

ALESSANDRO LAVACCHI, PH.D.

**Research Scientist at the National Research Council - CNR
Head of the Electron Microscopy Facility of the Florence Research Area
Editor in Chief of "Coatings"**

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EDUCATION

University of Florence (Italy) - Master Degree in Chemistry (1998)

Ministry of Labour (Italy) - Qualified Expert in Radiological Protection (2000)

University of Florence (Italy) - Ph.D. in Materials Science and Technology (2003)

PROFESSIONAL POSITIONS

Current **Head of the Electron Microscopy Facility** (from March 2014) of the Florence Research Area

Key responsibilities

Research on advanced microscopy characterization of materials
Nanofabrication
Development of the Microscopy Facility renewal plan and related fundraising
Large instruments management (1 FIB-SEM, 2 SEM's and 1 TEM)
Relationship with other public institutions and the private sector
Communication and outreach
Personnel management

Current **Research Scientist** (since 2010) at the Institute of Chemistry of the Organometallic Compounds (ICCOM) of the Italian National Research Council (CNR)

Key responsibilities

Research in materials science and electrochemical technologies for sustainable development
Tutoring and mentoring of PhD students and post-docs
Tutoring of bachelor and master students
Fund raising and project management (national, European and contracts with private companies)
Manager of radiological safety and carcinogenic risk

2007- 2010 **Research Fellow** at the Italian National Interuniversity Consortium of Materials Science and Technology

2003-2007 **Post-Doc** at the Department of Chemistry of the University of Florence

2000-2010 **Self employed** consultant in radiological protection and R&D fund raising

RELEVANT EXTERNAL ASSIGNMENTS

2017 - **EU expert evaluator** of proposal presented in the call H2020-JTI-FCH-2017-1 of the Fuel Cells and Hydrogen Joint Undertaking

2016 - Italian Ministry for Economic Development **project evaluator for the call MISE-FCS 2016**

FUNDING ID

1. "MARIA - Analysis of Silver Alloys as Substrates for Electrodeposition Research Contracts with Jessica srl 2018. **Funding Size € 50.000. (PI)**
2. "ADAMO - TEM and SEM-EDX analysis with ultrahigh-resolution Dual-Beam microscopy" Research Contract with the Italian Interuniversity Consortium on Materials Science and Technology - 2018. **Funding Size € 30.000. (PI)**
3. "NUOGEL - Development of conductive gels for biomedical applications" Direct funding from a research contract with FIAB spa 2017-2018. **Funding Size € 66.000. (PI)**
4. Funding from Ente Cassa di Risparmio di Firenze (charity organization) for opening two post-doc positions, 2015-2016. **Funding Size € 50.000. (PI)**
5. Fundraising for the acquisition of a Dual Beam Microscope for high resolution electron imaging and nanofabrication, 2014-2017. **Funding Size € 1.000.000. (PI)**
6. VII FP EU- Collaborative project DECORE "Direct ElectroChemical Oxidation Reaction of Ethanol: optimization of the catalyst/support assembly for high temperature operation", 2013-2016. Team leader and dissemination and exploitation manager. **Funding size € 249.600. (PI)**
7. Industrial collaboration with BELENOS Clean Power Holding Ltd 2012-2013. **Funding size € 120.000. (PI)**
8. "Development of a process for the deposition of electroless nickel composites coatings", University of Florence and GE - General Electric 2005-2007. **Funding size € 75.000. (PI)**

9. "Development of a process for the aluminium electrodeposition from Ionic Liquids", University of Florence and Cabro srl. 2005-2006. **Funding Size € 45.000 (PI)**

AWARDS

1. **Marie Curie Fellowship** at QUILL (Queen University Ionic Liquid Laboratory) Supervisors Prof. Chris Hardacre and Prof. Ken Seddon - Queen University of Belfast (UK), may-august 2002.
2. **Young researcher award**, Italian Ministry of Research, awarded with 2.500 euro, "Synthesis, characterization and corrosion resistance evaluation of aluminum coatings electrochemically deposited from neoteric solvents", 2002-2003.
3. **RSC International Incoming Short Visit** project "Phase Field Modeling of Electrochemical Systems" presented with Dr. Savko Malinov from the Queen's University of Belfast, School of Mechanics and Aerospace Engineering, june-september 2007

