organizer** "**Microbial electrochemical technologies and electron transport system**" at the XXVII International Symposium on Bioelectrochemistry and Bioenergetics, 3-7 April **2022**, Antwerp, Belgium.

2. **Symposium Organizer** for Division 2 "**Advances in Microbial Electrochemistry for Energy Conversion, Biotransformation, Bioremediation and Electroanalysis**" at the 71st Annual Meeting of the International Society of Electrochemistry. 3-4 September **2020**. Belgrade, Serbia. *VIRTUAL CONFERENCE*
1. **Symposium Organizer** related to Bioelectrochemical Systems, Enzymatic Fuel Cell and Biosensors: "**Ionics in Biological System and Life Sciences**" at the 21st International Conference on Solid State Ionics held in Padua, 18-23 June **2017**.

Workshop Organizer (5)

5. **Workshop Organizer** and **Co-chair**. Hydrogen's Role from academy to industry. University of Milano-Bicocca, Milan, Italy. 13th June **2024**.
4. **Summer School Organizer** and **Co-chair**. International School on Electrocatalysis (EL-CATS). Trento, Italy on the 10–15 September **2023**.
3. **Workshop Organizer** and **Co-chair** with Enrico Negro of the "**Italian Virtual Workshop on Fuel Cells**" (IVWFC 2021) sponsored by the Italian Division of Electrochemistry and the International Society of Electrochemistry. 16-19 March **2021**. *VIRTUAL CONFERENCE*
2. **Workshop Organizer** with Cristina Trois, Francesca Soavi, Ncholu Manyala of a Workshop: "**Waste-Water-Energy as a Resource for a Sustainable Future**". University of KwaZulu-Natal, Durban, South Africa. 7th and 9th August **2019**.
1. **Workshop Organizer** and **Co-chair** with Stefania Specchia (chair) related to the platinum group metals-free (PGM-free): "**1st Italian Electrochemical Discussion on the latest PGM-free insights for Energy Systems and Fuel Cells**" held at the ENERGY CENTER Politecnico di Torino, Turin, Italy, 8 February **2019**.

Conference Scientific Advisory Board and Scientific Committee (11)

11. **International Advisory Board** of the IX Symposium on Hydrogen, Fuel Cells and Batteries. June 30th to July 3rd **2024**. Milazzo (Italy)
10. **Local Organizing Committee** of the 37th Topical Meeting of the International Society of Electrochemistry. 9-12 June **2024**. Stresa, Italy.
9. **Organizing Scientific Committee** of the 36th Topical Meeting of the International Society of Electrochemistry "**Marine and Environmental Electrochemistry**". 26-28 May **2024**. Šibenik, Croatia.
8. **Scientific Committee** of the EU-ISMET of the International Society of Microbial Electrochemical Technology. 6-8 September **2023**. Wageningen (NL)
7. **Organizing Scientific Committee** of the International School on Electrocatalysis (EL-CATS). 10–15 September **2023**. Trento, Italy
6. **Scientific Advisory Board** of the European Fuel Cell Forum. Microbial & Enzymatic Electrochemical Reactors, Fuel Cells & Electrolysers (MEEP) Symposium. Lucerne, Switzerland on the 5–7 July **2023**.
5. **Scientific Advisory Board** of the European Fuel Cell Forum. Microbial & Enzymatic Electrochemical Reactors, Fuel Cells & Electrolysers (MEEP) Symposium. Lucerne, Switzerland on the 6–7 July **2022**.
4. **Scientific Advisory Board** of the 1st International Electronic Conference on Chemical Sensors and Analytical Chemistry (CSAC2021). 1-15 July **2021**. *VIRTUAL CONFERENCE*
3. **Organizing Scientific Committee** of the 29th Topical Meeting of ISE "**Energy and water: electrochemistry in securing the sustainable society development**". 18-21 April **2021**. Mikulov, Czech Republic. *VIRTUAL CONFERENCE*
2. **Program co-Chair IEEE Nano 2020** (Institute of Electrical and Electronics Engineers)**.** 29-31 July **2020**. *VIRTUAL CONFERENCE*
1. **Scientific Advisory Board** of the European Fuel Cell Forum. Microbial & Enzymatic Electrochemical Reactors, Fuel Cells & Electrolysers (2022 MEEP) Symposium Board. Lucerne, Switzerland on the 3–4 July **2019**.

Award / Best Oral-Poster Presentation Committee in Conferences (15)

15. **Oral Evaluation Committee** for the *75th Annual Meeting of the International Society of Electrochemistry.* 18 - 23 August **2024**. Montreal, Canada
14. **Poster Evaluator** for the 37th Topical Meeting of the International Society of Electrochemistry. 9-12 June **2024**. Stresa, Italy.
13. **Pitch evaluator** for the 37th Topical Meeting of the International Society of Electrochemistry. 9-12 June **2024**. Stresa, Italy.
12. **Award Evaluator** for the Zhaowu Tian Prize for Energy Electrochemistry for the International Society of Electrochemistry **2024**
11. **Oral Evaluation Committee** for the 36th Topical Meeting of the International Society of Electrochemistry "Marine and Environmental Electrochemistry". 26-28 May **2024**. Šibenik, Croatia.
10. **Poster Evaluation Committee** for Symposium 6 at the *74th Annual Meeting of the International Society of Electrochemistry*. 3 - 8 September **2023**. Lyon, France

9. **Poster Evaluation Committee** for the *Giornate dell'elettrochimica Italiana – GEI 2022 (Italian Electrochemical Days)*, 11-15 September **2022**, Orvieto, Italy.
8. **Graduate and Postdoctoral Travel Fellowship Committee** *Regional Meeting of the International Society of Electrochemistry***.** 15 - 19 August **2022**, Prague, Czech Republic (Regional Meeting)
7. **Award Evaluation Committee** for the International Society of Electrochemistry (ISE) for the Award - Bioelectrochemistry Prize of ISE Division 2. **2022**.
6. **Oral Evaluation Committee** of the Symposium 5 at the *72nd Annual Meeting of the International Society of Electrochemistry.* 29 August - 3 September **2021**. Jeju Island, Korea. *HYBRID CONFERENCE*
5. **Poster Evaluation Committee** for the *29th Topical Meeting of the International Society of Electrochemistry.* 18-21 April **2021**. Mikulov, Czech Republic. *VIRTUAL CONFERENCE*
4. **Oral Evaluation Committee** of the "**Italian Virtual Workshop on Fuel Cells**" (IVWFC 2021) sponsored by the Italian Division of Electrochemistry and the International Society of Electrochemistry. 16-19 March **2021**. *VIRTUAL CONFERENCE*
3. **Poster Evaluation Committee** for Symposium 6 at the *71st Annual Meeting of the International Society of Electrochemistry.* 3-4 September **2020**. Belgrade, Serbia. *VIRTUAL CONFERENCE*
2. **Award Evaluation Committee co-Chair IEEE Nano 2020** (Institute of Electrical and Electronics Engineers)**.** 29-31 July **2020**. *VIRTUAL CONFERENCE*
1. **Poster Evaluation Committee** for Symposium 8 at the *70th Annual Meeting of the International Society of Electrochemistry.* 4-9 August **2019**. Durban, South Africa.

Conference/Workshop Session Chair (14)

14. **Session Chair** at the *75th Annual Meeting of the International Society of Electrochemistry.* 18 - 23 August **2024**. Montreal, Canada
13. **Session Chair** at the workshop **"**Hydrogen's Role from academy to industry". University of Milano-Bicocca, Milan, Italy. 13th June **2024**.
12. **Session Chair** at the 37th Topical Meeting of the International Society of Electrochemistry. 9-12 June **2024**. Stresa, Italy.
11. **Session Chair** at the *36th Topical Meeting of the International Society of Electrochemistry "Marine and Environmental Electrochemistry". 26-28 May 2024. Šibenik, Croatia*
10. **Session Chair** at the *74th Annual Meeting of the International Society of Electrochemistry.* 3 - 8 September **2023**. Lyon, France
9. **Session Chair** at the *73rd Annual Meeting of the International Society of Electrochemistry.* 12 - 16 September **2022**. VIRTUAL *CONFERENCE*
8. **Session Chair** at the *72nd Annual Meeting of the International Society of Electrochemistry.* 29 August - 3 September **2021**. Jeju Island, Korea. *HYBRID CONFERENCE*
7. **Session Chair** at the *29th Topical Meeting of the International Society of Electrochemistry.* 18-21 April **2021**. Mikulov, Czech Republic. *VIRTUAL CONFERENCE*
6. **Session Chair** during the session related to platinum group metal-free electrocatalysts at the "**Italian Virtual Workshop on Fuel Cells**" (IVWFC 2021) sponsored by the Italian Division of Electrochemistry and the International Society of Electrochemistry. 16-19 March **2021**. *VIRTUAL CONFERENCE*
5. **Session Chair** for Division 2 Symposium "**Advances in Microbial Electrochemistry for Energy Conversion, Biotransformation, Bioremediation and Electroanalysis**" at the 71st Annual Meeting of the International Society of Electrochemistry. 3-4 September **2020**. Belgrade, Serbia. *VIRTUAL CONFERENCE*
4. **Session Chair IEEE Nano 2020** (Institute of Electrical and Electronics Engineers)**.** 29-31 July **2020**. *VIRTUAL CONFERENCE*
3. **Session Chair** in the Symposium dedicated to Electrocatalysis at the 8th International Conference on "Fundamentals & Development of Fuel Cells" FDFC2019, 12-14 February **2019**, Nantes, France.
2. **Session Chair** at the Workshop related to the platinum group metals-free (PGM-free): "1st Italian Electrochemical Discussion on the latest PGM-free insights for Energy Systems and Fuel Cells", Turin, Italy, 8 February **2019**.
1. **Session Chair** in the Symposium "Ionics in Biological System and Life Sciences" during the 21st International Conference on Solid State Ionics (SSI-21) held in Padua (Italy), 18-23 June **2017**.

JOURNAL PUBLICATIONS (*updated on August 17th, 2024*)

Published (131) – Reviews (15) – Editorial (6)

First author (47) – Corresponding author (54) – Without PhD advisor (105)

2011 (2); 2012 (5); 2013 (10); 2014 (9); 2015 (9); 2016 (12); 2017 (12); 2018 (11); 2019 (12); 2020 (10); 2021 (10); 2022 (11); 2023 (11); 2024 (7)

Total IF: 834.738 (updated to 2024 considering IF of the correct year)

Average IF: 6,42 (updated to 2024 considering IF of the correct year)

H-index = 52; i10-index = 108; Citations = 8326 (Google Scholar)
H-index = 48; i10-index = 106; Citations = 6835 (Scopus)
H-index = 44; i10-index = 105; Citations = 6012 (Isi Web of Science)

131. S.A. Mirshokraee, M. Muhyuddin, N. Pianta, E. Berretti, L. Capozzoli, J. Orsilli, F. d'Acapito, R. Viscardi, Rosanna, A. Cosenza, P. Atanassov, **C. Santoro**, A. Lavacchi. Ni-phthalocyanine derived electrocatalysts for oxygen reduction reaction and hydrogen evolution reaction: active sites formation and electrocatalytic activity. ***ACS Catalysis*** **2024**, **ACCEPTED**. **OPEN ACCESS** DOI: 10.1021/acscatal.4c03814 **(IF 2023: 11.3)**

130. H.C. Honig, S. Mostoni, Y. Presman, R. Z. Snitkoff-Sol, P. Valagussa, M. D'Arienzo, R. Scotti, **C. Santoro**, M. Muhyuddin, L. Elbaz. Morphological and Structural Design Through Hard-Templating of PGM-Free Electrocatalysts for AEMFC Applications. ***Nanoscale*** **2024**, 16, 11174 - 11186. DOI: 10.1039/D4NR01779J. **(IF 2023: 5.8) OPEN ACCESS**

129. G. Zuccante, M. Acciarri, C. Lo Vecchio, I. Gatto, V. Baglio, N. Pianta, R. Ruffo, L. Navarini, **C. Santoro***. Oxygen reduction reaction platinum group metal-free electrocatalysts derived from spent coffee grounds. ***Electrochimica Acta*** **2024**, 492, 144353. DOI: 10.1016/j.electacta.2024.144353 **(IF 2023: 5.5) *corresponding author.**

