

Update on March 14th 2022

CARLO SANTORO

Assistant Professor (RTD b)

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)

U5 Building, Via Roberto Cozzi 55, 20125, Milan, Italy

E-mail: carlo.santoro@unimib.it

Web: <https://en.unimib.it/carlo-santoro>

Group Website: <https://ebl.mater.unimib.it/>

Twitter: [@Santoro_EBLab](https://twitter.com/Santoro_EBLab)

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 and CO₂ electroreduction. 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 diphasic anodic flow in a direct methanol fuel cell*"

RESEARCH APPOINTMENT and EXPERIENCE

Researcher (RTD type b)

01-2021 / Currently

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

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)***Associate Professor****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**03-2016 / 09-2017**

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

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

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.

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, start-up time 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

SUMMER SCHOOL

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

INSTITUTIONAL RESPONSIBILITIES

University of Milano-Bicocca:

Departmental Communication Committee

02-2022 / Currently

University of Milano-Bicocca:

The Research Quality Assurance Committee

01-2022 / Currently

University of Milano-Bicocca:

Member of the Chemistry and Chemical Technologies Degree Council

10-2021 / Currently

University of Milano-Bicocca:

Member of the Material Science Degree Council

01-2021 / Currently

University of Milano-Bicocca:

Member of the Department Council

01-2021 / Currently

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 / 01-2021

TEACHING EXPERIENCE and RESPONSIBILITIES

Activities

Applied Physical Chemistry with Laboratory (*in progress*)

Spring 2022

Lecturer (Module leader of the Laboratory). 2021-1-F5302Q004.

(Entire course 8 CFU, in charge of 3 CFU of Laboratory)

Dept. of Material Science – University of Milano-Bicocca

Total teaching hours: 36h (Face-to-Face)

Fundamentals of Industrial Chemical Technologies

Fall 2021

Lecturer (Module co-leader, in charge of the Exercises). 2122-3-E2702Q109.

(Entire course 8 CFU, in charge of 1 CFU)

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). 2021-1-F5302Q004.

(Entire course 8 CFU, in charge of 3 CFU of Laboratory)

Dept. of Material Science – University of Milano-Bicocca

Total teaching hours: 42h (*HYBRID, VIRTUAL and Face-to-Face*)

Master of Engineering Coordinator

Fall 2020

(*GRADUATE COURSE*)

Lecturer (Module leader). CHEN40100

Dissertation: Report & Individual Performance (10 CFU)

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*)

Sustainable Engineering

Fall 2016

(*UNDERGRADUATE & GRADUATE COURSE*)

Lecturer (Module Leader). CE 458-538 (3 CFU)

Dept. of Civil Engineering – University of New Mexico

The course included these topics: i) introduction and concept of sustainability; ii) quality of the water; iii) chemical and biological wastewater treatment and supply water; iv) energy and renewable energy; v) energy efficiency in buildings and processes; vi) atmospheric pollution; vii) exploitation of resources; viii) science behind climate change and global warming; ix) environmental management systems; x) life cycle analysis; xi) real LCA examples.

Total teaching hours: 36h

Teaching Assistant

Fundamental of Environmental Engineering I

Fall 2012

(*UNDERGRAD COURSE*)

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

(*UNDERGRAD COURSE*)

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: 1h (*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 (taught in Italian) 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 INTERNATIONAL AWARDS

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

- 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 co-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 Nanocomposite 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. Guillizzoni, 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: ≈1.578,536 €
PI (≈332,000 €), **Co-PI** (≈1,052,136 €), **Synchrotron** (equivalent ≈194,400 €)

Principal Investigator (≈332,000 €)

- 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 (MIUR). Amount: 315,081 €. Duration: 3 years. (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. (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 (≈931,560 €)

- 6. Biochar production for environmental remediation.** University of Milano-Bicocca and Ente Nazionale Idrocarburi (ENI) agreement. Sponsor: ENI. Amount: 300,000 €. Duration: 3 year. 2022 –2025. (co-PI)

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 characterization.

