

Speaker biography

Erika Bustos Bustos

National Researcher Level III of the National System of Researchers (SNII) of the Secretariat of Science, Humanities, Technology and Innovation (SECIHTI) since 2019, Regular Member of the Mexican Academy of Sciences (AMC) since 2021, with Postdoctoral studies at the Center for Research and Advanced Studies of the National Polytechnic Institute (CINVESTAV – IPN) in the area of Chemistry. PhD in Electrochemistry from the Center for Research and Technological Development in Electrochemistry S. C. (CIDETEQ), specializing in Modified Electrodes; her dissertation received three national awards for best doctoral dissertation from the Mexican Academy of Sciences (AMC), the Mexican Society of Electrochemistry (SMEQ), and the Institute of Materials Research of the National Autonomous University of Mexico (IIM – UNAM). Master of Science in Chemistry from the University of Guanajuato, specializing in Electrochemistry. Environmental Engineer from the Interdisciplinary Professional Unit of Biotechnology (UPIBI) of the National Polytechnic Institute (IPN), specializing in Public Services.

Work experience at the Mexican Corporation for Materials Research, S.A. (COMIMSA), Petróleos Mexicanos (PEMEX), the National Water Commission (CNA), and the Sub-Directorate of Urban and Special Waste of the National Institute of Ecology (INE) - Ministry of Environment, Natural Resources and Fisheries (SEMARNAP). Currently, she is a Senior Researcher E with an indefinite contract in the Sub-Directorate of Water and Environment Research of the Directorate of Science at CIDETEQ, carrying out activities in the field of science, humanities, technology and innovation in the research line related to Environmental Electrochemistry, specifically in the design and construction of modified surfaces for the transformation and detection of molecules with environmental importance in different matrices (water, soil and air) with a circular economy approach for sustainable development, with concurrent funds from SECIHTI and commercialized with national and international companies and academic institutions (Brazil, Colombia, Spain, United States of America, France, Hungary, England, and Italy), through the training of human resources at the undergraduate (67 students), graduate (31 undergraduate students) and postgraduate (2 postdoctoral, 17 doctoral and 22 master's in science) levels, dissemination and scientific outreach with an h-index of 28 and an i10 of 79, with 2936 citations, as well as intellectual property granted at the national level (5 patents, 1 utility model and 1 copyright). In addition to awards and/or recognition for individual research projects, and those conducted with students, at national and international forums. Among her outstanding achievements are the L'Oreal - United Nations Educational, Scientific and Cultural Organization (UNESCO) - Mexican Academy of Sciences (AMC) - Mexican Commission for Cooperation with UNESCO (CONALMEX) Award for Established Women Researchers of the Ministry of Public Education (SEP) 2023, the Queretaro Science, Research and Innovation Award 2023 in the Graduate Students and/or Researchers Category from the Ministry of Education of Queretaro and the Science and Technology Council of the State of Queretaro (CONCyTEQ), the Mexican Invention Award in the Innovation for Micro, Small and Medium Enterprises category from the Mexican Institute of Industrial Property (IMPI) 2021, being named one of the 25 Women in Science: Latin America 2021 by 3M, and the Alejandrina Award 2015 in the Young Talent Category. Research, L'Oreal – UNESCO – AMC Women in Science Fellowship 2012, Fellowship from the Summer Research Stay Program in the United States for Young Researchers 2012 through the AMC and the Mexico – United States Foundation for Science (FUMEC) at Lehigh University in Pennsylvania, United States. Research stays at the Maurice Morton Institute of Polymer Science of

the University of Akron in Ohio, United States in 2006. As well as recognition for outstanding participation during multidisciplinary brigades supporting marginalized communities, by the National Polytechnic Institute (IPN) and the Ministry of Social Development (SEDESOL) in 1996.

Francisco M. Cuevas Muñiz

CIDETEQ Researcher since 2013. Mexican National Researcher System (SNII) Level I since 2015. Doctor of Engineering from the Autonomous University of Querétaro (UAQ) in 2013 with a stage in Institut Européen des Membranes. in Montpellier, France. Master of Science, with orientation in Environmental Analytical Chemistry from University Autonomous of Nuevo León, (UANL) in 2006. Bachelor in Industrial Chemistry from the University Autonomous of Nuevo León (UANL) in 2002.

The research group has supervised multiple graduate theses and produced approximately 30 indexed journal publications, including highly cited contributions, as well as two granted patents in microfluidic energy devices. Ongoing projects include a SECIHTI-funded initiative on PFAS detection using molecularly imprinted polymers and previous collaboration with the Mexican Space Agency–CONACYT on microgravity glucose sensing systems.

The researcher is head of the National Laboratory of Impedance and Bioimpedance (LANCIBi) at CIDETEQ and coordinator of the Electrochemistry Graduate Program. Active international collaborations span institutions in Canada, Peru, the Netherlands, and Italy.

Research focuses on advanced materials and microfluidic devices for energy generation, as well as sensing platforms for environmental contaminants and health applications. Current work includes electrochemical detection of glyphosate and PFAS, alongside development of fuel cell technologies, integrating electrochemistry, functional materials, and device engineering.

Juan Manríquez Rocha

Dr. Juan Manríquez-Rocha is a Senior Researcher (Level E) at CIDETEQ and a member of the Water and Environment Research Sub-Directorate of the Science Directorate. Dr. Manríquez-Rocha has focused his research on the design and preparation of chemically modified electrodes using nanomaterials for applications in electroanalysis, electrocatalysis, photovoltaics, and photocatalysis. He has been the technical lead for six research projects (five completed and one ongoing) and has published 80 articles in peer-reviewed international journals and six co-edited book chapters, with an H-index of 21 in Scopus. He has supervised one postdoctoral fellowship and 43 theses, distributed as follows: eight doctoral dissertations, thirteen master's theses, and seventeen bachelor's theses, including five theses in technology specialization. He is currently a member of the National System of Researchers (SNII) at Level 3 and of the Mexican Academy of Sciences (AMC), a member since 2021. At CIDETEQ, Dr. Manríquez-Rocha served as Coordinator of the Graduate Program in Science and Technology, specializing in Environmental Engineering (2011-2012), and as Deputy Director of Graduate Studies (2012-2013). From 2011 to 2013, he was Secretary of the Mexican Society of Electrochemistry (SMEQ). Dr. Manríquez-Rocha has taught undergraduate and graduate courses and workshops at CIDETEQ, universities, and national and international conferences. He has also led

workshops on physics, chemistry, and electrochemistry demonstrations for children in schools and cultural venues. Dr. Manríquez-Rocha has been co-responsible for ERASMUS+ academic mobility agreements (Università Ca' Foscari di Venezia, Italy, and CIDETEQ) and co-responsible for an academic mobility agreement (Universidad Politécnica de Madrid, Spain, and CIDETEQ).