Carlotta Francia is Associate Professor of Chemistry at the Department of Applied Science and Technology (DISAT).
Research Activities: Electrochemistry, high voltage/high capacity cathodes and high capacity anodes: material synthesis and characterization, fuel cell catalysts and mesoporous carbons, electrochromic materials and devices, nanostructured electrodes and polymer electrolytes, electrochemical characterization of materials for energy storage (Li-ion batteries, Li-O2 batteries, Li-S batteries, lead acid batteries, zinc-air batteries, PEMFC and MFC), hybrid systems (high energy/high power).
Education and work experience: 1997 Degree in Chemistry (Università di Torino); 2004 PhD in Material Science and Technology (Politecnico di Torino); 1998-2000 Technician at DISMIC, Politecnico di Torino, 2000-2006 PhD and Postdoc Fellowships and Research Contracts on lead acid batteries, Zn air batteries, supercondutors, hydrogen and fuel cell technology.
2006-2018 Assistant Professor (Researcher) at the Department of Applied Science and Technology (Politecnico di Torino).
2018 Exchange project for Internationalization of Research at Politecnico di Torino, POLAR project funded by Compagnia San Paolo with the University INIFTA in La Plata and the University of Cordoba (Argentina) intended to extend research in the energy field, especially on Li/S batteries (visiting professor).
Management R&D – Responsible for the EU project H2020 NEXTCELL and participant in the H2020- HYDRA on Hybrid and gelified power-energy electrodes for next generation lithium-ion batteries. Other EU projects as participant are: H2020 SENSIBAT Cell-integrated SENSIing functionalities for smart BATtery systems with improved performance and safety, H2020- BATTERY 2030PLUS, H2020 ALISE Advanced Lithium Sulphur battery for xEV ALISE (Scientific Responsible of Politecnico Unit), STABLE STable high-capacity lithium-Air Batteries with Long cycle life for Electric cars– (WP2 leader), H2020 eCAIMAN Electrolyte, Cathode and Anode Improvements for Market-near Next-generation Lithium Ion Batteries.
National projects as participants: PRIN 2002 Elettrodi tridimensionali innovativi per processi di ossidazione di inquinanti organici bio refrattari, Progetto Regione Piemonte – piattaforma automotive, Progetto Regione Piemonte – C104: Studio per il miglioramento di sistemi elettrodici (MEA) per fuel cell a bassa temperatura – European BRITE, 1998-2000 “Strategies for further improvement of performance and life of lead-acid batteries for electrical vehicle applications”-
– Research Contracts with Edison SpA on the topics: “Bifuctional air electrodes for Zinc/air batteries” & “Electrochemical deposition of superconductors on un-textured silver substrates”. Awarded “Young Researchers Project” funds from Politecnico di Torino, year 2000, topic “Iniezione e trasporto elettrocinetici di sostanze cariche e neutre in terreni argillosi”