Dear Members of Division 7 (ISE),

I am writing to express my interest in the position of Chair of Division 7 (Physical Electrochemistry) of the International Society of Electrochemistry (ISE). Over the years, ISE has provided me with invaluable opportunities for professional growth, collaboration, and knowledge exchange, and I would like to give back to this great community by contributing to its leadership.

As an independent group leader and EPSRC fellow at the Department of Chemistry, Imperial College London, UK, my recent research has focused on developing innovative ways to simulate from first principles nano-electrochemical interfaces in operation, such as under applied voltage. My work advances our understanding of fundamental aspects of physical electrochemistry and spans applications like energy conversion in electrolysers, fuel cells, and batteries, as well as electrochemical sensing and memristive switching. This aligns closely with Division 7's core focus, and I am committed to supporting its growth and visibility within the wider field of electrochemistry.

I have already been actively involved with ISE, organising the **38th Topical Meeting** in Manchester (2024) and serving on the committee for the **Kuznetsov Prize** in Theoretical Electrochemistry. These experiences have deepened my engagement with the society and strengthened my desire to further contribute to its mission.

In my research career, I have demonstrated leadership by contributing to the strategic development of interdisciplinary centres, e.g. as part of the steering committee of the **Thomas Young Centre**, which oversees more than 100 research groups in London working on theoretical studies of materials and molecular systems. Additionally, as the founder and leader of the **Multi-faculty Imperial College Network of Excellence in Electrochemistry**, I have fostered interdisciplinary research at Imperial College London and enhanced collaborations between academia and industry. Hosting industry-focused events, such as the **Industry Day** I organised in 2022, has strengthened partnerships with key players in the electrochemical energy sector and initiated important discussions on how fundamental research drives innovation. These experiences position me well to further enhance relationships between ISE, industry, and academia, promoting knowledge transfer and innovation in physical electrochemistry.

ISE has played a crucial role in my professional development, offering me precious opportunities to present my work and connect with leading experts. Now, I am keen to give back to the organisation by supporting the next generation of electrochemists and advancing the goals of Division 7. As Chair I will promote collaboration across disciplines, support early-career researchers, and promote diversity and inclusion within our community. I will focus on supporting and creating platforms for early career scientists and underrepresented groups to engage with cutting-edge research in physical electrochemistry, including (but not limiting to) areas such as the integration of artificial intelligence and electrochemistry, ensuring that Division 7 remains at the forefront of scientific advancements.

In conclusion, I am enthusiastic about the opportunity to serve as Chair of Division 7. I am confident that my leadership, research expertise, and dedication to physical electrochemistry will contribute to the continued success and growth of ISE. I look forward to the possibility of working closely with the Division and the broader ISE community.

Sincerely,
dr. Clotilde S. Cucinotta,

Independent Group Leader and EPSRC Fellow
Department of Chemistry, Imperial College London

Curriculum Vitae of dr. Clotilde S. Cucinotta

Position: *Independent Group Leader and EPSRC Fellow, Department of Chemistry, Imperial College London*
Citizenship: *Italian*
Languages: *Italian (native), English (fluent), French (good)*
ORCID: *0000-0001-5156-3514*
Website: *Imperial College Profile*
Computational Tools: *Nano Electrochemistry Group Wiki*

EDUCATION

PhD in Physics (2006): University of Modena and CNR-S3 centre, IT. Thesis: "*Chemisorption thermodynamics and kinetics on silicon surfaces". Supervisor: prof. Molinari*

Master's Degree in Condensed Matter Physics (2002): University of Messina, IT, Mark: *110/110 cum laude*. Thesis: "*Computational analysis of new approximations to the density functional*". Supervisor: prof. Ballone.

Law Studies (until 1995): University of Messina, IT, 2/3 of the Bachelor-Master degree completed (28.2/30)

INDEPENDENT GROUP LEADER

2018 to present: EPSRC fellow**,** Department of Chemistry, Imperial College London (ICL), UK.

RESEARCH POSITIONS

2014-2018: Funded Investigator, Trinity College Dublin & AMBER-CRANN, IE.