5. Project NOENDCAT

Sponsor: 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)

This grant was obtained through the internal funding for rejected EU proposal with high score. The project is based on the detection and 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)

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)

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 and Melinda Gates Foundation. Total UNM amount: 350,000 US\$. November 2015 – November 2017. Duration: 2 years. Investment ID OPP1139954. (co-PI)

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 ≈194,400 €)

Co-Proposer (3); Total shifts: 54

- 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)

OTHER FUNDING

Research Fund University of Milano Bicocca 2022. University of Milano Bicocca. **XXX** €.

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

(2 PhD, 2 M.S.)

PhDs MAIN ADVISOR (2)

2. **Ariana Seyed Mirshokraee**. *Philosophy Doctorate Degree*. Department of Material Science, University of Milano-Bicocca (Italy). **EXPECTED GRADUATION 2025 (IN PROGRESS)**

1. **Mohsin Muhyuddin**. *Philosophy Doctorate Degree*. Department of Material Science, University of Milano-Bicocca (Italy). **EXPECTED GRADUATION 2024 (IN PROGRESS)**

Master of Science ADVISOR (2)

2. **Davide Testa**. *Master of Science Degree*. Department of Material Science, University of Milano-Bicocca (Italy). **EXPECTED GRADUATION 2022 (IN PROGRESS)**

1. **Nicolo' Zocche**. *Master of Science Degree*. Department of Material Science, University of Milano-Bicocca (Italy). **EXPECTED GRADUATION 2022 (IN PROGRESS)**

CO-ADVISOR

(3 PhD, 7 M.S., 18 Undergraduate)

PhD Co-ADVISOR (3)

3. **Kayode Olaifa**. Co-advisor and Committee Member. *Philosophy Doctorate Degree*. School of Engineering and Digital Sciences, Nazarbayev University (Kazakhstan). **EXPECTED GRADUATION 2024. (IN PROGRESS)**

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). **2022.**
1. **Federico Poli.** Co-advisor and Committee Member. *Philosophy Doctorate Degree.* Department of Chemistry "G. Ciamician", University of Bologna (Italy). **2022.**

Master of Science Co-ADVISOR (7)

7. **Diego Stucchi.** Co-advisor and Committee Member. **Master of Science Degree.** Department of Materials Science, University of Milano-Bicocca (Italy). **EXPECTED GRADUATION 2022.**
6. **Samuele Galli.** Co-advisor and Committee Member. **Master of Science Degree.** Department of Materials Science, University of Milano-Bicocca (Italy). **EXPECTED GRADUATION 2022.**
5. **Jacopo Seri.** Co-advisor and Committee Member. **Master of Science Degree.** Department of Chemistry "G. Ciamician", University of Bologna (Italy). **EXPECTED GRADUATION 2022.**
4. **Francisco Moruno Lopez.** Co-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". March **2018.**
3. **Mounika Kodali.** Co-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". April **2017.**
2. **Mosaddek Hossen.** Co-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". November **2016.**
1. **Jeremiah Houghton.** Co-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". April **2016.**

Undergraduate student co-ADVISOR (18)

18. **Roberto Landone.** Co-advisor and Committee Member. **Bachelor of Science Degree.** Department of Materials Science, University of Milano-Bicocca (Italy). **EXPECTED GRADUATION 2022.**
17. **Axel Scommegna.** Co-advisor and Committee Member. **Bachelor of Science Degree.** Department of Materials Science, University of Milano-Bicocca (Italy). **EXPECTED GRADUATION 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**
3. **Nirav Patel** – University of Connecticut **2011**
1. **Matthew Cremins** - University of Connecticut **2010-2012**

EXTERNAL EXAMINER

PhD Thesis (6), M.Sc (1), M.Eng (6)

Philosophy Doctorate (6)

6. **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**
5. **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**

4. **Gabriele Rossetti.** *External Examiner. 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. 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. 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. 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 (4)