128. M. Muhyuddin, G. Zuccante, P. Mustarelli, J. Filippi, A. Lavacchi, L. Elbaz, Y.-H. Chen, P. Atanassov, **C. Santoro*.** Urea Electrochemical Production Using Carbon Dioxide and Nitrate: State of the Art and Perspectives. ***Energy and Environmental Science*** **2024**, 17, 3739 – 3752. DOI: 10.1039/D4EE00561A (**IF 2023: 32.4**) **OPEN ACCESS *corresponding author. REVIEW**

127. G. Zuccante, M. Muhyuddin, V.C.A. Ficca, E. Placidi, M. Acciarri, N. Lamanna, A. Franzetti, L. Zoia, M. Bellini, E. Berretti, A. Lavacchi, **C. Santoro***. Transforming Cigarette Wastes into Oxygen Reduction Reaction Electrocatalyst: Does Each Component Behave Differently? An Experimental Evaluation. ***ChemElectroChem*** **2024**, e202300725 DOI: 10.1002/celc.202300725. (**IF 2023: 3.5**) **OPEN ACCESS *corresponding author.**

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3. **C. Santoro**, Y. Lei, B. Li, P. Cristiani. Power Generation from Wastewater using Single Chamber Microbial Fuel Cells (MFCs) with Platinum-free Cathodes and Pre-colonized Anodes. ***Biochemical Engineering Journal*** **2012**, 62, 8-16. DOI: 10.1016/j.bej.2011.12.006. **(IF 2012: 2.692)**
2. **C. Santoro**, A. Agrios, U. Pasaogullari, B. Li. Effect of Gas Diffusion Layer (GDL) and Micro Porous Layer (MPL) on Cathode Performance in Microbial Fuel Cells (MFCs). ***International Journal of Hydrogen Energy*** **2011**, 36(20), 13096-13104. DOI: 10.1016/j.ijhydene.2011.07.030. **(IF 2011: 4.054)**
1. A. Casalegno, **C. Santoro**, F. Rinaldi, R. Marchesi. Low Methanol Crossover and High Efficiency Direct Methanol Fuel Cell: The Influence of Diffusion Layer. ***Journal of Power Sources*** **2011**, 196, 2669-2675. DOI: 10.1016/j.jpowsour.2010.11.050. **(IF 2011: 4.95)**

BOOK CHAPTER (3)

3. F. Poli, F. Soavi, **C. Santoro**. Chapter 8: Supercapacitive microbial fuel cells. **Book: 'Biological Fuel Cells'.** Edited by Mostafa Rahimnejad. Publisher: Elsevier.
2. **C. Santoro**, M. Brown, I. Gajda, J. Greenman, T. Obata, M.J. Salar Garcia, P. Theodosiou, A. Walter, J. Winfield, J. You, I. Ieropoulos. Chapter: Microbial fuel cells, Concept and Applications. **Book: 'Handbook of Cell Biosensors'.** Edited by Gérald Thouand. Publisher: Springer Nature. ISBN: 978-3-030-23217-7. Application of Biosensors. Pages 875-909
1. **C. Santoro**, D. Pankratov, I. Ieropoulos, F. Soavi. *Chapter 10*: Supercapacitors in Bioelectrochemical Systems. **Book: 'Bioelectrochemistry: Design and Applications of Biomaterials'.** Edited by Serge Cosnier. Publisher: De Gruyter. ISBN 978-3-11-056898-1. DOI : 10.1515/9783110570526-010

CONFERENCE PROCEEDINGS (1)

1. **C. Santoro**, B. Li, P. Cristiani. Novel Platinum (PT)-Free Cathodes for Microbial Fuel Cells (MFCs) Treating Wastewater. ***Proceedings of the Water Environment Federation*****, WEFTEC 2011**, Session 71-80, pp.4989-4994. DOI: 10.2175/193864711802765354.

SUMMER SCHOOL PARTICIPATION (3)

3. **International School on Electrocatalysis (EL-CATS)**. September 10-15, **2023**. Trento, Italy.
2. **5th International Summer School on Advanced studies of Polymer Electrolyte Fuel Cells**, Graz University of Technology, September 3-7, **2012**, Graz, Austria.
1. BIOCORR Summer School: **Understanding Biocorrosion: Fundamentals and Applications**, University of Portsmouth, July 25-30, **2011**, Portsmouth, UK.

CONFERENCE/WORKSHOP PARTICIPATION (56)

56. 75th *Annual Meeting of the International Society of Electrochemistry.* 18-23 August **2024**, Montreal, Canada.
55. 44th Annual Meeting of the RSEQ Specialized Group in Electrochemistry and 5th E3 Mediterranean Symposium E3MS. 3-5 July **2024**, Bilbao, Spain.
54. Workshop "Hydrogen's Role from academy to industry". University of Milano-Bicocca, Milan, Italy. 13th June **2024**.
53. 37th Topical Meeting of the International Society of Electrochemistry. 9-12 June **2024**. Stresa, Italy.
52. 36th Topical Meeting of the International Society of Electrochemistry "Marine and Environmental Electrochemistry". 26-28 May **2024**. Šibenik, Croatia.
51. Presentazione della filiera sull'idrogeno di Regione Lombardia. 7 November **2023**, Pizzighettone (CR), Italy
50. Green Hydrogen Generation, Transport And Application: German-Italian Perspectives On The Energy Transition And Hydrogen Economy. 11-12 October **2023**, Berlin, Germany
49. Giornate dell'Electrochimica Italiana. 17-21 September **2023**, Cefalù, Italy
48. 74th *Annual Meeting of the International Society of Electrochemistry.* 3-8 September **2023**, Lyon, France.
47. PRACE Winter School: Foundations of catalysis and catalytic processes and their digital twin with supercomputing investigations, 21-25 November **2022**, Sofia, Bulgaria

46. 5th Israeli Fuel Cell Consortium Workshop, 14-16 November **2022**, Tel Aviv, Israel.
45. *Nano Innovation Conference & Exhibition* 2022, 19-23 September **2022**, Rome, Italy
44. *Giornate dell'elettrochimica Italiana – GEI 2022 (Italian Electrochemical Days)*, 11-15 September **2022**, Orvieto, Italy.
43. *73rd Annual Meeting of the International Society of Electrochemistry.* 12 - 16 September **2022**. *VIRTUAL CONFERENCE*.
42. 3rd Coatings and Interfaces Conference - Part of the Coatings and Interfaces series. 24–26 November **2021**. *VIRTUAL CONFERENCE*
41. *Workshop Waste-Water-Energy as Resource for a Sustainable Future. Organized by the Embassy of Italy in South Africa. 11 November* **2021.** *VIRTUAL CONFERENCE*
40. *9th International Conference of FMNS (FMNS-2021).* 15 - 19 September **2021**. Blagoevgrad, Bulgaria. *HYBRID CONFERENCE*
39. *72nd Annual Meeting of the International Society of Electrochemistry.* 29 August - 3 September **2021**. Jeju Island, Korea. *HYBRID CONFERENCE*
38. *XXVI International Symposium on Bioelectrochemistry and Bioenergetics*, 9-13 May **2021**, Cluj-Napoca, Romania. *VIRTUAL CONFERENCE*
37. *29th ISE Topical Meeting of the International Society of Electrochemistry*, Energy and water: electrochemistry in securing the sustainable society development. 18 - 21 April **2021**, Mikulov, Czech Republic. *VIRTUAL CONFERENCE*
36. *Italian Virtual Workshop on Fuel Cells (IVWFC 2021).* 16-19 March **2021**. *VIRTUAL CONFERENCE*
35. *71st Annual Meeting of the International Society of Electrochemistry*. 3-4 September **2020**. *VIRTUAL CONFERENCE*.
34. *20th IEEE International Conference on Nanotechnology (IEEE-NANO 2020).* 29-31 July **2020**. *VIRTUAL CONFERENCE*.
33. *Giornata dell'elettrochimica Italiana (GEI 2019)*, 8-12 September **2019**, Padua, Italy.
32. Satellite ISE Meeting Workshop: "Waste-Water-Energy as a Resource for a Sustainable Future". University of KwaZulu-Natal, Durban, South Africa. 7th and 9th August **2019**.
31. *70th Annual Meeting of the International Society of Electrochemistry*. 4-9 August **2019**. Durban, South Africa.
30. *8th International Conference on "Fundamentals & Development of Fuel Cells" FDFC2019,* 12-14 February **2019**, Nantes, France.
29. *1st Italian Electrochemical Discussion on the latest PGM-free insights for Energy Systems and Fuel Cells,* 8 February **2019**, Politecnico di Torino, Turin, Italy.
28. *ECS and SMEQ Joint International Meeting*, September 30 – October 4 **2018**, Cancun, Mexico
27. *69th Annual Meeting of the International Society of Electrochemistry*. 2-7 September **2018**. Bologna, Italy.
26. *International Conference on "Water, Environment and Climate Change: Knowledge Sharing and Partnership"*, 10-12 April **2018**, Kathmandu, Nepal.
25. *7th European Fuel Cell Conference and Exhibition*, Piero Lunghi Conference, 12-15 December **2017**, Naples, Italy.
24. *68th Annual Meeting of the International Society of Electrochemistry*. 27 August – 1 September **2017**. Providence-RI, USA
23. *XXIV International Symposium on Bioelectrochemistry and Bioenergetics*, 3-7 July **2017**, Lyon, France
22. *21st International Conference of Solid State Ionics (SSI-21)*, 18-23 June **2017**, Padua, Italy.
21. *11th European Symposium on Electrochemical Engineering*, 4-8 June **2017**, Prague, Czech Republic
20. *229th Electrochemical Society Meeting*, 29 May – 3 June **2016**. San Diego-CA USA.
19. *PacificChem 2015*, 15-20 December **2015**, Honolulu-HI USA.
18. *5th International Society of Microbial Electrochemical Technology Conference* (ISMET), 1-4 October **2015**, Tempe-AZ, USA.
17. *227th Electrochemical Society Meeting*, 24-28 May **2015**. Chicago-IL, USA.
16. *226th Electrochemical Society Meeting*, 5-10 October **2014**. Cancun, Mexico.
15. *2014 Surface Analysis Meeting. 36th Symposium on Applied Surface Analysis*, 2-5 June **2014**. Albuquerque-NM USA.
14. *225th Electrochemical Society Meeting*, 11-16 May **2014**. Orlando-FL USA.
13. *5th European Fuel Cell Conference and Exhibition*, Piero Lunghi Conference,14-16 December **2013**, Rome Italy.
12. *Northeast Water Environment Association (NEWEA) Meeting*, April 3, **2013**, Worcester-MA, USA.
11. *Association of Environmental Engineering and Science Professors (AEESP)*, February 27, **2013**, UMass, Amherst-MA, USA.
10. *222th Electrochemical Society Meeting*, 7-12 October, **2012**. Honolulu-HI USA.
9. *European-International Society for Microbial Electrochemistry and Technology (EU-ISMET)*, September 26-

28 **2012**, Ghent Belgium.

8. *Euro-Mediterrean Hydrogen Technology Conference (EMHyTeC) 2012*, September 11-14 **2012**, Hammamet-Tunisia.
7. *5th International Summer School on Advanced studies of Polymer Electrolyte Fuel Cells*, Graz University of Technology, September 3-7 **2012**, Graz, Austria.
6. *21st Connecticut Microelectronics and Optoelectronics Consortium (CMCO)*, April 11 **2012**, Storrs-CT, USA.
5. *243rd American Chemical Society (ACS) National Meeting*, March 25-29 **2012**, San Diego-CA, USA.
4. *4th European Fuel Cell Conferences and Exhibition*, Piero Lunghi Conference, 14-16 December **2011**, Rome Italy
3. *220th Electrochemical Society Meeting*, 9-14 October **2011**. Boston-MA USA.
2. *3rd International Microbial Fuel Cell Conference (ISMET)*, 6-8 June **2011**, Leeuwarden, The Netherlands.
1. *Giornata dell'elettrochimica Italiana (GEI-ERA)*, 15-20 June **2008**, Genoa, Italy

CONFERENCE – ORAL PRESENTATION (93)

(48 – as presenter and 45 – as co-author *presenter)
16 Invited, 5 Keynote and 2 Plenary Lecture

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93. R. Viscardi*, **C. Santoro**, G. Maestri. Renewable DME production from green hydrogen and CO_2. 8th World Congress on Materials Science and Engineering (Mat-Science 2024). 8-10 November **2024**, Hong Kong.

