

## Candidate Statement Division 2 Chair: Carlo Santoro

**Carlo Santoro** got his BSc (2006) and MSc (2008) in Environmental Engineering at the *Politecnico di Milano (Italy)* working on Direct Methanol Fuel Cells (DMFCs). He earned his PhD in Environmental Engineering at the University of Connecticut (USA) (2009-2013) working on novel materials for Microbial Fuel Cells.

In 2013, he moved as Post Doc to the *University of New Mexico (USA)* working on: i) bacteria attachment of different surfaces and biofilm formation; ii) enzymes for the reduction of oxygen and for biosensing; iii) synthesis of carbonaceous materials as support for catalysis.

In 2014, he moved as Post Doc to the *Nanyang Technological University (Singapore)* and he developed a biosensor capable of detecting VOCs.

In 2015, he moved back as Post Doc to the *University of New Mexico (USA)* at the Dept of Chemical and Biological Engineering working on platinum-free catalysts for oxygen reduction reaction (ORR) and hydrogen evolution reaction (HER) along the entire pH spectra and integration of supercapacitors and bioelectrochemical systems. In 2016, he was promoted as Research Assistant Professor.

In 2017, he became Associate Professor at *University of the West of England Bristol (UK)* working on microbial fuel cells with the intention of scaling them up for practical applications.

In 2020, he joined the *University of Manchester (UK)* (Dept. of Chemical Engineering and Analytical Science) as Lecturer at the.

In 2021, he joined the Department of Materials Science at the *University of Milano-Bicocca (Italy)* as Assistant Professor working on bacteria-electrode interfaces, cathode electrocatalysts for bioelectrochemical systems, fuel cells and electrolyzers and biochar production for soil remediation.

He has been PI and co-PI for many projects related to Microbial bioelectrochemistry and electrocatalysis securing through the research activities about 1.5 M€. He is currently PI of a project sponsored by Program for Young Researchers "Rita Levi Montalcini".

He is author of 112 peer-reviewed manuscripts (H-index=45, Scholar) and he presented his work in over 100 contributions oral and poster presentations. His work has been awarded with prestigious prizes such as the *Tajima Prize 2020* (International Society of Electrochemistry (ISE)), *Carl Wagner Medal of Excellence in Electrochemical Engineering 2017* (European Federation of Chemical Engineering) and *F.M. Becket Summer Research Fellowship 2013* (Electrochemical Society (ECS)).

Notably, he is currently advisor of 6 PhD students. He was co-supervisor of 4 PhD students. He was the main supervisor of 6 MSc students and 2 BSc students.

### ISE Society Responsibilities

He is currently serving as Vice-Chair of Division 2 for the International Society of Electrochemistry (2021-2023). He has co-organized Symposia for Division 2 at the 71<sup>st</sup>, 73<sup>rd</sup> and 74<sup>th</sup> ISE Annual Meeting.

### Brief Statement of the Candidate

We are facing an extraordinary historical moment on our lives with the COVID pandemic and now with the Russia-Ukraine conflict. Electrochemistry can give lots of positive and effective answers to these issues and be the solution to problems. Bioelectrochemistry can be part of this roadmap too in many fields such as energy production, water treatment, medical and sensing application, etc. "The addition of biological organisms responsible for catalyzing electrochemical reactions, gives these systems a level of complexity that is perhaps above that of already complex electrochemical systems." This is probably what makes Bioelectrochemistry one of the most fascinating fields. Due to this interdisciplinary and multidisciplinary characters, it is paramount and crucial to disseminate this field starting from the young researchers up to senior scientists involved.

I will be actively engaged in supporting young scientists to grow personally and scientifically. To achieve this, I will promote the organization of national online meeting supported by ISE (at no cost) where young bioelectrochemists will be able to present their work and interact at national level and at the same time fortify the community creating networking. Moreover, I will give responsibilities to young researchers to organized Symposia at the ISE and be more active and involved in the decisional process.

I will be actively engaged in enlarging the bioelectrochemical community by interacting with other divisions internally at the ISE and externally to find common ground and exploit interactions with scientists involved in physics, chemistry, botany, pharmacy, geology, engineering, etc. I personally learn very much from talking to people that have a very multidisciplinary background.

ISE and Division 2 are largely international group of scientists. I will always promote inclusiveness and gender equality at participation and decision level. I will strongly support diversity as a resource for future generations. I will support the subscription of Women in Division 2 and at ISE, which number is still too low, and make sure to represent equally each country and continent.

I have personally been extremely lucky to be part of this big family that is ISE and especially Division 2 that helped me to grow as person and scientist and I will put every necessary effort to make it grow and to keep high the level of science promoting interaction and networking.