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 waste water 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 (6), PhD Proposal (3)

6. **Gabriele Rossetti.** *External Examiner. 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, Dutch acronym) 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 different agencies

- 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**
- General Call for Proposal 2017 - Agence Nationale De La Recherche – **France**
- The National Center of Scientific and Technical Evaluation (NCSTE) – **Kazakhstan**
- Irish Research Council – **Ireland**
- 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**
- 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**

Journal Editorial Board

- ✓ **Materials for Renewable and Sustainable Energy**, Springer (**From 2022**). Cite Score: 6.1 (2021)
- ✓ **Chemosensors**, MDPI (**From 2020**). *Section Electrochemical Devices and Sensors*. IF: 3.398 (2020)
- ✓ **Molecules**, MDPI (**From 2019**). *Section Green Chemistry*. IF: 4.411 (2020)
- ✓ **Catalysts**, MDPI (**From 2018**). *Section Electrocatalysis*. IF: 4.146 (2020)

Editorial Activity

9. **Guest Editor** of a Special Issue related to Decarbonization on **iScience** (Cell Press, IF 2020: 5.458). Title: "Difficult to Decarbonize Energy Sectors: Challenges and Opportunities for Electrochemistry, Engineering, and Policy". *Expected April 2022 (IN PROGRESS)*

8. **Guest Editor** of a Special Issue related with microbial electrochemical technology on **Chemosensors (MDPI: IF: 3.398)**. Title: "Recent Advancements in Microbial Electrochemical Technologies". https://www.mdpi.com/journal/chemosensors/special_issues/AMET. Expected November 2022 (**IN PROGRESS**)
7. **Guest Editor** of a Special Issue related with electrochemical energy storage and conversion on **Electrochimica Acta (Elsevier, IF 2020: 6.901)**. Title: "And Yet Electrochemical Energy Storage and Conversion Moves in 2021" (EESC 2021). Expected November 2022 (**IN PROGRESS**)
6. **Guest Editor** of a Special Issue related with electrocatalysts for electrochemical energy devices on **Catalysts (MDPI: IF 2020: 4.146)**. Title: "10th Anniversary of Catalysts: Achievements in Electrocatalysis for Sustainable Energy Technologies". Expected March 2022 (**IN PROGRESS**)
5. **Guest Editor** of a Special Issue related with bioprocesses for energy and environment on **Journal of Environmental Chemical Engineering (Elsevier: IF 2021: 5.909)**. Title: "Recent Advances in Bioprocess for Sustainable Environment and Energy". September 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/celec.201900945
2. **Guest Editor** of a Special Issue related with Microbial Electrochemical Technology on **Bioresource Technology Reports (Elsevier, IF 2019: -)**. 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.
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

Journal reviewer for 125 journals

ACS Publications (8): ACS Applied Electronic Materials, ACS Applied Energy Materials, ACS Environmental Au, ACS Sustainable Chemistry & Engineering, Environmental Science and Technology Letters, Environmental Science and Technology, Industrial & Engineering Chemistry Research, Journal of the American Chemical Society.

ASME Journal Program (1): Journal of Electrochemical Energy Conversion and Storage.

Elsevier (53): 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, Chemical Engineering Journal, Chemical Engineering Journal X, Chemical Engineering Science, Chemosphere, Electrochemistry Communication, Electrochimica Acta, Energy Strategies Reviews, 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 Cleaner Production, Journal of CO₂ Utilization, Journal of Electroanalytical 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, 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 (17): Applied Microbiology, Applied Sciences, Biosensors, 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 (1): FEMS Microbiology Letters

Royal Society of Chemistry (RSC) (7): Chemical Science, Dalton Transaction, Environmental Science: Water Research & Technology, Journal of Materials Chemistry A, Nanoscale, RSC Advances, Sustainable Energy & Fuels.