92. A. Rosatelli*, F. Formicola, T. Stella, **C. Santoro**, N. Lamanna, L. Serbolisca, A. Franzetti. Sviluppo di biochar microbiologicamente attivato in processi di biorisanamento. REMTECH EXPO 18-20 September **2024**, Ferrara, Italy ***(IN PROGRESS)***

91. M. D'Arienzo*, P. Mariani, S. Mascotto, S. Mostoni, **C. Santoro**, R. Scotti, B. Di Credico, R. Nisticò, M. Stredansky, L. Gabellini, A. Grainca, C. Pirola. Cu and Fe surface species onto ceramic supports: a platform for developing unconventional catalysts and electrocatalysts for sustainable energy applications. 2024 Fall Meeting of the European Materials Research Society (E-MRS). 16-19 September **2024**, Warsaw, Poland. **(INVITED presentation)** ***(IN PROGRESS)***

90. M. Muhyuddin*, E. Berretti, S. A. Mirshokraee, J. Orsilli, R. Lorenzi, L. Capozzoli, F. D'Acapito, E. Murphy, S. Guo, P. Atanassov, A. Lavacchi, **C. Santoro**. Evolution of Active Sites in Iron Phthalocyanine Functionalized Carbon during Pyrolysis: Transforming into Active Fe-Nx-C Electrocatalysts for Oxygen Reduction Reaction. CRC 1487, Symposium 2024 "Understanding Iron & Friends". 3-5 September **2024**, Darmstadt, Germany.

89. M. Muhyuddin*, H. C. Honig, S. Mostoni, P. Valagussa, M. D'Arienzo, R. Scotti, L. Elbaz, **C. Santoro**. Functionalized Templatation: Precision Engineering of Fe-N-Cs Active Structure for Oxygen Reduction Reaction. XXVIII National Congress of Italian Society of Chemistry. 26-30 August **2024**, Milan, Italy.

88. **C. Santoro*.** Oxygen Reduction Reaction: designing electrocatalysts moving from neutral to alkaline electrolytes. 75th *Annual Meeting of the International Society of Electrochemistry.* 18-23 August **2024**, Montreal, Canada. **(KEYNOTE presentation)**

87. L. Mirizzi*, M. Muhyuddin, **C. Santoro.** Electrocatalysts Testing and optimization of deposition methods for the preparation of the electrodes. Procedure 1.1.3. Agreement ENEA – University of Milano-Bicocca. 2023-2025. Organismi di Ricerca e Università insieme per lo sviluppo della filiera nazionale dell'idrogeno. 16-17 July **2024**, Rome, Italy. **(INVITED presentation)**

86. **C. Santoro*.** Platinum group metal-free Oxygen Reduction Reaction electrocatalysis in neutral and alkaline electrolytes. 44th Annual Meeting of the RSEQ Specialized Group in Electrochemistry and 5th E3 Mediterranean Symposium E3MS. 3-5 July **2024**, Bilbao, Spain. **(KEYNOTE presentation)**

85. A. Mirshokraee*, M. Muhyuddin, E. Berretti, A. Lavacchi, A. Cosenza, P. Atanassov **C. Santoro**. Formation of the active site structures during pyrolysis transformation of Ni-phthalocyanine into electrocatalysts for hydrogen evolution reaction and the oxygen reduction reaction. 9th Symposium on Hydrogen, Fuel Cells and Advanced Batteries, June 30th - July 3rd, **2024**. Milazzo, Italy.

84. **C. Santoro***, F. Soavi**.** Microbial fuel cells power output improved by using internal and external totally green supercapacitor. 36th Topical Meeting of the International Society of Electrochemistry "Marine and Environmental Electrochemistry". 26-28 May **2024**. Šibenik, Croatia.

83. A. Rosatelli*, F. Formicola, **C. Santoro**, N. Lamanna, L. Serbolisca, A. Franzetti, A. Sviluppo di un toolbox per l'utilizzo di biochar microbiologicamente attivato in processi di biorisanamento. Workshop SiCon 2024 – XV Edizione - Centro Studi Ingegneria Sanitaria Ambientale. 8-10 February **2024**, Taormina, Italy

82. M. Muhyuddin, L. Capozzoli, E. Berretti, E. Murphy, S. Guo, A. Lavacchi, *P. Atanassov, **C. Santoro.** Iron-Phthalocyanine based oxygen reduction reaction electrocatalyst: structure-performance relationship evolution during pyrolysis. *244th Electrochemical Society Meeting*, 8–12 October **2023**. Gothenburg, Sweden.

81. **C. Santoro*.** Oxygen reduction reaction on iron-phthalocyanine derived electrocatalysts: effects of temperature on surface chemistry and performance. Giornate dell'Electrochimica Italiana. 17-21 September **2023**, Cefalù, Italy (**KEYNOTE presentation)**
80. V.C.A. Ficca*, **C. Santoro,** E. Placidi, A. Serov, P. Atanassov, B. Mecheri. Discriminating the poisoning of primary and secondary active sites of iron-based platinum-group-metal-free electrocatalysts for the oxygen reduction reaction. 74th *Annual Meeting of the International Society of Electrochemistry.* 3-8 September **2023**, Lyon, France.
79. M. Muhyuddin*, A. Lavacchi, L. Capozzoli, E. Berretti, E. Murphy, S. Guo, P. Atanassov, **C. Santoro**. Evolution of Fe-N-C Oxygen Reduction Reaction Electrocatalyst during Pyrolysis: A Processing-Structure-Performance Relationship. 74th *Annual Meeting of the International Society of Electrochemistry.* 3-8 September **2023**, Lyon, France.
78. **C. Santoro*.** Oxygen Reduction Reaction Electrocatalysis in neutral media: role of inorganic catalysts, enzymes and bacteria. *PRACE Winter School: Foundations of catalysis and catalytic processes and their digital twin with supercomputing investigations*, 21-25 November **2022,** Sofia, Bulgaria (**INVITED presentation)**
77. **C. Santoro*.** Designing platinum group metal-free electrocatalysts for fuel cells and electrolyzers derived from wastes. *5th Israeli Fuel Cell Consortium Workshop*, 14-16 November **2022**, Tel Aviv, Israel. (**INVITED presentation)**
76. **C. Santoro*.** Platinum group metal-free electrocatalysts derived from wastes for fuel cells and electrolyzers. *Nano Innovation Conference & Exhibition* 2022, 19-23 September **2022**, Rome, Italy. (**INVITED presentation)**
75. **C. Santoro*,** P. Bollella. Electrocatalysis in neutral media: role of inorganic catalysts, enzymes and bacteria in the oxygen reduction reaction. *Giornate dell'elettrochimica Italiana – GEI 2022 (Italian Electrochemical Days)*, 11-15 September **2022**, Orvieto, Italy. (**KEYNOTE presentation)**
74. M. Muhyuddin, F. Poli, E. Petri, F. Basile, A. Fasolini, L. Elbaz, F. Soavi, **C. Santoro***. Lignin derived bimetallic platinum group metal-free electrocatalysts for the oxygen reduction reaction in acid and alkaline media. *73rd Annual Meeting of the International Society of Electrochemistry.* 12 - 16 September **2022**. *VIRTUAL CONFERENCE*.
73. M. Muhyuddin*, D. Testa, R. Lorenzi, G. M. Vanacore, F. Poli, F. Soavi, W. Giurlani, M. Innocenti, L. Rosi, **C. Santoro**. Development of Fe-N-C Electrocatalysts for Oxygen Reduction Reaction using Waste Tires as a Cost-effective Carbon Source. *Regional Meeting of the International Society of Electrochemistry***.** 15 - 19 August **2022**, Prague, Czech Republic (Regional Meeting)
72. F. Poli, **C. Santoro**, N. Manyala, F. Soavi. Green Supercapacitive Systems. 7th International Symposium on Enhanced Electrochemical Capacitors, ISEECap 11-15 July **2022**, Bologna, Italy
71. **C. Santoro*.** Tuning surfaces to improve bacterial attachment in bioelectrochemical systems. 3rd Coatings and Interfaces Conference - Part of the Coatings and Interfaces series. 24–26 November **2021**. *VIRTUAL CONFERENCE* (**INVITED presentation)**
70. M. Muhyuddin*, J. Filippi, L. Zoia, S. Bonizzoni, R. Lorenzi, E. Berretti, C. Ferrara, A. Lavacchi, **C. Santoro.** Upcycling of Disposable Surgical Masks into Platinum Group Metal-free Electrocatalysts for Oxygen Reduction Reaction and Crude Oil. *30th Annual Meeting of the International Society of Electrochemistry.* 21-24 November **2021**, Taipei, Taiwan. *VIRTUAL CONFERENCE*.
69. M. Muhyuddin*, **C. Santoro**. Upcycling of Plastic Waste into PGM-free Electrocatalysts: Progression Towards Sustainability. *Workshop Waste-Water-Energy as Resource for a Sustainable Future. Organized by the Embassy of Italy in South Africa*. 11 November **2021**. *VIRTUAL CONFERENCE* (**INVITED presentation)**
68. **C. Santoro*.** Oxygen Reduction Reaction in neutral media: advancements and limitations. *9th International Conference of FMNS (FMNS-2021).* 15 - 19 September **2021**. Blagoevgrad, Bulgaria. *HYBRID CONFERENCE* (**PLENARY Lecture)**
67. F. Poli*, **C. Santoro**, N. Manyala, F. Soavi. Sustainable strategies to improve MFC power output by green supercapacitors and supercapacitive components. *XXVII Congresso Nazionale della Societa' Chimica Italiana.* 14-23 September **2021**. VIRTUAL CONFERENCE.
66. **C. Santoro*.** Microbial Electrochemical Systems: Improvements through Cathode Electrocatalysis and Supercapacitive Mode Operations. *72nd Annual Meeting of the International Society of Electrochemistry.* 29 August - 3 September **2021**. Jeju Island, Korea. *HYBRID CONFERENCE* (**KEYNOTE Award Lecture)**
65. F. Poli*, **C. Santoro**, N. Manyala, F. Soavi. Sustainable strategies to boost MFC power by green supercapacitors and supercapacitive components. *72nd Annual Meeting of the International Society of Electrochemistry.* 29 August - 3 September **2021**. Jeju Island, Korea. *HYBRID CONFERENCE*
64. **C. Santoro***, K. Artyushkova, P. Atanassov, S. Babanova, A. Bergel, O. Bretschger, R.K. Brown, K. Carpenter, A. Colombo, R. Cortese, P. Cristiani, B. Erable, F. Harnisch, Mounika Kodali, S. Phadke, S.

Riedl, L.F.M. Rosa, U. Schröder. How comparable are microbial electrochemical systems around the globe? An electrochemical and microbiological cross-laboratory study. *XXVI International Symposium on Bioelectrochemistry and Bioenergetics*, 9-13 May **2021**, Cluj-Napoca, Romania. *VIRTUAL CONFERENCE*

63. F. Soavi*, F. Poli, **C. Santoro**, N. Manyala. Valorization of Biodigestor Wastes in Supercapacitors and Microbial Fuel Cells. *29th Annual Meeting of the International Society of Electrochemistry.* 18-21 April **2021**, Mikulov, Czech Republic. *VIRTUAL CONFERENCE*. (**INVITED presentation)**

62. **C. Santoro***, S. Babanova, P. Cristiani, K. Artyushkova, P. Atanassov, A. Bergel, O. Bretschger, R.K. Brown, K. Carpenter, A. Colombo, R. Cortese, B. Erable, F. Harnisch, M. Kodali, S. Phadke, S. Riedl, L.F.M. Rosa, U. Schröder. Cross-Laboratory test on operating microbial fuel cells: Electrochemical and Microbiological analysis. *29th Annual Meeting of the International Society of Electrochemistry.* 18-21 April **2021**, Mikulov, Czech Republic. *VIRTUAL CONFERENCE*.

61. C. Ferrara, A. S. Cattaneo, S. Bonizzoni, **C. Santoro**, P. Mustarelli*. Operando electrochemical NMR microscopy of polymer fuel cells. *Italian Virtual Workshop on Fuel Cells (IVWFC 2021).* 16-19 March **2021**. *VIRTUAL CONFERENCE* (**INVITED presentation)**

60. V.C.A. Ficca*, **C. Santoro,** P. Atanassov, B. Mecheri. Fingerprint of Fe-N-C catalysts poisoning for ORR application in microbial fuel cells. 71st Annual Meeting of the International Society of Electrochemistry. 2-3 September **2020**. *VIRTUAL CONFERENCE*.

