



DR. CARLOS PONCE DE LEÓN ALBARRÁN

[Carlos Ponce de León](#) is a Professor in Electrochemical Engineering at the University of Southampton in the Faculty of Engineering and Physical Sciences. His main areas of expertise are in electrochemical energy conversion and water treatment technology. He has industrial experience in quality control, data acquisition systems, analytical chemistry, recovery of precious metals and fuel cell testing. He has taught at 3 different universities during the last 25 years and is currently the coordinator of the MSc program in Sustainable Energy Technologies at the University of Southampton. He has developed strong collaborations with partners in electrochemical reactor modelling, decontamination of industrial effluents and metal-air batteries. He has contributed to redox flow battery technology with full utility-scale mass transport characterization of cell stacks and improvements to several chemistries. Over the last few years, he has worked on the use of 3D-printing as a fast-prototyping tool for electrochemical flow cells, aluminum -polymer and -oxygen batteries, iron-air batteries, reduction of carbon dioxide and the anodic generation of hydrogen peroxide. He has been the principal investigator of projects funded by the European Commission, Innovate UK, projects with the Newton Fund and Lloyds Register Foundation while collaborating in EPSRC projects. Professor Ponce de León is Fellow of the Royal Society of Chemistry and editor and lately co-editor of the Electrochemistry Newsletter. He was chairman of “Electrochem 2013” conference in 2013 with 230 delegates and he has authored over 190 peer-reviewed publications and *h*-index 47 with 8700 citations according to Scopus. He has directed over 35 MSc thesis and over 20 PhD thesis. Recently in October 2022, he organized the European Summer School of Electrochemical Engineering ([ESSEE](#)) with over 180 participants.

[Carlos Ponce de Leon](#) – expression of interest for Chair of Division 5; Electrochemical Process Engineering and Technology

Qualities that are needed in this role.

The role of the Division Chair includes supporting and informing the members of the International Society of Electrochemistry on symposiums, conferences, topical and regional meetings organised by its members. The Chair should promote and create an environment that stimulates networking activities for scientists working on Electrochemical Process Engineering and Technology.

I believe that there is a great opportunity for scientists working in this area to contribute to the development of new and innovative electrochemical production and synthesis processes that could make a difference to energy savings, helping to alleviate the environmental and energy problems that we currently face and lead to increased sustainability. However, this needs support from the society, both financial and scientific, for example with special activities for students like registration waivers, online tutorials and/or student symposia. If elected as Chair of Division 5, I will promote and support these activities in Electrochemical Engineering to help scientists and students to design and build optimised electrochemical reactors for applications that will help to reduce waste, minimising the impact of our industrial society on the environment and promoting sustainability.

Electrochemical engineering area is very important in our current times because it provides solutions for industries by optimising and reducing the energy used in many industrial processes. The role of the Chair is to help to integrate chemical engineering, chemistry, material sciences and mechanical and electrical engineering into electrochemical engineering by supporting the members of the society in these areas. There are great opportunities for developing energy storage, hybrid and electric vehicles, environmental treatment and protection, semiconductors, and energy generation systems.

I recently organised the [9th European Summer School of Electrochemical Engineering](#) which was attended by over 175 participants. The feedback from the participants was very positive and provides an example of the activities that I am keen to promote, if elected.