CONFERENCES AND SCHOOLS

Invited and Keynote Talks

1. 8th International Conference on Fundamentals & Development of Fuel Cells Nantes, (France) 12-14 February 2019 (**Keynote Talk**)
2. SurfCoat Korea 2018, Seoul (Korea), March 28-30 2018, (**Keynote Talk**)
3. Conventional And High-Energy Spectroscopies For Inorganic, Organic And Biomolecular Surfaces And Interfaces, An unconventional school for PhD students and young investigators, Florence (Italy), November 27-30 2017 (**Invited Lecture**)
4. 232 ECS Meeting, Washington D.C. (USA), October 1-5, 2017 (**Invited Talk**)
5. International Conference on Innovative Electrochemical Energy Materials and Technologies (EEMT2015), Nanning (China) November 8-11, 2015 (**Keynote Talk**)
6. Electrochemical Conference on Energy & the Environment (ECEE 2015), Vancouver (Canada), August 16-22, 2015 (**Keynote Talk**)
7. Summer School "New Materials and Sustainable Energy" Bressanone (Italy) July 13-16, 2015 (**Invited Lecture**)
8. Electrochemical Conference on Energy & the Environment (ECEE 2014), Shanghai (China), March 13-16, 2014 (**Keynote Talk**)
9. Electrochemical Energy Science and Technology (EEST 2014), Shanghai (China), October 31 - November 3, 2014 (**Keynote Talk**)

10. National Summer School of Philosophy of Physics, Cesena (Italy), 16 -21 September , 2013
(Invited Lecture)
11. 220th Meeting of the Electrochemical Society, Boston (United States), October 9-14, 2011
(Invited Talk)
12. Association for the Study of the Peak Oil 1st ASPO Italia conference, Florence (Italy), March 10, 2007 (Invited Talk)

Board Memberships and Organization

1. **Co-organizer** of the symposium F2 at the 226th ECS meeting held in Cancun (Mexico) October 5-9, 2014
2. **Member of the Scientific Advisory Committee** of EEST 2014 held in Shanghai (China) October 31 - November 4, 2014
3. **Member of the Scientific Advisory Committee** of EEST 2015 held in Vancouver (Canada) August 16-22, 2015
4. **Member of the International Advisory Board** of EEMT 2015 held in Nanning (China) November 8-11, 2015
5. **Member of the Scientific Advisory Committee** of EEST 2016 held in Kunming (China) August 16-22, 2016
6. **Member of the International Advisory Panel** of the 3rd International Symposium on Coatings and Corrosion held in Kuala Lumpur Malaysia 16-19 May 2016
7. **Chair of the Organizing Committee** of the International Workshop on Ethanol Electro-Oxidation held in Florence Italy, 5-7, December 2016.
8. **Member of the International Advisory Board** of the conference “Advances and Applications of Innovative Energy Materials (AAIEM2018)”, Nanning, China, 1-4 December 2018
9. **Co-organizer** of the symposium 20 “Interfacial Electrochemistry in Non-Aqueous Electrolytes” of the 69th Annual Meeting of the International Society of Electrochemistry, Bologna, Italy, 2-7 September 2017

Communications at conferences and workshops

More than 100 contributions (orals and posters) to electrochemistry and materials science national and international conferences.

PUBLICATIONS

In summary (see publication list for details)

- 101 papers in peer reviewed journals with Impact Factor
- > 2000 citations (source Scopus)
- h-index = 24
- 1 European patent
- 1 Monograph

EDITORIAL ACTIVITIES

2017 - **Member of the Editorial Board** of Electrochemical Energy Reviews, a peer reviewed journal edited by Springer

2013 - **Editor in Chief** of Coatings, a peer reviewed journal edited by MDPI Switzerland and indexed by Claryvate Analytics (IF 2018 2.330) and SCOPUS

2011 -2013 **Associate Editor** of Coatings (2011-2013)

TEACHING

University courses held as Principal Lecturer

Spring 2009 “Surface Analysis Techniques” (8 hours) School of Science, University of Siena

Students supervision

- Supervisor of > 10 Bachelor and Master Degree students thesis
- Supervisor of > 10 Ph.D. students
- Tutor of > 10 Bachelor and Master Degree students internships

Other teaching experience

- Teaching assistance to the courses “Physical Chemistry of Materials” and Physics and Chemistry of Surfaces held at the Department of Chemistry of the University of Firenze
- Materials Science and microscopy lecturer in continuing education programs
- Member of the commission for the final examination of Bachelor and Master Degree students

MEMBERSHIPS TO SOCIETIES AND PROFESSIONAL BODIES

- 2017- ISE (International Society of Electrochemistry)
- 2014 - IAOEES (International Academy of Electrochemical Energy Science) where I am a **Member of the Board Committee** of the Electrochemical Energy Fundamentals Division
- 2007- SCI (Italian Chemical Society)
- 2007- ECS (Electrochemical Society)

IT SKILLS

- Scientific Software: Comsol Multiphysics®, Matlab®, ImageJ, Microscope Control Softwares
- Operating Systems: Microsoft Windows and Linux
- Tools: Microsoft Office (Word, PowerPoint, Excel), Mendely, Endnote®,

BIBLIOMETRIC DATA

- h-index 29 (source Scopus)
- Publications 127 (source Scopus)
- Citations 2906 (source Scopus)

LANGUAGES

Italian: mother tongue

English: fluent oral and written