59. M. Mashkour*, F. Poli, M. Rahimnejad, M. Mashkour, **C. Santoro**, F. Soavi. Capacitive Performance of Polyaniline Modified Conductive Bacterial Cellulose as Anode in Supercapacitive Microbial Fuel Cell. 71st Annual Meeting of the International Society of Electrochemistry. 2-3 September **2020**. *VIRTUAL CONFERENCE*.

58. F. Soavi*, F. Poli, F.E. Spina, A. Brilloni, M. Mashkour, M.S. El Halimi, M.L. Focarete, C. Santato, **C. Santoro**, B.K. Mutuma, A. Bubu, N. Manyala. Supercapacitors within the Water-Energy Nexus. *2019 MRS Fall Meeting and Exhibit*, 1-6 December **2019**, Boston-MA USA.

57. **C. Santoro***, S. Rojas-Carbonell, A. Serov, K. Artyushkova, P. Atanassov. Correlations between synthesis step and performance of Fe-based PGM-free catalysts in entire pH spectrum. *Giornata dell'elettrochimica Italiana – GEI 2019 (Italian Electrochemical Days)*, 8-12 September **2019**, Padua, Italy. (**INVITED presentation)**

56. V.C.A. Ficca*, B. Mecheri, **C. Santoro**, A. D'Epifanio, S. Licoccia, P. Atanassov. Insights into oxygen reducing activity and poisoning tolerance of platinum-group-metal-free catalysts. *Giornata dell'elettrochimica Italiana – GEI 2019 (Italian Electrochemical Days)*, 8-12 September **2019**, Padua, Italy.

55. **C. Santoro***. Bioelectrochemical Systems: Why they are interesting. *Satellite ISE Meeting Workshop: "Waste-Water-Energy as a Resource for a Sustainable Future".* University of KwaZulu-Natal, Durban, South Africa. 7th and 9th August **2019**. (**INVITED presentation)**

54. I. Gajda, O. Obata, J. Greenman, **C. Santoro***, I. Ieropoulos. Electroosmotic production of clear caustic filtrate from human urine in ceramic Microbial Fuel Cells. *70th Annual Meeting of the International Society of Electrochemistry.* 4-9 August **2019**. Durban, South Africa.

53. **C. Santoro***, X.A. Walter, J. Greenman, F. Soavi, I. Ieropoulos. Self-powered supercapacitive membraneless microbial fuel cell with air-breathing configuration, *70th Annual Meeting of the International Society of Electrochemistry.* 4-9 August **2019**. Durban, South Africa. (**INVITED presentation)**

52. X.A Walter*, **C. Santoro**, J. Greenman, I.A. Ieropoulos. Scalability of and stacking of self-stratifying microbial fuel cells treating urine. *European Fuel Cell Forum (EFCF 2019). Low-Temperature Fuel Cells, Electrolysers & H_2 Processing Fundamentals and Engineering Design. 3rd MEEP Symposium 2019: Microbial & Enzymatic Electrochemical Reactors.* Fuel Cells & Electrolysers Systems. 2-5 July **2019**, Lucerne, Switzerland.

51. V.C.A. Ficca*, B. Mecheri, **C. Santoro**, A. D'Epifanio, S. Licoccia, P. Atanassov. Poisoning tolerance of platinum-group-metal-free catalysts for the oxygen reduction reaction. *VIII Workshop AICIng (Associazione Italiana di Chimica per l'Ingegneria) "Advanced Materials for sustainable Energy, Environment and Sensing Application*. 27-29 June **2019**, Lipari, Italy.

50. **C. Santoro*,** J. Greenman, I. Ieropoulos. Microbial fuel cell as interesting category of fuel cells capable of operating with a multitude of organic molecules. *8th International Conference on "Fundamentals & Development of Fuel Cells" FDFC2019,* 12-14 February **2019**, Nantes, France. (**INVITED presentation)**

49. **C. Santoro*. Closure talk.** *1st Italian Electrochemical Discussion on the latest PGM-free insights for Energy Systems and Fuel Cells,* 8 February **2019**, Politecnico di Torino, Turin, Italy. (**INVITED presentation)**

48. F. Soavi*, J. Seri, A. Terella, F. De Giorgio, F. Poli, A. Brilloni, R.A. Albis Vasquez, D. Fabiani, M.L. Focarete, C. Santato, **C. Santoro**, N. Manyala. Bio-Inspired Supercapacitors. *2018 MRS Fall Meeting and Exhibit*, 25-30 November **2018**, Boston-MA USA.

47. I. Gajda, J. Greenman, **C. Santoro***, A. Serov, P. Atanassov, I. Ieropoulos. Small Ceramic Microbial Fuel Cell as a Trigenerative System for Electricity, Organics Degradation and Urine Filtration. *ECS and SMEQ Joint International Meeting*, September 30 – October 4 **2018**, Cancun, Mexico.

46. F. Soavi*, F. Poli, A. Brilloni, A. Terella, J. Seri, F. De Giorgio, **C. Santoro**, K. Malaye, D. Momodu, B. Mutuma, N. Manyala. Inorganic Oxide-based Supercapacitors for Energy and Water Sustainability. *XLVI Congresso Nazionale di Chimica Inorganica*, 10-13 September **2018**, Bologna, Italy.

45. **C. Santoro***, X.A. Walter, J. Greenman, F. Soavi, I. Ieropoulos. Self-powered and Self-stratified Micro Supercapacitor Operating with Human Urine. *69th Annual Meeting of the International Society of Electrochemistry*. 2-7 September **2018**. Bologna, Italy.

44. I. Ieropoulos, O. Obata, I. Gajda, A. Walter, **C. Santoro***, J. Greenman. URINE-TRICITY: Microbial Fuel Cells as a Platform Technology for Urine Treatment, Power Generation, Catholyte Production and Pathogen Killing. *International Conference on "Water, Environment and Climate Change: Knowledge Sharing and Partnership"*, 10-12 April **2018**, Kathmandu, Nepal.

43. I. Merino-Jimenez, **C. Santoro***, P. Atanassov, J. Greenman, I. Ieropoulos. Microbial Desalination Cell Cascade. *7th European Fuel Cell Conference and Exhibition*, *Piero Lunghi Conference*, 12-15 December **2017**, Naples, Italy.

42. B. Mecheri*, R. Gokhale, **C. Santoro**, M. Aysla Costa de Oliveira, A. D'Epifanio, S. Licoccia, A. Serov, K. Artyushkova, P. Atanassov. Novel Iron Based Catalyst using Aminobenzimidazole and Benzimidazole as Organic Precursor for Microbial Fuel Cell Applications. *7th European Fuel Cell Conference and Exhibition*, *Piero Lunghi Conference*, 12-15 December **2017**, Naples, Italy.

41. **C. Santoro***, F. Soavi, M. Kodali, A. Serov, P. Atanassov. Self-charging Microbial Desalination Cells: New Class of Power Generating and Water Destination Devices, *68th Annual Meeting of the International Society of Electrochemistry*. 27 August – 1 September **2017**. Providence-RI, USA.

40. **C. Santoro*,** A. Serov, F. Soavi, P. Atanassov, Utilization of Supercapacitive Feautures in Bioelectrochemical Systems, *XXIV International Symposium on Bioelectrochemistry and Bioenergetics*, 3-7 July **2017**, Lyon, France **(INVITED presentation)**

39. **C. Santoro*,** M. Kodali, F. Benito Abad, A. Serov, F. Soavi, P. Atanassov, Supercapacitive Microbial Desalination Cell, *21st International Conference of Solid State Ionics (SSI-21)*, 18-23 June **2017**, Padua, Italy.

38. K. Artyushkova*, M. Workman, **C. Santoro**, I. Gonzales, A. Serov, P. Atanassov. Interplay Between Surface and Morphology of Electrocatalysts. *25th North American Catalysis Society Meeting*. 4-9 June, **2017**. Denver-CO USA.

37. **C. Santoro*,** F. Soavi, C. Arbizzani, A. Serov, P. Atanassov, Integrated Microbial Fuel Cell - Supercapacitor Systems**.** *11th European Symposium on Electrochemical Engineering*, 4-8 June **2017**, Prague, Czech Republic **(PLENARY Award Lecture)**

36. K. Artyushkova*, J.A. Cornejo, **C. Santoro**, D. Roizman, E. Marsili, P. Atanassov. Relationship between Surface Chemistry, Biofilm Structure and Electron Transfer in Shewanella Anodes. *230th Electrochemical Society Meeting*, 2-7 October, **2016**. Honolulu-HI USA.

35. F. Soavi*, C. Arbizzani, **C. Santoro**, A. Serov, P. Atanassov. Novel concepts of bioelectrochemical energy devices. *GEI 2016 – Giornate dell'elettrochimica italiana (Italian Electrochemical Days)*. 11-14 September, **2016**, Gargnano (BS), Italy.

34. S. Rojas-Carbonell*, S. Babanova, A. Serov, K. Artyushkova, M.J. Workman, **C. Santoro**, Y. Ulyanova, S. Singhal, P. Atanassov. Integration of Non-Platinum Metal Group Catalysts with Bilirubin Oxidase into a Hybrid Material for Oxygen Reduction Reaction: Interplay of Chemistry and Morphology. *229th Electrochemical Society Meeting*, 29 May – 3 June, **2016**. San Diego-CA USA.

33. A. Serov*, J.P. Gordon, **C. Santoro,** M. Padilla, K. Artyushkova, O.A. Baturina, S. Kazemi, T. Nickchi, P. Atanassov. CO_2 Electroreduction on Different Mono- and Bi-metallic Electrocatalysts: Synthesis, Characterization and Electrode Design. *229th Electrochemical Society Meeting*, 29 May – 3 June, **2016**. San Diego-CA USA.

32. **C. Santoro*,** A. Serov, S. Rojas-Carbonell, L. Stariha, J. Gordon, K. Artyushkova, P. Atanassov. Novel Fe-N-C Catalysts from Organic Precursors for Neutral Media and Microbial Fuel Cell Application. *229th Electrochemical Society Meeting*, 29 May – 3 June **2016**. San Diego-CA USA.

31. **C. Santoro*,** F. Soavi, A. Serov, C. Arbizzani, P. Atanassov. Self-Powered Supercapacitive Microbial Fuel Cell. *229th Electrochemical Society Meeting*, 29 May – 3 June **2016**. San Diego-CA USA.

30. **C. Santoro***, S. Babanova, K. Artyushkova, A. Serov, P. Atanassov. Enzymatic, Microbial or Abiotic Cathodic Catalysis in Bioelectrochemical Systems (BESs). *PacificChem 2015*, 15-20 December **2015**, Honolulu-HI USA.