2010–2014: Research Fellow, Trinity College Dublin, IE. Mentor: prof. Sanvito

2006–2010: Postdoctoral Fellow, ETH Zurich, CH. Mentor: prof. Parrinello

PUBLICATIONS

40 articles primarily as first or senior author in leading journals (Nature Communications, Angew. Chemie, PRL), with an **h-index of 15** and **2920 citations**. Google Scholar.

RESEARCH INTERESTS

CC's current research focuses on developing innovative ways to simulate from first principles nano-electrochemical interfaces in operation, e.g. when a voltage is applied to the electrode. She uses these methodologies to study electrocatalytic energy conversion and production, corrosion, Na-ion batteries, electrochemical sensors and memristive switching.

INVITED TALKS AND CONTRIBUTIONS TO THE COMMUNITY

Delivered about **45 invited talks**, including a keynote at an ISE conference, and invitations at e.g. various ACS, ISE, MMM, Psi-k, Lorentz CECAM meetings.

Founding member and leader of the interfaculty **Excellence Network on Electrochemistry (EC)** at Imperial College, which fosters interdisciplinary electrochemistry research across ICL.

Serves on the **Thomas Young Centre** steering committee, which oversees more than 100 research groups in London focusing on theoretical studies of materials and molecular systems.

Part of the **C4 working group on catalysis and electrochemistry of Psi-k**, a Europe-based, worldwide research network working on the advancement of first-principles computational materials science

Organizer of >40 symposia, seminars, Industry days and conferences, including, among others 4 symposia at the ISE 38th topical meeting in 2024, the *TYC flagship symposia on Energy in 2022 and 2024,* the TYC seminar series and symposia for the EC Network and for the IG2 interest group: *Surfaces, Interfaces, Electrochemistry*, all featuring high attendance and prominent international speakers.

Invitations to **serve on committees** for prestigious institutions and awards such as the ISE - A. Kuznetsov Prize in Theoretical Electrochemistry and the TYC Early Career Award 2022 and 2024.

MEDIA AND COMMUNITY ENGAGEMENT

Featured Speaker: Presented at the International Day of Women and Girls in Science at Imperial College London, engaging over 500 attendees and receiving significant media coverage. Watch her talk here.

Outreach: Delivered a remote talk at the Tiffin Science Festival and engaged with >100 students at Kingston Grammar School Career Fair (2022).

Diversity and Mentorship: Mentored female PhD students through TYC's EDI program. Organized a seminar on retaining talent in science, featuring Prof. Rudolf at the Lorentz-Cecam workshop (2017).

Industry Engagement: Hosted an Industry Day (Sept 2022) to collaborate with companies like RFC Power and Johnson Matthey, focusing on energy challenges and electrochemistry solutions..

RECENT FUNDING

EPSRC Fellowship on developing new methodologies to model EC nano-interfaces: £1.6M (2018–2024)

BP-ICAM project on Hydrogen Utilisation: £270K (2024–2028)

Qatar Science Foundation project on CO_2 Management**:** Co-I $5M (2021–2026)

EPSRC *project on optimising CP2K code for emerging architectures and Machine Learning: Co-I (£500K)*

From 2022: secured **160M core hours** (~£4M) in high performance computing resources.

TEACHING QUALIFICATIONS

November 2014- July 2016: Postgraduate Diploma in Higher Education (NFQ-IE level 9, equivalent level 7 of the RQF-UK – MRes degree), School of Education, Trinity College Dublin, Ireland

TEACHING

2019–2024: Coordinator, 1st Year Maths submodule, Imperial College London

2020–2024: Developer, 3rd Year Computational Lab, Imperial College London

2021–2023: Electrochemistry workshops on Solid-Liquid Interfaces module

2023–2024: Quantum Mechanics module, MRes in Molecular Engineering

2020-2022: Coordinated 24 lecture course in *Advanced Methods in Electrochemistry*

2013-2017 Advanced molecular dynamics course for 4th year UG, Chemistry, Trinity College Dublin

2014-2017 Computational Physics Laboratory –2nd year UG, Physics, Trinity College Dublin

Developed multiple tutorials on computational methods hosted on Nano Electrochemistry Group Wiki.