Springer (13): Applied Microbiology and Biotechnology, Biomass Conversion and Biorefinery, Biotechnology for Biofuel, Biotechnology Letters, Environmental Chemistry Letters, Environmental Monitoring and Assessment, Ionics, Journal of Industrial Microbiology & Biotechnology, Journal of Materials Science, Materials for Renewable and Sustainable Energy, Microbial Cell Factories, SN Applied Sciences, Waste and Biomass Valorization.

Taylor & Francis Online (2): Environmental Technology, International Journal of Green Energy.

Wiley (13): Advanced Energy Materials, Advanced Energy and Sustainability Research, Advanced Functional Materials, Advanced Materials, Biofuels, Bioproducts & Biorefining, ChemistrySelect, ChemSusChem, Electrochemical Science Advances, Fuel Cells, International Journal of Energy Research, Journal of Chemical Technology and Biotechnology, 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

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

CONFERENCE ORGANIZATION

Conference Organizer (10)

10. **Local Organizing Committee** of the Topical Meeting of the International Society of Electrochemistry. May 2024. Baveno, Italy. **(IN PROGRESS)**
9. **Organizing Scientific Committee** of the Topical Meeting of the International Society of Electrochemistry “**Marine and Environmental Electrochemistry**”. 26-28 May 2024. Šibenik, Croatia. **(IN PROGRESS)**
8. **Symposium Organizer** for Division 2, 3 and 5 at the 72nd Annual Meeting of the International Society of Electrochemistry. 3-8 September 2023. **(IN PROGRESS)**
7. **Symposium Organizer** for Division 2, 3 and 5 “**Electrochemical Technologies for Sustainability within the Water/Energy Nexus**” at the 71st Annual Meeting of the International Society of Electrochemistry. 12-16 September 2022. *VIRTUAL CONFERENCE* **(IN PROGRESS)**
6. **Organizing Committee**. Regional Meeting International Society of Electrochemistry. 12-16 August 2022. Prague, Czech Republic **(IN PROGRESS)**
5. **Symposium Organizer** “**Microbial electrochemical technologies and electron transport system**” at the XXVII International Symposium on Bioelectrochemistry and Bioenergetics, 3-7 April 2022, Antwerp, Belgium.
4. **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*
3. **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*
2. **Program co-Chair IEEE Nano 2020** (Institute of Electrical and Electronics Engineers). 29-31 July 2020. *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. (http://www.chimica.unipd.it/ssi21/List_of_Symposia_III.html)

Workshop Organizer (3)

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 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**.
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**.

Responsibilities in Conferences

7. **Award Committee** for the International Society of Electrochemistry (ISE) for the Award - Bioelectrochemistry Prize of ISE Division 2- **2022**.
6. **Oral Evaluator** 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 Evaluator** for the *29th Topical Meeting of the International Society of Electrochemistry*. 18-21 April **2021**. Mikulov, Czech Republic. *VIRTUAL CONFERENCE*
4. **Oral Evaluator** 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 Evaluator** for Symposium 6 at the *71st Annual Meeting of the International Society of Electrochemistry*. 3-4 September **2020**. Belgrade, Serbia. *VIRTUAL CONFERENCE*
2. **Award Committee co-Chair IEEE Nano 2020** (Institute of Electrical and Electronics Engineers). 29-31 July **2020**. *VIRTUAL CONFERENCE*
1. **Poster Evaluator** 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 (8)

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 catalysts 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**.

Conference Scientific Advisory Board (2)

2. The 1st International Electronic Conference on Chemical Sensors and Analytical Chemistry (CSAC2021). 1-15 July **2021**. *VIRTUAL CONFERENCE*
1. European Fuel Cell Forum. Microbial & Enzymatic Electrochemical Reactors, Fuel Cells & Electrolysers (MEEP) Symposium Scientific Advisory Board. Lucerne, Switzerland on the 3–4 July **2019**.