29. **C. Santoro***, S. Babanova, A. Serov, K. Artyushkova, P. Atanassov. Designing Cathodes for Bioelectrochemical Systems: Enzymatic vs. Non-Platinum Catalysis for Oxygen Reduction. *5th International Microbial Fuel Cell Conference* (ISMET), 1-4 October **2015**, Tempe-AZ, USA.
28. **C. Santoro***, S. Babanova, P. Atanassov. From Chemical Fuel Cells to Biological Fuel Cells: Challenges and Directions. *227th Electrochemical Society Meeting*, 24-28 May **2015**. Chicago-IL, USA. (**INVITED presentation)**
27. J.A. Cornejo*, K. Arthyushkova, **C. Santoro**, S. Babanova, L. Ista, A.J. Schuler, P. Atanassov. Surface Chemistry Enhanced Microbial Electrodes: Biofilm Modeling and Characterization. *249th American Chemical Society (ACS) National Meeting*, March 22-26, **2015**, Denver-CO, USA.
26. K. Artyushkova*, **C. Santoro**, S. Babanova, J.A. Cornejo, L. Ista, A.J. Schuler, P. Atanassov. Surface Chemistry Enhanced Microbial Bioelectrocatalysis. *AVS (American Vacuum Society) 61st International Symposium and Exhibition (AVS-61)*. 9-14 November, **2014**. Baltimore-MD, USA.
25. **C. Santoro***, S. Babanova, P. Atanassov, S. Trasatti, P. Cristiani. Research and Study of Low Cost and Reliable Materials for Anode and Cathode Electrodes in Bioelectrochemical Systems (BESs): Scale Up of Materials for Real Application. *226th Electrochemical Society Meeting*, 5-10 October **2014**. Cancun, Mexico.
24. **C. Santoro***, S. Babanova, K. Artyushkova, J.A. Cornejo, L. Ista, A.J. Schuler, P. Atanassov. Surface Chemistry Enhanced Microbial Bioelectrocatalysis. *226th Electrochemical Society Meeting*, 5-10 October, **2014**. Cancun, Mexico.
23. **C. Santoro***, K. Artyushkova, S. Babanova, A. Schuler, P. Atanassov. Surface-to-property Characterization of Activated Carbon (AC) Cathodes in Biofuel Cell. *2014 Surface Analysis Meeting. 36th Symposium on Applied Surface Analysis*, 2-5 June **2014**. Albuquerque-NM USA.
22. K. Artyushkova*, S. Babanova, **C. Santoro**, P. Atanassov. Interplay between Surface and Morphology: Bio-nano-composites for Energy Harvesting. *2014 Surface Analysis Meeting. 36th Symposium on Applied Surface Analysis*, 2-5 June **2014**. Albuquerque-NM USA.
21. J. A. Cornejo*, **C. Santoro**, C. N. Villarrubia, K. Artyushkova, S. Babanova, L. K. Ista, P. Atanassov. Surface Modification of Carbon Felt Electrodes for Enhanced Biofilm Formation in Microbial Fuel Cells. *225th Electrochemical Society Meeting*, 11-16 May, **2014**. Orlando-FL USA.
20. M. Grattieri*, S. Babanova, **C. Santoro**, E. Guerrini, P. Cristiani, S. P. Trasatti, P. Atanassov. Enzymatic Oxygen Micro-Probe for Analysis of Microbial Fuel Cells. *225th Electrochemical Society Meeting*, 11-16 May, **2014**. Orlando-FL USA.
19. K. Artyushkova*, S. Babanova, **C. Santoro**, P. Atanassov. Interplay between Surface and Morphology: Bio-Nano-Composites for Energy Harvesting. *225th Electrochemical Society Meeting*, 11-16 May, **2014**. Orlando-FL USA.
18. **C. Santoro***, S. Babanova, P. Atanassov. Effect of Contaminants and Bacteria Presence on Bilirubin Oxidase Based Cathode Operation. *225th Electrochemical Society Meeting*, 11-16 May **2014**. Orlando-FL USA.
17. **C. Santoro***, S. Babanova, K. Artyushkova, M. Guilizzoni, J. P. Correa Baena, U. Pasaogullari, A. Casalegno, B. Li, P. Atanassov, Materials Characterization Approaches for Optimization of Microbial Fuel Cell Electrodes. *225th Electrochemical Society Meeting*, 11-16 May **2014**. Orlando-FL USA.
16. **C. Santoro***, S. Babanova, K. Artyushkova, P. Atanassov, B. Li, I.Ieropoulos, J. Greenman, P. Cristiani, S. Trasatti. Optimized Activated Carbon Cathode in Membraneless Single Chamber Microbial Fuel Cell Treating Acetate. *4th European Fuel Cell Conference and Exhibition*, Piero Lunghi Conference, 14-16 December **2013**, Rome Italy
15. J. You*, J. Greenman, C. Melhuish, **C. Santoro**, P. Cristiani, B. Li, I. Ieropolous. MPL Based Anode for Improved Performances in Microbial Fuel Cells (MFCs). *5th European Fuel Cell Conference and Exhibition*, Piero Lunghi Conference,14-16 December **2013**, Rome Italy.
14. **C. Santoro**, A. Stadlhofer, V. Hacker, G. Squadrito*, U. Schröder, B. Li. Activated Carbon Nanofibers as Promising Low Cost Cathode for Membraneless Single Chamber Microbial Fuel Cells (SCMFCs). *IMPRES 2013 – International Symposium on Innovative Materials for Processes in Energy Systems***,** September 4-6 **2013**, Fukuoka, Japan.
13. **C. Santoro***, M. Cremins, A. Mackay, U. Pasaogullari, M. Guilizzoni, A. Casalegno, B.Li. Evolution of Cathodic Characteristics (Water and Oxygen Transport) in Microbial Fuel Cell (MFC). *222th Electrochemical Society Meeting*, 7-12 October, **2012**. Honolulu-HI USA.
12. **C. Santoro***, I. Ieropoulos, J. Greenman, P.Cristiani, T. Vadas, A. Mackay, B. Li. Single Chamber Microbial Fuel Cells (SCMFCs) Treating Human Urine. *European-International Society for Microbial Electrochemistry and Technology (EU-ISMET)*, September 26-28 **2012**, Ghent Belgium.
11. **C. Santoro***, I. Ieropoulos, J. Greenman, P. Cristiani, R.J. Raggio, S.E. Scott, B. Li. Electrochemical Analysis of a Single Chamber Microbial Fuel Cell (SCMFC) Fed with Human Urine. *Euro-Mediterrean Hydrogen Technology Conference (EMHyTeC) 2012*, September 11-14 **2012**, Hammamet-Tunisia.

10. P. Cristiani*, M.L. Carvalho, **C. Santoro**, B. Li, E. Guerrini, S. Trasatti. Performance of Membraneless MFCs with Graphite and Stainless Steel Electrodes. *Euro-Mediterrean Hydrogen Technology Conference (EMHyTeC) 2012*, September 11-14, **2012**, Hammamet-Tunisia

9. G. Papaharalabos*, J. Greenman, C. Melhuish, P. Cristiani, **C. Santoro**, B. Li, I. Ieropoulos. Increased Power Output from Micro Porous Layer (MPL) Cathode Microbial Fuel Cells (MFC). *Euro-Mediterrean Hydrogen Technology Conference (EMHyTeC) 2012*, September 11-14, **2012**, Hammamet-Tunisia.

8. **C. Santoro***, B. Li, Y. Lei, P. Cristiani, G. Squadrito. Bio-cathode as Alternative Cheap Solution at the Platinum-based Cathode in Microbial Fuel Cell Systems. *21st Connecticut Microelectronics and Optoelectronics Consortium (CMCO)*, April 11 **2012**, Storrs-CT, USA.

7. **C. Santoro***, B. Li, P. Cristiani. Performance of Micro-porous Layer (MPL) Graphite Cathode in Single Chamber Microbial Fuel Cell. *243rd American Chemical Society (ACS) National Meeting*, March 25-29 **2012**, San Diego-CA, USA.

6. **C. Santoro***, B. Li, P. Cristiani, G. Squadrito. Power Generation of Microbial Fuel Cells (MFCs) with Low Cathodic Platinum Loading. *4th European Fuel Cell Conference and Exhibition, Piero Lunghi Conference*, 14-16 December **2011**, Rome Italy.

5. **C. Santoro***, A. Agrios, B. Li, P. Cristiani. The Correlation of the Anodic and Cathodic Open Circuit Potential (OCP) and Power Generation in Microbial Fuel Cells (MFCs). *220th Electrochemical Society Meeting*, 9-14 October **2011**. Boston-MA USA.

4. **C. Santoro***, P. Cristiani, A. Agrios, B. Li. Effects of Anode and Cathode Areas on Organic Compounds Removal and Power Generation in Membraneless Microbial Fuel Cell (MFC). *220th Electrochemical Society Meeting*, 9-14 October **2011**. Boston-MA USA

3. U. Karra, **C. Santoro***, S. Manickam, J. McCutcheon, B.Li. Activated Carbon Nanofiber as a Novel Anode Material to Enhance the Performance of Microbial Fuel Cell (MFC). *3rd International Microbial Fuel Cell Conference (ISMET)*, 6-8 June **2011**, Leeuwarden, The Netherlands.

2. **C. Santoro***, A. Agrios, B. Li, P. Cristiani. Effect of Cathode Structures on Water Diffusion, Power Generation and Wastewater Treatment in Microbial Fuel Cell. *3rd International Microbial Fuel Cell Conference (ISMET)*, 6-8 June **2011**, Leeuwarden, The Netherlands.

1. P. Cristiani*, M. Carvalho, **C. Santoro**, B. Li. Long Time Trends of Power Generation in Membraneless MFCs Set With Different Anode/Cathode Materials (Graphite or Stainless Steel). *3rd International Microbial Fuel Cell Conference* (ISMET), 6-8 June **2011**, Leeuwarden, The Netherlands.

CONFERENCE – POSTER PRESENTATION (55)

(20 - as presenter, 35 as co-author *presenter)

55. N. Giulini*, M. Muhyuddin, S. Mattiello, L. Beverina, **C. Santoro**. Repurposing discarded porphyrin wastes as electrocatalysts for the oxygen reduction reaction. XXVIII National Congress of Italian Society of Chemistry. 26-30 August **2024**, Milan, Italy.

54. L. Mirizzi*, S. Mostoni, G. Zuccante, A. Frigerio, C. Ferrara, M. D'Arienzo, R. Scotti, P. Atanassov, **C. Santoro.** Exploiting novel silica etching methods to produce state of the art single atom electrocatalyst for oxygen reduction reaction. XXVIII National Congress of Italian Society of Chemistry. 26-30 August **2024**, Milan, Italy.

53. E. Galli*, I. Alessandri, **C. Santoro**, M. Muhyuddin, I. Vassalini. Waste-based catalysts for the production of energy vectors. International Conference on Green Energy and Environmental Technology (GEET-24). 29-31 July **2024**. Lisbon, Portugal

52. A. Rosatelli*, F. Formicola, **C. Santoro**, N. Lamanna, L. Serbolisca, A. Franzetti. Crafting a toolbox: unleashing the power of microbiologically activated biochar in bioremediation processes. 7th International Symposium on Biosorption and Biodegradation/Bioremediation – BioBio 2024. 16-20 June **2024**. Prague, Czech Republic.

51. F. Malaj*, A. Tampucci, D. Lentini, L. Brogi, E. Berretti, C. Coletti, S. Forti, A. Rossi, **C. Santoro.** One-Pot Synthesis of $FeNi_3/FeNiO_x$ Nanoparticles for PGM-Free Anion Exchange Membrane Water Electrolysis. 37th Topical Meeting of the International Society of Electrochemistry. 9-12 June **2024**. Stresa, Italy.

50. N. Giulini*, M. Muhyuddin, M. Sassi, S. Mattiello, L. Beverina, **C. Santoro**. Upcycling the Discarding Porphyrins Wastes into Oxygen Reduction Reaction Electrocatalysts. 37th Topical Meeting of the International Society of Electrochemistry. 9-12 June **2024**. Stresa, Italy.

49. G. Zuccante, M. Muhyuddin*, A. Franzetti, N. Lamanna, A. Lavacchi, D. Testa, L. Zoia, **C. Santoro**. Waste to Electrocatalysts via Pyrolysis: Upcycling the Discarding Cigarette Butts into Oxygen Reduction Reaction Electrocatalysts. 37th Topical Meeting of the International Society of Electrochemistry. 9-12 June **2024**. Stresa, Italy.

48. S. A. Mirshokraee*, M. Muhyuddin, E. Berretti, A. Lavacchi, C. Lo Vecchio, V. Baglio, R. Viscardi, A. Zaffora, F. Di Franco, M. Santamaria, **C. Santoro.** Mono-, bi- and tri-metallic Fe-based platinum group metal-free electrocatalysts derived from phthalocyanine for oxygen reduction reaction in alkaline media. 37th Topical Meeting of the International Society of Electrochemistry. 9-12 June **2024**. Stresa, Italy.

47. M. Muhyuddin*, H. C. Honig, S. Mostoni, P. Valagussa, M. D'Arienzo, R. Scotti, L. Elbaz, **C. Santoro**. Engineering Atomically Dispersed and Accessible Active Moieties in Fe-N-Cs. 37th Topical Meeting of the International Society of Electrochemistry. 9-12 June **2024**. Stresa, Italy.

46. N. Giulini*, M. Muhyuddin, S. Mattiello, M. Sassi, L. Beverina, **C. Santoro**. Synthesis and electrocatalytic activity of transition metal electrocatalysts for oxygen reduction reaction derived from porphyrins and their wastes. *European Materials Research Society (E-MRS) Spring 2024*. 27-31 May **2024**, Strasbourg, France.

45. E. Berretti, M. Muhyuddin, L. Capozzoli, J. Orsilli, A. Lavacchi, P. Atanassov, **C. Santoro**. In-Operando XAS On Iron-Phthalocyanine During Pyrolysis: The Evolution Of The Active Sites Of An Oxygen Reduction Reaction Electrocatalyst During Its Synthesis. *X-Rays and Electronic Operando Techniques for Electrocatalysis – ECATALYTIX*, 3-5 April **2024**. Soleil, Paris, France.

44. N. Giulini*, S.A. Mirshokraee, L. Beverina, **C. Santoro**. Synthesis and characterization of platinum group metal-free (PGM-free) for oxygen reduction reaction (ORR) and hydrogen evolution reaction (HER). 13th De Nora Symposium. 6th November **2023**, Milan, Italy

43. A. Rosatelli*, F. Formicola, C. Santoro, N. Lamanna, L. Serbolisca, A. Franzetti. Evaluation of the adhesion of selected hydrocarbonclastic microbial strains to biochar. XXXIV SIMGBM Congress – Microbiology 2023 – SIMBA. 21-24 September **2023. Cagliari**

42. A. Zaffora*, E. Giordano, E. Berretti, L. Capozzoli, A. Lavacchi, M. Muhyuddin, **C. Santoro**, I. Gatto, M. Santamaria. Boosting DMFC Performance by adding Sulfuric Acid as Supporting Electrolyte to the Methanol Feed. 74th *Annual Meeting of the International Society of Electrochemistry.* 3-8 September **2023**, Lyon, France.

41. M. Muhyuddin*, S. Mostoni, R. Scotti, M. D'Arienzo, **C. Santoro**. New synthetic strategies for obtaining atomically dispersed Fe-N-C electrocatalysts for oxygen reduction reaction. 74th *Annual Meeting of the International Society of Electrochemistry.* 3-8 September **2023**, Lyon, France.

40. M. Muhyuddin, S. A. Mirshokraee, R. Morina, L. Poggini, E. Berretti, A. Lavacchi, C. Ferrara, **C. Santoro*.** Recover of waste cobalt from lithium-ion batteries and utilization as an electrocatalyst for oxygen reduction and hydrogen evolution reaction. 74th *Annual Meeting of the International Society of Electrochemistry.* 3-8 September **2023**, Lyon, France.

39. N. Giulini*, S. Mattiello, A. Monguzzi, **C. Santoro**, L. Beverina. Towards the development of Intramolecular Triplet-Triplet Annihilation Up-Conversion processes for photon management. 15th International Symposium on Functional-pi Electron Systems. 17-21 June **2023**. Railegh-NC, USA.

38. **C. Santoro*,** A. Serov, K. Artyushkova, M. Kodali, S. Rojas-Carbonell, P Atanassov. Synthesis Steps affect the surface chemistry and the performance of Fe-based cathode catalysts for microbial fuel cells applications. *1st Virtual International Society for Microbial Electrochemistry and Technology (ISMET) Meeting*. 7-9 October **2020**. *VIRTUAL CONFERENCE*.

37. B.K. Mutuma, N.F. Sylla, A. Bubu, N.M. Ndiaye, F. Poli, A. Brilloni, T. Polci, **C. Santoro**, F. Soavi, N. Manyala*. Lignin-derived carbons for supercapacitors and microbial fuel cells. 71st Annual Meeting of the International Society of Electrochemistry. 2-3 September **2020**. *VIRTUAL FORMAT*.

36. **C. Santoro*,** S. Rojas-Carbonell, R. Gokhale, M. Kodali, A. Serov, K. Artyushkova, P. Atanassov. Effect of the synthesis route of platinum group metal-free catalysts for oxygen reduction reaction on microbial fuel cell performance. *71st Annual Meeting of the International Society of Electrochemistry*. 2-3 September **2020**. *VIRTUAL* CONFERENCE.

35. M. Mashkour*, M. Rahimnejad, M. Mashkour, **C. Santoro**, F. Soavi. Bacterial Cellulose-Based Microbial Fuel Cells. *70th Annual Meeting of the International Society of Electrochemistry.* 4-9 August **2019**. Durban, South Africa.

34. F. Poli, J. Seri, N. Manyala, **C. Santoro***, F. Soavi. Improving power performance of microbial fuel cells by the use of supercapacitors. *70th Annual Meeting of the International Society of Electrochemistry.* 4-9 August **2019**. Durban, South Africa.

33. M. Mashkour*, M. Rahimnejad, M. Mashkour, **C. Santoro**, F. Soavi. Metal Oxides-Bacterial Cellulose Based Air-Breathing Cathode in Microbial Fuel Cell. Workshop: Materials for Today's energy Challenges. 3-4 June **2019**. Padua, Italy.

32. M.J. Salar-Garcia*, A. De Ramon Fernandez, **C. Santoro**, J. Greenman, I.A. Ieropoulos. Optimization of Ceramic-type Microbial Fuel Cell Fed with Urine by Varying Different Operating Parameters. *VENICE 2018 – 7th International Symposium on Energy from Biomass and Waste,* 15–18 October **2018**, Venice, Italy.

31. I. Gajda*, J. You, **C. Santoro**, J. Greenman, I.A. Ieropoulos, Anode Surface Modification with Activated Carbon for Improved Generation in Urine Fed Microbial Fuel Cells, *69th Annual Meeting of the International Society of Electrochemistry*. 2-7 September **2018**. Bologna, Italy.

30. **C. Santoro***, M. Kodali, S. Kabir, A. Serov, K. Artyushkova, P. Atanassov. Introduction of Nano-Composite Cathode Catalyst for Enhanced Microbial Fuel Cell Performance. *69th Annual Meeting of the International Society of Electrochemistry*. 2-7 September **2018**. Bologna, Italy.

29. **C. Santoro***, C. Flores-Cadengo, F. Soavi, M. Kodali, A. Serov, I. Merino-Jimenez, I. Ieropoulos, P. Atanassov, Liter-volume Supercapacitive Microbial Fuel Cell, *68th Annual Meeting of the International Society of Electrochemistry*. 27 August – 1 September **2017**. Providence-RI, USA

28. M. Kodali*, **C. Santoro**, S. Rojas-Carbonell, A. Serov, K. Artyushkova, P. Atanassov, PGM-free Catalysts for Improved Performances in Microbial Fuel Cell, *68th Annual Meeting of the International Society of Electrochemistry*. 27 August – 1 September, **2017**. Providence-RI, USA

27. **C. Santoro**, F. Soavi*, A. Serov, C. Arbizzani, P. Atanassov. Microbial Fuel Cell Integrated with Self-Powered Supercapacitor. *67th Annual Meeting of the International Society of Electrochemistry*. 21 – 26 August, **2016**. The Hague. The Netherlands.

26. K. Palanisamy, A.F.B.M. Batcha, **C. Santoro**, T. Seviour, J. Hinks, F.M. Lauro, E. Marsili*. Carbon Nanotube Supported Escherichia coli as a Bioanode for Detection of Volatile Organic Compounds. *67th Annual Meeting of the International Society of Electrochemistry*. 21 – 26 August, **2016**. The Hague. The Netherlands.

25. **C. Santoro**, A. Serov, K. Artyushkova, J. Gordon, M. Kodali, S. Rojas-Carbonell, P. Atanassov*. Precious Metals-free Catalysts for Oxygen Reduction Reaction for Microbial Fuel Cell Cathodes. *67th Annual Meeting of the International Society of Electrochemistry*. 21 – 26 August, **2016**. The Hague. The Netherlands.

24. **C. Santoro*,** A. Serov, P. Atanassov. Efficient Microbial Bio-Electrochemical System. *Transformative Technologies 5 Year Portfolio Review. Bill and Melinda Gates Foundation*. 17-22 July, **2016**. Seattle-WA USA.

23. S. Chan*, T. Phan, S. Babanova, **C. Santoro**, P. Atanassov, O. Bretschger. Characterization and Optimization of Gas Diffusion Cathode for Single-Chamber Microbial Fuel Cells Application. *229th Electrochemical Society Meeting*, 29 May – 3 June, **2016**. San Diego-CA USA.

22. C. Lopez*, **C. Santoro**, P. Atanassov, M.D. Yates, L.M. Tender. Microbial Fuel Cell Anode Materials: Supporting Biofilms of Geobacter Sulfurreducens. *229th Electrochemical Society Meeting*, 29 May – 3 June, **2016**. San Diego-CA USA.

21. **C. Santoro**, A. Serov, P. Atanassov, C. Arbizzani, F. Soavi*. A Self-powered Supercapacitive Microbial Fuel Cell. *1st Congress of the Interdivisional Group of the Italian Chemical Society on Chemistry of Renewable Energies (ENERCHEM)*. February 18–20, **2016**, Florence, Italy.

20. M. Santini, M. Guilizzoni, M. Lorenzi, P. Atanassov, E. Marsili, S. Fest-Santini, P. Cristiani, **C. Santoro***. Micro Computed Tomography as Powerful Tool for Analyzing Post Mortem Biofilm and Carbonate on Operated Cathode in Single Chamber Microbial Fuel Cell. *229th Electrochemical Society Meeting*, 29 May – 3 June, **2016**. San Diego-CA USA.

19. **C. Santoro,** A. Serov, P. Atanassov, C. Arbizzani, F. Soavi*. A Self-powered Microbial Fuel Cell – Supercapacitor System. *GEI 2015 – Giornate dell'elettrochimica italiana (Italian Electrochemical Days)*. 20-24 September, **2015**, Bertinoro (FC), Italy.

18. **C. Santoro**, A. Fatima Binti Mohidin Batcha, T. Seviour, J. Hinks, L. Lo Grasso, Y. Pui Yi, F. Lauro, E. Marsili*. Design of a Novel Bioelectrochemical Sensor for Volatile Organic Compounds (VOCs) Detection in Wastewater. *XXIII International Symposium on Bioelectrochemistry and Bioenergetics*, 14-18 June, **2015**, Malmo, Sweden.

17. **C. Santoro***, C.W. Narvaez Villarubia, S. Stariha, S. Babanova, M. Grattieri, A. Serov, and P. Atanassov. Double Chamber MFC with Non-PGM F-C-N Cathode Catalyst. *225th Electrochemical Society Meeting*, 11-16 May, **2014**. Orlando-FL USA.

16. **C. Santoro***, S. Babanova, B. Li, P. Cristiani, I. Ieropolous, P. Atanassov. Membraneless Hybrid Biofuel Cells: Integrating Microbial Anode and Enzymatic Cathode. *225th Electrochemical Society Meeting*, 11-16 May, **2014**. Orlando-FL USA.

15. **C. Santoro***, I. Ieropoulos, J. Greenman, P.Cristiani, B. Li. Self-sustainable Urine Waste Treatment in Microbial Fuel Cells (SCMFCs). *North East Water Environment Association (NEWEA) Meeting*, April 3, **2013**, Worcester-MA, USA.

14. **C. Santoro***, I. Ieropoulos, J. Greenman, P. Cristiani, T. Vadas, A. Mackay, B. Li. Power Generation and Nutrients Recovery/Removal in Single Chamber Microbial Fuel Cells (SCMFCs) Fed with Human Urine. *Association of Environmental Engineering and Science Professors (AEESP)*, February 27, **2013**, UMass, Amherst-MA, USA.