JOURNAL PUBLICATIONS *(updated on March 8th, 2022)*

Published (108) – Reviews (12) – Editorial (3)

First author (43) – Corresponding author (37)

2011 (2); 2012 (5); 2013 (10); 2014 (9); 2015 (9); 2016 (12); 2017 (12); 2018 (11); 2019 (12); 2020 (10); 2021 (10); 2022 (6)

H-index = 44; *i10-index* = 83; *Citations* = 5430 (*Google Scholar*)

H-index = 41; *i10-index* = 77; *Citations* = 4422 (*Scopus*)

H-index = 38; *i10-index* = 77; *Citations* = 4016 (*Isi Web of Science*)

108. C. Santoro*, A. Lavacchi, P. Mustarelli, V. Di Noto, L. Elbaz, D.R. Dekel, F. Jaouen. What is next in anion-exchange membrane water electrolyzers? Bottlenecks, benefits, and future. *ChemSusChem* **2022**, XXXX. DOI: 10.1002/cssc.202200027 (IF 2020: 8.928) REVIEW *corresponding author.
107. S. Zago, M. Bartoli, M. Muhyuddin, Pravin Jagdale, A. Tagliaferro, G.M. Vanacore, C. Santoro, S. Specchia. Engineered biochar derived from pyrolyzed waste tea as a carbon support for Fe-N-C electrocatalysts for the oxygen reduction reaction. *Electrochimica Acta* **2022**, 412, 140128. DOI: 10.1016/j.electacta.2022.140128 (IF 2020: 6.901)
106. J. Munuera, L. Britnell, C. Santoro, R. Cuéllar-Franca, C. Casiraghi. A Review on Sustainable Production of Graphene and related Life Cycle Assessment. *2D Materials* **2022**, 9, 012002. DOI: 10.1088/2053-1583/ac3f23 (IF 2020: 7.103) REVIEW
105. M. Muhyuddin, J. Filippi, L. Zoia, S. Bonizzoni, R. Lorenzi, E. Berretti, L. Capozzoli, M. Bellini, C. Ferrara, A. Lavacchi, C. Santoro*. Waste face surgical mask transformation into crude oil and nanostructured electrocatalysts for fuel cells and electrolyzers. *ChemSusChem* **2022**, 15 (2), e202102351. DOI: 10.1002/cssc.202102351 (IF 2020: 8.928) *corresponding author.
104. V.C.A. Ficca, C. Santoro*, E. Marsili*, W. Da Silva Freitas, A. Serov, P. Atanassov, B. Mecheri*. Sensing nitrite by iron-nitrogen-carbon oxygen reduction electrocatalyst. *Electrochimica Acta* **2022**, 402, 139514. DOI: 10.1016/j.electacta.2021.139514 (IF 2020: 6.901) *corresponding author.
103. M. Zarattini, C. Dun, L.H. Isherwood, A. Felten, J. Filippi, M.P. Gordon, L. Zhang, O. Kassem, X. Song, W. Zhang, R. Ionescu, J.A. Wittkopf, A. Baidak, H. Holder, C. Santoro, A. Lavacchi, J.J. Urban, C. Casiraghi. Synthesis of 2D anatase TiO₂ with highly reactive facets by fluorine-free topochemical conversion of 1T-TiS₂ nanosheets. *J. Mater. Chem A* **2022**, XXXXXXXX. DOI: 10.1039/d1ta06695a (IF 2020: 12.732)
102. B.K. Mutuma, N.F. Sylla, A. Bubu, N.M. Ndiaye, C. Santoro, A. Brilloni, F. Poli, F. Soavi, N. Manyala. Valorization of biodigestor plant waste in electrodes for supercapacitors and microbial fuel cells. *Electrochimica Acta* **2021**, 391, 138960. DOI: 10.1016/j.electacta.2021.138960 (IF 2020: 6.901)
101. M. Muhyuddin, P. Mustarelli, C. Santoro*. Recent Advancements in Waste Plastic Transformation into Valuable Platinum Group Metal-Free Electrocatalysts for Oxygen Reduction Reaction. *ChemSusChem* **2021**, 14 (18), 3895-3900. DOI: doi.org/10.1002/cssc.202101252 (IF 2020: 8.928) *corresponding author.