13. J. Zhou*, X. Wang, **C. Santoro**, P. Cristiani, G. Squadrito, B. Li. Cathode Influence on Coulombic Efficiency in Microbial Fuel Cells (MFCs) Treating Wastewater. *AsiaPacific- International Society for Microbial Electrochemistry and Technology (AP-ISMET)*, January 13-15, **2013**, Harbin, China.
12. **C. Santoro***, B. Li, U. Karra, A. G. Agrios, G. Squadrito, P. Cristiani. Effects of Cathodic Platinum Loadings and Organic Substrate Concentrations on the Performance of Single Chamber Microbial Fuel Cells Fed with Raw Wastewater. *222th Electrochemical Society Meeting*, 7-12 October, **2012**. Honolulu-HA USA.
11. **C. Santoro***, M. Cremins, A. Mackay, U. Pasaogullari, M. Guilizzoni, A. Casalegno, B. Li. Evolution of Cathode Surface Hydrophobicity in Microbial Fuel Cell using Sessile Drop Technique. *222th Electrochemical Society Meeting*, 7-12 October, **2012**. Honolulu-HA USA.
10. U. Karra*, **C. Santoro**, C. Tenaglier, T. Vadas, A. Mackay, B. Li. The Effects of Nitrate and Sulfate on the Power Generation of Microbial Fuel Cells. *NorthAmerica-International Society for Microbial Electrochemistry and Technology (NA-ISMET)*, October 7-9, **2012**, Ithaca-NY, USA.
9. **C. Santoro***, P. Cristiani, G. Squadrito, Y. Lei, A.G. Agrios, B. Li. Coulombic Efficiency under Different Operative Conditions in Microbial Fuel Cells. *Euro-Mediterrean Hydrogen Technology Conference (EMHyTeC) 2012*, September 11-14, **2012**, Hammamet-Tunisia.
8. **C. Santoro*,** A. Stadlhofer, V. Hacker, G. Squadrito, B. Li. Novel Activated Carbon Nanofibers for Microbial Fuel Cells (MFCs) Systems. *5th International Summer School on Advanced studies of Polymer Electrolyte Fuel Cells*, Graz University of Technology, September 3-7 **2012**, Graz, Austria.
7. I. Gajda*, J. Greenman, C. Melhuish, I. Ieropoulos, **C. Santoro**, B. Li, P. Cristiani. Improved Carbon Cathodes for Microbial Fuel Cells (MFCs). *Society for Industrial Microbiology and Biotechnology 2012*, August 12-16, **2012**, Washington-DC, USA.
6. **C. Santoro*,** A. Agrios, U. Pasaogullari, B. Li. Effect of Cathode Structures on Water Diffusion, Power Generation and Wastewater Treatment in Microbial Fuel Cell. *21st Connecticut Microelectronics and optoelectronics consortium (CMCO)*, April 11, **2012**, Storrs-CT, USA.
5. **C. Santoro*,** V. Martinez, M. Cremins, P. Cristiani, A. G. Agrios, B. Li. Electrode Geometric Area: Effect on Power Generation, Organic Compounds Removal and Coulombic Efficiency in Single Chamber Microbial Fuel Cell (SCMFC). *21st Connecticut Microelectronics and optoelectronics consortium (CMCO)*, April 11, **2012**, Storrs-CT, USA.
4. **C. Santoro***, B. Li, P. Cristiani, G. Squadrito. Catalyses of Power Generation in Single Chamber Microbial Fuel Cells with Graphite Based Electrodes. *4th European Fuel Cell Conference and Exhibition*, Piero Lunghi Conference, 14-16 December **2011**, Rome Italy.
3. U. Karra, **C. Santoro***, B. Li, S. Manickam, J. McCutcheon**.** A Novel Anode Material of Carbon Nanofiber to Optimize Wastewater Treatment using Microbial Fuel Cells (MFCs). *4th European Fuel Cell Conference and Exhibition*, *Piero Lunghi Conference*, 14-16 December **2011**, Rome Italy.
2. **C. Santoro**, B. Li*, P. Cristiani. Novel Platinum (Pt)-free Cathodes for Microbial Fuel Cells (MFCs) Treating Wastewater. *84th annual WEFTEC*, 16-19 October. **2011**. Los Angeles-CA USA.
1. **C. Santoro***, P. Cristiani, A. Agrios, B. Li. Effects of Electrodes Geometric Area on Wastewater Treatment and Power Generation in Microbial Fuel Cell. *3rd International Microbial Fuel Cell Conference*, 6-8 June **2011**, Leeuwarden, The Netherlands.

INVITED SEMINAR (23)

23. **C. Santoro.** Microbial electrochemical technology: cathodic reduction reaction. Universidad de Playa Ancha (UPLA). 15 July, **2024**. Valparaiso (Chile).
22. **C. Santoro.** Microbial electrochemical technology for water treatment and power generation. Universidad Tecnica Federico Santa Maria. 11 July, **2024**. Valparaiso (Chile).
21. **C. Santoro.** Green Hydrogen Production and Utilization through water electrolysis and fuel cells. Ca' Foscari University of Venice. 17 May, **2023**. Venice (Italy).
20. **C. Santoro.** *Advancements in Microbial Electrochemical Systems: Cathode Electrocatalysis and Supercapacitive Mode Operations.* University of Newcastle. 5 May, **2021**. Newcastle (UK). *VIRTUAL*
19. **C. Santoro.** *Advancement in platinum group metal (PGM-free) catalysts for oxygen reduction reaction.* University of Manchester. 20 January, **2020**. Manchester (UK).
18. **C. Santoro.** Insights in platinum group metal (PGM-free) catalysts for oxygen reduction reaction. University of Genoa. 5 September, **2019**. Genoa (Italy).
17. **C. Santoro.** *Platinum group metal (PGM-free) catalyst for oxygen reduction reaction in the entire pH spectrum*. Italian Institute of Technology (IIT). 3 June, **2019**. Milan (Italy).
16. **C. Santoro.** *Advancements in platinum group metal (PGM-free) catalyst for oxygen reduction reaction along the entire pH spectra*. University of Milano-Bicocca. 31 May, **2019**. Milan (Italy).
15. **C. Santoro.** *Integration of Supercapacitors within Bioelectrochemical Systems*. Bristol Robotics Laboratory. 12 December, **2018**. Bristol (UK).

14. **C. Santoro.** *Oxygen Reduction Reaction (ORR) in (Circum)neutral Media*. Bristol Veterinary School, University of Bristol. 9 July, **2018**. Bristol (UK).
13. **C. Santoro.** *Microbial Fuel Cells and their Role in Bioenergy*. University of Bologna, Department of Chemistry "G. Ciamician". 14 May, **2018**. Bologna (Italy).
12. **C. Santoro.** *Bioelectrochemical Engineering Systems: a Mixture of Electrochemistry, Microbiology and Engineering*. University of Padua, Department of Industrial Engineering. 29 July, **2016**. Padua (Italy).
11. **C. Santoro.** *Inside the Water-Energy Nexus with Bioelectrochemical Systems: a Mixture of Electrochemistry and Microbiology*. University of Wyoming, Department of Civil and Architectural Engineering. 12 April, **2016**. Laramie-WY USA.
10. **C. Santoro**. *Microbial Electrochemical Technology: Overview, Bottleneck and Directions*. San Diego State University, Department of Civil, Construction and Environmental Engineering. 28 January, **2016**. San Diego-CA USA.
9. **C. Santoro**. *Microbial Electrochemical Technology: Overview, Bottleneck and Directions*. University of New Mexico, Department of Chemical and Biological Engineering. Group Seminar 2016. 25 January, **2016**. Albuquerque-NM USA.
8. **C. Santoro.** *Combining a Super Capacitor with a Microbial Fuel Cell*. Bristol Robotics Laboratory, 7 January **2016**. Bristol, UK.
7. **C. Santoro.** *Microbial Electrochemical Technology: Possibilities within Water-Energy Nexus*. Desert Research Institute, 5 August **2015**. Las Vegas-NV USA.
6. **C. Santoro**. *Bio-electrochemical Systems Anode and Cathode Materials Development, Microbial Community Selection and Utilization of Real Wastewaters*. University of Padua, Department of Industrial Engineering, 22 January **2015**, Padua (Italy).
5. **C. Santoro**. *Bioelectrochemical Systems*. Nanyang Technological University, Singapore Centre on Environmental Life Sciences Engineering (SCELSE) Seminar, 21 August **2014**, Singapore.
4. **C. Santoro**. *Microbial Bio-electrochemical Technology*. University of New Mexico, Department of Nuclear and Chemical Engineering. Group Seminar 2014. 17 February, **2014**. Albuquerque-NM USA.
3. **C. Santoro**. *Microbial Fuel Cells: From Cathode to Bio-cathode, from PBS to Real Waste, from Lab to Real Applications*. University of New Mexico, Department of Nuclear and Chemical Engineering, Group Seminar 2014. 28 January, **2013**. Albuquerque-NM USA.
2. **C. Santoro**. *Understanding of Cathode Behavior in Microbial Fuel Cell (MFC): Effect of the Cathode Biofilm on Cathode Structure, Performance and Organic Compounds Degradation*. University of Connecticut, Department of Civil and Environmental Engineering Seminar 2012. 20 January, **2012**. Storrs-CT USA
1. **C. Santoro**. *From Hydrogen Fuel Cells to Microbial Fuel Cells*. Seminar for the Graduate School at the Civil and Environmental Engineering (Politecnico di Milano), 10 June **2009**.

HOSTED SEMINAR (7)

7. **Marco Altomare.** University of Twente. Solid-state dewetting: Can we make model nanoparticle electrodes for electrocatalysis? **September 19th, 2024**. University of Milano-Bicocca, Italy.
6. **Jason He.** Washington University at Saint Louis. Meet the Editor: Stories behind the journal publications. **June 7th, 2024**. University of Milano-Bicocca, Italy.
5. **Iryna Zenyuk.** University of California Irvine. Realizing Hydrogen Economy and Rethinking Catalyst Layer Design: Interplay between Activity and Durability for Polymer Electrolyte Fuel Cells and Electrolyzers. **April 5th, 2024**. University of Milano-Bicocca, Italy.
4. **Victoria Flexer.** CIDMEJu-Universidad Nacional de Jujuy, Argentina. Lithium recovery from high salinity brines in a circular economy framework. **December 15th 2023**. University of Milano-Bicocca, Italy.
3. **Plamen Atanassov.** University of California Irvine. New Generation of Platinum Group Metal-free Atomically Dispersed Electrocatalysts. **September 2nd, 2022**. University of Milano-Bicocca, Italy.
2. **Stefano Passerini.** Karlsruhe Institute of Technology. "Hard Carbons for Sodium-Ion Batteries: Structure, Analysis, Sustainability and Electrochemistry". **July 29th, 2020**. University of Manchester, UK. **(***VIRTUAL SEMINAR***)**
1. **Prof. Vito Di Noto,** University of Padua. "Recent Advances in Electrocatalysts for the Oxygen Reduction Reaction Comprising a Hierarchical Graphene-Based "Core" and a Carbon Nitride "Shell" with a Low Loading of Platinum". **May 11th, 2020**. University of Manchester, UK. **(***VIRTUAL SEMINAR***)**

INTERNATIONAL COLLABORATORS (past and/or ongoing)

Cinzia Casiraghi, Christopher Parlett, Rosa Cuellar Franca, University of Manchester, UK
Plamen Atanassov, University of California Irvine, USA
Alexey Serov, Oak Ridge National Laboratory, USA.
Santiago Rojas-Carbonell, W7 Energy LLC, USA

Andrew Schuler, Jose' Cerrato, Kerry Howe, University of New Mexico, USA
Baikun Li, Alexander Agrios, Timothy Vadas, Ugur Pasaogullari, University of Connecticut, USA
Jason Ren, Princeton University, USA
Lior Elbaz, Bar-Ilan University (Israel)
Orianna Bretschger, Sofia Babanova, Aquam LLD, USA
Christopher Arges, Ruggero Rossi, Bruce Logan, Penn State University (USA)
Uwe Schroeder, Technical University of Braunschweig, Germany
Falk Harnisch, Helmholtz Centre for Environmental Research – UFZ, Germany
Glenn Johnson, Hexpoint Technologies LLC, USA
Viktor Hacker, Technical University of Graz, Austria
Alain Bergel, Benjamin Erable, Laboratoire de Genie Chimique de Toulouse, CNR, France
Deepak Pant, Flemish Institute for Technological Research (VITO)
Enrico Marsili, Nanyang Technological University (NTU)

NATIONAL COLLABORATORS (past and/or ongoing)

Maurizio Santini, University of Bergamo, Italy
Pierangela Cristiani, Ricerca Sul Sistema Energetico S.p.A., Italy
Fabio Di Fonzo, Italian Institute of Technology
Mariangela Longhi, Stefano Trasatti, University of Milan, Italy
Barbara Mecheri, University of Rome Tor Vergata, Italy
Andrea Casalegno, **Andrea Baricci**, Politecnico di Milano, Italy
Stefania Specchia, Politecnico di Torino, Italy
Vito Di Noto, **Enrico Negro** University of Padua, Italy
Gaetano Squadrito, **Vincenzo Baglio,** Advanced Technologies for Energy Institute – ITAE – CNR, Italy
Alessandro Lavacchi, Enrico Berretti, Jonathan Filippi CNR-ICCOM Florence, Italy
Francesca Soavi, University of Bologna, Italy
Matteo Grattieri, Paolo Bollella, University of Bari
Monica Santamaria, Francesco Di Franco, Andrea Zaffora, University of Palermo, Italy