100. F. Parnianchi, S. Kashanian, M. Nazari, C. Santoro, P. Bollella, S. Dabirian, K. Varmira. Highly Selective and Sensitive Molecularly Imprinting Electrochemical Sensing Platform for Bilirubin Detection in Saliva. *Microchemical Journal* **2021**, 168, 106367. DOI: 10.1016/j.microc.2021.106367 (IF 2020: 4.821)
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16. **C. Santoro**, S. Babanova, P. Atanassov, B. Li, I. Ieropoulos, P. Cristiani. High Power Generation by a Membraneless Single Chamber Microbial Fuel Cell (SCMFC) using Enzymatic Bilirubin Oxidase (BOx) Air-Breathing Cathode. *Journal of The Electrochemical Society* **2013**, 160 (10), H720-H726. DOI: 10.1149/2.058310jes. (IF **2013**: 2.859)
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13. **C. Santoro***, M. Cremins, U. Pasaogullari, M. Guilizzone, A. Casalegno, A. Mackay, B. Li*. Evaluation of Water Transport and Oxygen Presence in Single Chamber Microbial Fuel Cells with Carbon-Based Cathodes. *Journal of The Electrochemical Society* **2013**, 160 (7), G128-G134. DOI: 10.1149/2.020307jes. (IF **2013**: 2.859) ***corresponding author**
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10. **C. Santoro**, I. Ieropoulos, J. Greenman, P. Cristiani, T. Vadas, A. Mackay, B. Li. Power Generation and Contaminant Removal in Single Chamber Microbial Fuel Cells (SCMFCs) Treating Human Urine. *International Journal of Hydrogen Energy* **2013**, 38, 11543-11551. DOI: 10.1016/j.ijhydene.2013.02.070. (IF **2013**: 2.93)
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8. **C. Santoro***, B. Li*, P. Cristiani, G. Squadrito. Power Generation of Microbial Fuel Cells (MFCs) with Low Cathodic Platinum Loading. *International Journal of Hydrogen Energy* **2013**, 38(1), 692-700. DOI: 10.1016/j.ijhydene.2012.05.104. (IF **2013**: 2.93) ***corresponding author**
7. **C. Santoro**, U. Karra, B. Li, 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. *ECS Transactions* **2012**, 50(54), 47-54. DOI: 10.1149/05054.0047ecst.
6. **C. Santoro**, A. G. Agrios, B. Li, P. Cristiani. The Correlation of the Anodic and Cathodic Open Circuit Potential (OCP) and Power Generation in Microbial Fuel Cells (MFCs). *ECS Transactions* **2012**, 41(11), 45-53. DOI: 10.1149/1.3687390.
5. **C. Santoro**, P. Cristiani, A. G. Agrios, B. Li. Effects of Anode and Cathode Area on Organic Compounds Removal and Power Generation in Membraneless Microbial Fuel Cell (MFC). *ECS Transactions* **2012**, 41(11), 57-63. DOI: 10.1149/1.3687391.
4. M. Zago, A. Casalegno, **C. Santoro**, R. Marchesi. Water Transport and Flooding in DMFC: Experimental and Modelling Analyses. *Journal of Power Sources* **2012**, 217, 381-391. DOI: 10.1016/j.jpowsour.2012.06.022. (IF **2012**: 4.675)
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 (2)

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'**. Publisher: De Gruyter. Edited by Serge Cosnier. 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.

CONFERENCE/WORKSHOP PARTICIPATION (40)

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. *North East 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-Mediterranean 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 (40) – as presenter

8 Invited, 1 Keynote and 2 Plenary Lecture

40. **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**)
39. **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**)
38. **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**)
37. **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
36. **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.
35. **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**)
34. **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**)

33. I. Gajda, O. Obata, J. Greenman, 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. Presentation on behalf of I. Gajda.
32. **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)**
31. **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)**
30. **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)**
29. 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.
28. **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.
27. 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.
26. 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.
25. **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.
24. **C. Santoro***, A. Serov, F. Soavi, P. Atanassov, Utilization of Supercapacitive Features in Bioelectrochemical Systems, *XXIV International Symposium on Bioelectrochemistry and Bioenergetics*, 3-7 July **2017**, Lyon, France **(INVITED presentation)**
23. **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.
22. **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)**
21. **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.
20. **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.
19. **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.
18. **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.
17. **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)**
16. **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.

15. **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.
14. **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.
13. **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.
12. **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.
11. **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
10. **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.
9. **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.
8. **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-Mediterranean Hydrogen Technology Conference (EMHyTeC) 2012*, September 11-14 **2012**, Hammamet-Tunisia.
7. **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.
6. **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.
5. **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.
4. **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.
3. **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
2. 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.
1. **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.

CONFERENCE – ORAL PRESENTATION (31) – as co-author *presenter

3 invited

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31. 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*.

30. 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**)
29. 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.
28. 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
27. 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**)
26. 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**)
25. 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.
24. 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.
23. 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.
22. 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.
21. 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 & H₂ Processing Fundamentals and Engineering Design. *3rd MEEP Symposium 2019: Microbial & Enzymatic Electrochemical Reactors. Fuel Cells & Electrolysers Systems*. 2-5 July **2019**, Lucerne, Switzerland.
20. 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.
19. 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.
18. 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.
17. 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.
16. 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.
15. 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.

14. 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.
13. 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.
12. A. Serov*, J.P. Gordon, **C. Santoro**, M. Padilla, K. Artyushkova, O.A. Baturina, S. Kazemi, T. Nickchi, P. Atanassov. CO₂ 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.
11. J.A. Cornejo*, K. Artyushkova, **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.
10. 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.
9. 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.
8. 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.
7. 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.
6. 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.
5. 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.
4. **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.
3. P. Cristiani*, M.L. Carvalho, **C. Santoro**, B. Li, E. Guerrini, S. Trasatti. Performance of Membraneless MFCs with Graphite and Stainless Steel Electrodes. *Euro-Mediterranean Hydrogen Technology Conference (EMHyTeC) 2012*, September 11-14, **2012**, Hammamet-Tunisia
2. 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-Mediterranean Hydrogen Technology Conference (EMHyTeC) 2012*, September 11-14, **2012**, Hammamet-Tunisia.
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 (19) - as presenter

19. **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*.
18. **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.

17. 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.
16. **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.
15. **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
14. **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.
13. 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.
12. **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.
11. **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.
10. **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.
9. **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.
8. **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.
7. **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.
6. **C. Santoro***, P. Cristiani, G. Squadrito, Y. Lei, A.G. Agrios, B. Li. Coulombic Efficiency under Different Operative Conditions in Microbial Fuel Cells. *Euro-Mediterranean Hydrogen Technology Conference (EMHyTeC) 2012*, September 11-14, **2012**, Hammamet-Tunisia.
5. **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.
4. **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.
3. **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.
2. **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.

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.

CONFERENCE - POSTER PRESENTATION (19) - co-author *presenter

19. 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*.
18. 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.
17. 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.
16. 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.
15. 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.
14. 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
13. **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.
12. 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.
11. **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.
10. 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.
9. 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.
8. **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.
7. **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.
6. **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**, Malmö, Sweden.
5. 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.
4. 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.

3. 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.
2. 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.
1. **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.

INVITED SEMINAR (20)

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**.

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, Jonathan Filippi CNR-ICCOM Florence, Italy
 Francesca Soavi, Catia Arbizzani, University of Bologna, Italy
 Matteo Grattieri, Paolo Bollella, University of Bari
 Monica Santamaria, Francesco Di Franco, Andrea Zaffora, University of Palermo, Italy

SERVICES, OUTREACH and ACADEMIC DUTIES

2021-2022

Formation school for teachers of 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) on platinum group metal-free catalysts for ORR and HER and applications in fuel cells and electrolyzers. Application to the Synchrotron.