SERVICES, OUTREACH, NEWS and ACADEMIC DUTIES

2024-2025

Networking event organized by Assolombarda, h2it, Lombardy Energy Cluster. Business to Research: Conosci i centri di ricerca e laboratori lombardi per lo sviluppo dell'innovazione! Title Presentation: "Hydrogen-related activities at the University of Milano-Bicocca". Assolombarda, Milan, Italy. **20th September 2024**

Degree Committee Member in Chemistry and Chemistry Technologies (Bachelor of Science). University of Milano-Bicocca. **18th September 2024**

2023-2024

Blog News on the Bicocca BNews website "Idrogeno Verde: la sfida? Rendere sostenibile l'intera filiera produttiva" **June 24th 2024**.
https://bnews.unimib.it/blog/idrogeno-verde-la-sfida-rendere-sostenibile-lintera-filiera-produttiva/

Workshop Organization on the topic of hydrogen. Hydrogen's Role from academy to industry. University of Milano-Bicocca, Milan, Italy. **13th June 2024.**

President of the Committee of the XXXVI Doctorate in Materials Science and Nanotechnology. University of Milano-Bicocca. **29th April 2024**

Degree Committee Member in Chemistry and Chemistry Technologies (Master of Science). University of Milano-Bicocca. **22nd March 2024**

Degree Committee Member in Chemistry and Chemistry Technologies (Bachelor of Science). University of Milano-Bicocca. **21st February 2024.**

Blog News on the Bicocca BNews website "L'Ateneo Bicocca protagonista della prima filiera dell'idrogeno di Regione Lombardia" **December 22nd 2023**.
https://bnews.unimib.it/blog/lateneo-bicocca-protagonista-della-prima-filiera-dellidrogeno-di-regione-lombardia/

Selection Committee, procedure done by evaluation of titles, for one research position in activities related to FISR Project AMPERE: "Determination and optimization of the anodes and electrolytes properties for lithium ions batteries of generation 3B". **December 13th, 2023**.

Degree Committee Member in Materials Science (Master of Science). University of Milano-Bicocca. **21st November 2023.**

Partecipation to the "Filiera dell'idrogeno" lead by H2Energy. Affiliation to the Hydrogen Supply Chain recognized by Regione Lombardia. Presentations of activities at UNIMIB. **November 7th, 2023**

Selection Committee, procedure done by evaluation of titles, for one research position in activities related to Project WE-CAT. **September 12th, 2023**.

2022-2023

Degree Committee Member in Physics (Bachelor of Science). University of Milano-Bicocca. **19th July 2023.**

Selection Committee, procedure done by evaluation of titles, for one research position in activities related to PNRR Project PERMANENT. **June 9th, 2023**.

Selection Committee for PhD students in Chemical, Geological and Environmental Sciences of the University of Milano Bicocca. XXXIX Cohort. **May 2023**

Degree Committee Member in Chemistry and Chemistry Technologies (Master of Science). University of Milano-Bicocca. **24th March 2023**

Round Table on the topic of creating an hydrogen supply chain organized by the Energy Cluster Regione Lombardia. Representative for the University of Milano-Bicocca. **17th March 2023**

Degree Committee Member in Materials Science (Bachelor of Science). University of Milano-Bicocca. **7th March 2023**

Open day at the University of Milano-Bicocca. Presentation of Degree in Materials Science and Nanotechnology. **February 8th 2023.**

Directive Council Energy Cluster Regione Lombardia. Representative for the University of Milano-Bicocca. 2023

BICOCCA Research Magazine. Number 28. **December 2022**. Carlo Santoro among the 1000 Rising Stars in Science.

Selection Committee of the National Doctorate "Scientific, Technological and Social Methods enabling Circular Economy" XXXVIII Cycle. **September 2022**

Graduate Advisor

Advised and aided five PhD students. **Mohsin Muhyuddin** and **Seyed Ariana Mirshokraee** (University of Milano-Bicocca) worked on platinum group metal-free catalysts for ORR and HER and applications in fuel cells and electrolyzers. **Giovanni Zuccante** (University of Milano-Bicocca) worked on platinum group metal-free catalysts for ORR and HER starting from waste plastics and waste organics. **Nicolò Giulini** (University of Milano-Bicocca) worked on the synthesis of organic precursors as scintillator and as precursors for electrocatalysts. **Francesko Malaj** (NE.ME.SYS) worked on the synthesis of HER and OER electrocatalysts that do not contain platinum or precious metals.

2021-2022

Committee for the organization of the event related to the 25th anniversary of the University of Milano-Bicocca Foundation.

Selection Committee, procedure done by evaluation of titles, for one research position in activities related to FISR Project AMPERE: "Fabrication and characterization of polymeric membrane for fuel cells and electrolyzers". **July 6th, 2022**.

Degree Committee Member in Chemistry and Chemistry Technologies (Bachelor of Science). University of Milano-Bicocca. **13th June 2022.**

Selection Committee, procedure done by evaluation of titles, for one research position in activities related to the research topic: "Materials for Environmental Remediation". **April 6th, 2022**.

Degree Committee Member in Chemistry and Chemistry Technologies (Master of Science). University of Milano-Bicocca. **25th March 2022. Secretary of the Commission.**

Degree Committee Member in Chemistry and Chemistry Technologies (Bachelor of Science). University of Milano-Bicocca. **24th March 2022.**

Formation school for teachers at secondary schools on topic related to material science for electrochemical hydrogen production. Title: "Transforming hydrogen into electricity through fuel cells: principles, materials and application" **24th February 2022**

Outreach for the Association of Italian Researchers in Japan (AIRJ) related to the re-entry programs for scientists abroad in the context of the Program "Rita Levi Montalcini". https://www.airj.info/2021/11/08/airj-talks-rita-levi-montalcini/ **26th November 2021.**

Degree Committee Member in Materials Science (Master of Science). University of Milano-Bicocca. **15th November 2021.**

Selection Committee, procedure done by evaluation of titles, for two research positions in activities related to scientific area of chemical sciences (SSD CHIM/02) on the research topic: "Study of Electrode-Membrane interactions and Assembly of Low Temperature Hydrogen Fuel Cells". **October 10th, 2021**.

Graduate Advisor
Advised and aided two PhD students (**Mohsin Muhyuddin** and **Seyed Ariana Mirshokraee** both at the University of Milano-Bicocca).

2020-2021

Evaluation of the consulting service for the experimental and computational study of the long-term stability and degradation mechanisms of membrane-electrode assemblies (MEA) for anionic conduction fuel cells, for the needs of the Department of Materials Science. **July 23rd, 2021**.

Selection Committee, procedure done by evaluation of titles, for one research position in activities related to scientific area of chemical sciences (SSD CHIM/02) on the research topic: "Study of Electrode-Membrane interactions and Assembly of Low Temperature Hydrogen Fuel Cells". **July 5th, 2021**.

Electoral commission for the Elections of the Director of the Department of Materials Science, University of Milano-Bicocca. **May 27th 2021**.

Webinar on "Hydrogen applications and future Scenarios" sponsored by Lombardy Energy and Cleantech Cluster Day 2021. **April 22th 2021**. Presentation on hydrogen technologies: "Hydrogen technology for automotive applications"

Degree Committee Member in Optics and Optometry (Bachelor of Science). University of Milano-Bicocca. **11th March 2021**

BICOCCA Research Magazine. Number 7. January 2021. Description of the project under the Young Researchers Program "Rita Levi Montalcini"

Interview at Radio 24 (Italian Radio) during the program Smart City related on commenting the article: "A super Electroactive Bacteria for cleaning water". **November 24th, 2020**

Graduate Advisor
Advised and aided a PhD student **Mohsin Muhyuddin,** University of Milano-Bicocca, **Federico Poli,** University of Bologna, **Valerio Ficca,** University of Rome Tor Vergata.

Master of Engineering Degree coordinator at the University of Manchester
Organization of the coursework and the available projects. Allocation of students to professors. Coordination of the assignments and the deadlines. Marking and moderation of marking.

UCAS (Universities and Colleges Admissions Service) interviews.
Interview of five potential undergraduate students for the possible selection at the University of Manchester. **December 11th, 2020**

Welcome Week at the University of Manchester
Event that describes the activities and the courses of the students of the 1st, 2nd, 3rd and 4th year for the Academic year 2020-2021

Meeting your academics at the University of Manchester
Event that celebrates and showcase the great and diverse research and teaching that our academic staff work on in the Department. **October 28th, 2020**

2019-2020

Graduate Advisor
Advised and aided a PhD student **Federico Poli,** University of Bologna and **Valerio Ficca,** University of Rome Tor Vergata.

2018-2019

Graduate Advisor
Advised and aided a PhD student **Federico Poli,** University of Bologna and a Master student (**Jacopo Seri,** University of Bologna. Advised and aided a PhD student **Valerio Ficca,** University of Rome Tor Vergata.

OUTREACH: Heathrow Family day. Exhibition of bioelectrochemical systems. Hangar 2. **June 15th 2019**. Heathrow Airport, UK.

Deputy Director of the Bristol BioEnergy Center (BBiC)

2017-2018

Interview at Radio 24 (Italian Radio) during the program Smart City related to biological fuel cells

Deputy Director of the Bristol BioEnergy Center (BBiC)

2016-2017

Graduate and Undergraduate Advisor
Advised and aided one graduate student **Mounika Kodali** and **Francisco Moruno Lopez**, University of New Mexico. Advised and aided one undergraduate student **Sergio Herrera** and **Roxanne Awais**, University of New Mexico during her Fellowship "McNair" during the Summer 2017.

2015-2016

Graduate and Undergraduate Advisor
Advised and aided three graduate students: **Mosaddek Hossen, Mounika Kodali** and **Jeremiah Houghton,** University of New Mexico.
Advised and aided one undergraduate student , exchange student from Spain: **Fernando Benito Abad,** University of New Mexico.

2014-2015

Undergraduate Advisor (Summer 2014)
Advised and aided undergraduate students **Jonathan Gordon**, University of New Mexico and **Lydia Stariha**, Grinnell College.

Teacher Advisor (Summer 2014)
Advised a Teacher (**Irina Cislaru**) from the program Research Experience for Teachers (RET) funded by the National Science Foundation (NSF).

2013-2014

Graduate and Undergraduate Co-Advisor (Fall 2013 and Spring 2014)
Advised and aided graduate and undergraduate students on bacteria attachment on modified surfaces and bioelectrochemical systems for wastewater treatment and electrical energy production.

2012-2013

Senior Design (Spring 2013)
Advised and aided a team of undergraduate students. Students utilized brewery wastewater in microbial fuel cell for wastewater treatment and electrical energy production.

REU (Research Experience for Undergraduate) (Spring 2013)
Advised and aided undergraduate students. Students optimize activated carbon cathode varying applied pressure and temperature treatment. The obtained material has been tested in a marine fuel cell system.

Research Credits for Undergraduate Students (Fall 2012 and Spring 2013)
Advised and aided undergraduate students working on a research project related with urine utilization for simultaneous wastewater treatment, nutrients recovery and electricity generation.

Open House (Fall 2012)
Leaded a group of visitors in the Engineering Building at the University of Connecticut

2011-2012

Senior Design (Spring 2012)
Advised and aided a team of undergraduate students. Students worked on modified carbon cloth as anode in microbial fuel cell for wastewater treatment and electrical energy production.

REU (Research Experience for Undergraduate) – NSF
Advised and aided undergraduate students. The students optimized an existing microbial fuel cell pilot scale system for treating wastewater.

Research Credits for Undergraduate Students
Advised and aided 6 undergraduate students working on research projects related with the electrochemical performance of carbonaceous based cathode for microbial fuel cells.

Open House
Leaded a group of visitors in the Engineering Building at the University of Connecticut

NATIONAL HABILITATIONS for FULL PROFESSOR

Qualified to function as **Full Professor** (Abilitazione Scientifica Nazionale al ruolo di Professore di I fascia) in:

- Systems, Methods and Technologies of the Chemical Engineering **(09/D2)** from 23/07/2018
- Methods and Methodology for Chemical Science **(03-A2)** from 31/07/2018
- Inorganic Chemistry **(03-B1)** from 07/08/2018
- Chemical Fundaments of the Technologies **(03-B2)** from 25/10/2018
- Industrial Chemistry **(03-C2)** from 13/05/2019
- Chemical industrial plants and processes **(09-D3)** from 19/11/2020