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**

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) on platinum group metal-free catalysts for ORR and HER. Advised and aided a PhD student (**Federico Poli**, University of Bologna) on sediment microbial supercapacitors. Advised and aided a PhD student (**Valerio Ficca**, University of Rome Tor Vergata) on the poisoning effect of anions on the electrocatalytic activity of Fe-N-C towards oxygen reduction reaction in neutral media. Application to the Synchrotron.

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 describe 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 celebrate 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) on sediment microbial supercapacitors. Advised and aided a PhD student (**Valerio Ficca**, University of Rome Tor Vergata) on the poisoning effect of anions on the electrocatalytic activity of Fe-N-C towards oxygen reduction reaction in neutral media.

Department Seminar Organizer

Prof. Stefano Passerini (KIT). "Hard Carbons for Sodium-Ion Batteries: Structure, Analysis, Sustainability and Electrochemistry". **29 July 2020**. Manchester, UK. (*VIRTUAL SEMINAR*)

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". **11 May 2020**. Manchester, UK. (*VIRTUAL SEMINAR*)

2018-2019

Graduate Advisor

Advised and aided a PhD student (**Federico Poli**, University of Bologna) and a Master student (**Jacopo Seri**, University of Bologna) on the integration of microbial fuel cells with external supercapacitors. Advised and aided a PhD student (**Valerio Ficca**, University of Rome Tor Vergata) on the poisoning effect of anions on the electrocatalytic activity of Fe-N-C towards oxygen reduction reaction in neutral media.

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

Graduate Advisor

Advised and aided several post-doctoral fellows on the study of self-stratifying microbial fuel cells, supercapacitive microbial fuel cells and basic electrochemistry applied for single electrode polarization.

Deputy Director of the Bristol BioEnergy Center (BBiC)

2016-2017

Graduate and Undergraduate Advisor

Advised and aided one graduate student (**Mounika Kodali**, University of New Mexico) on the study of pharmaceutical removal using biological/electrochemical system and ii) the study of novel platinum-free cathode catalysts for MFC.

Advised and aided one graduate student on the study of integration between bioelectrochemical systems and supercapacitors (**Mounika Kodali**, University of New Mexico).

Advised a graduate student (**Francisco Moruno Lopez**, University of New Mexico) of the development of microbial desalination cells.

Advised and aided one undergraduate student (**Sergio Herrera**, University of New Mexico) on the integration of microbial desalination cell with supercapacitors.

Supervisor of an undergraduate student (**Roxanne Awais**, University of New Mexico) during her Fellowship "McNair" during the Summer 2017.

2015-2016

Graduate and Undergraduate Advisor

Advised and aided one graduate student on the study of pharmaceutical removal using electrochemical oxidation (**Mosaddek Hossen**, University of New Mexico).

Advised and aided one graduate student (**Mounika Kodali**, University of New Mexico) on: i) the study of pharmaceutical removal using biological/electrochemical oxidation and ii) the study of novel platinum-free cathode catalysts for MFC.

Advised and aided one graduate student (**Jeremiah Houghton**, University of New Mexico) on the study of integration between bioelectrochemical systems and supercapacitors.

Advised and aided one undergraduate student on the integration of microbial desalination cell with supercapacitors (**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) on development of iron based catalyst based on novel low cost precursors.

Teacher Advisor (Summer 2014)

Advised a Teacher (**Irina Cislaru**) from the program Research Experience for Teachers (RET) funded by the National Science Foundation. The teacher has been involved in testing new cathode catalysts into microbial fuel cell systems.

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)

Led 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 a research projects related with the electrochemical performance of carbonaceous based cathode for microbial fuel cells.

Open House

Led a group of visitors in the Engineering Building at the University of Connecticut