16th International Workshop on Electrodeposited Nanostructures
EDNANO-16

TENTATIVE PROGRAM

Room 209 of the teaching centre "Scuola di Studi Umanistici e della Formazione - Università degli Studi di Firenze", Via Laura, 48, 50121 Firenze (FI), Italy.

Thursday April 10th 2025

8:00 – 9:00	**Registration**
9:00 – 9:30	**Opening Ceremony**
	I Session – Chair Walter Giurlani
9:30 – 9:50	(Opening Talk) Electroplating in Today's World Luca Magagnin – *Politecnico di Milano, Italy*
9:50 – 10:05	The Combined Impact of RE-thioglycolate complex and Co in Zn coatings for Enhanced Corrosion Protection Jelena Bajat – *University of Belgrade, Serbia*
10:05 – 10:20	Thermoelectric nanowire structures as integrated sensors in composite materials Laurent Gravier – *University of Applied Sciences and Arts Western Switzerland, Switzerland*
10:20 – 10:55	**Coffee Break & Poster Session**
	II Session – Chair Andreas Bund
10:55 – 11:15	(Opening Talk) Electroplating of special metals: On the way towards 5-component high-entropy alloys László Péter – *HUN-REN Wigner Research Centre for Physics, Hungary*
11:15 – 11:30	Pulsed reverse electrochemical synthesis of Ag-TiO_2 composites from deep eutectic solvents: photocatalytic and antibacterial behaviour Sabrina State Rosoiu – *University POLITEHNICA of Bucharest, Romania*
11:30 – 11:45	Electrochemical Degradation of Pollutants from Leather Industry Wastewater Ana Brandão – *Universidade do Porto, Portugal*
11:45 – 12:00	Electrochemical deposition of Ni-matrix nanocomposite coatings with 2D nanomaterials prepared by a boric-free electrolytic bath Angeliki Nikolaou – *Creative Nano PC, Greece*

12:00 – 12:15	Enhanced anticorrosion properties of silver via metals nano-strike electrodeposition Roberta Emanuele – *Valmet Plating s.r.l., Italy*
12:15 – 12:30	Scanning Electron Microscope Observation of micro and nanostructured Coatings by Broad Ion Beam Milling for Cross Section preparation Paolo De Natale – *Hitachi High-Tech Europe GmbH, Italy*
12:30 – 14:10	**Lunch**
	III Session – Chair Piotr Zabinski
14:10 – 14:30	(Opening Talk) Zn-TiO_2 dispersion coatings electrodeposited in the presence of L-cysteine, N-acetyl-L-cysteine and thiourea Adriana Ispas – *Technische Universität Ilmenau, Germany*
14:30 – 14:45	Improving the electroplating simulation model for producing uniform coating thickness distribution Caterina Zanella – *Jönköping University, Sweden*
14:45 – 15:00	Solid lubrication for high-load duties: a graphene-based electroplated multilayer coating approach Lorenzo Fabbri – *Nanesa S.r.l., Italy*
15:00 – 15:15	Comprehensive study of Ni/SiC coatings deposited from a novel, boric acid free bath as candidate for replacement of hard chromium Kata Berkesi – *Creative Nano, Greece*
15:15 – 15:30	Effect of growth parameters on the morphology of electrodeposited Ni films Ayesha Mubshrah– *University of Bristol, UK*
15:30 – 15:45	Propeline, a green electrolyte for precious metals electrometallurgy? Sophie Legeai – *University of Lorraine, France*
15:45 – 16:15	**Coffee Break & Poster Session**
	VI Session – Chair Peter Leisner
16:15 – 16:55	**Schwäbisch Gmünd Prize Winner election and talk**
16:55 – 17:10	Preparation of thin film anodes for post-lithium-batteries Böck Reinhard – *fem Research Institute, Germany*
17:10 – 17:25	Pulse Plating of Nickel-Germanium Alloys as Diffusion Barriers in Thermoelectric Devices Hannah Hilton-Tapp – *University of Leicester, UK*
17:25 – 19:00	**EAST Meeting – for EAST members**
20:00 – 23:00	**Social Dinner**

Friday April 11th 2025

	V Session – Chair Massimo Innocenti
9:00 – 9:20	(Opening Talk) Electrodeposition of aluminium composite coatings from chloroaluminate based ionic liquids Andreas Bund – *Technische Universitaet Ilmenau, Germany*
9:20 – 9:35	Electrochemical synthesis of nanostructured MOFs Wouter Maijenburg – *Martin-Luther-University Halle-Wittenberg, Germany*
9:35 – 9:50	Electrodeposited copper selenide films and their thermoelectric performance Elena Pérez Picazo – *IMN-CNM CSIC, Spain*
9:50 – 10:05	Electrodeposition of Tin Selenide on gold substrate Axel Tahir – *Université de Lorraine, France*
10:05 – 10:20	3D-CuNi interconnected nanonetworks obtained by electrodeposition with high thermoelectric figure of merit Cristina Vicente Manzano – *IMN-CNM CSIC, Spain*
10:20 – 10:50	**Coffee Break & Poster Session**
	VI Session – Chair Luca Magagnin
10:50 – 11:05	Understanding Hydrogen Evolution Reaction Induced Modification on Electrodeposited Au-Pd Nanoparticles Paolo Cignoni – *Ruhr University Bochum, Germany*
11:05 – 11:20	Stability investigations of Electrodeposited Ni_3Se_2 thin films after Hydrogen Evolution Reaction Dawid Kutyla – *AGH University of Krakow, Poland*
11:20 – 11:35	Synergistic effects of an electrodeposited CoNi alloy catalyst for sustainable hydrogen production Judit Lloreda – *Universitat de Barcelona, Spain*
11:35 – 11:50	The NOVATRODES project: where theory meets application Mila Krstajic Pajic – *University of Belgrade, Serbia*
11:50 – 12:05	Electrochemical Preparation and Characterization of Porous Nickel Layers as Catalyst Support Structures for Anion Exchange Membrane Electrolyzers Christian Höß – *Technische Universitaet Ilmenau, Germany*
12:05 – 12:20	Electrochemical Dealloying of AgAuCuPdPt Thin Film for Improved Hydrogen Evolution Catalysis Dean-Robin Nettler – *Ruhr University Bochum, Germany*

12:20 – 14:00	**Lunch**
	VII Session – Chair László Péter
14:00 – 14:20	(Opening Talk) The role of Ni and Co thin film properties on Hydrogen Evolution Reaction Piotr Zabinski – *AGH University of Krakow, Poland*
14:20 – 14:35	Inkjet Assisted Electroforming of Untethered Magnetic Microdevices for Smart Drug Delivery Applications Roberto Bernasconi – *Politecnico di Milano, Italy*
14:35 – 14:50	Electrodeposited Ni-W Films: Exploring the Impact of Engineered Porosity and Tungsten Content on Mechanical and Magnetic Properties Roger de Paz – *Universitat Autònoma de Barcelona, Spain*
14:50 – 15:05	Downscaling magnetic field gradients for copper magnetoelectrodeposition on the micrometer-scale Francesca Sgarbi Stabellini – *Leibniz Institute for Solid State and Materials Research, Germany*
15:05 – 15:20	Exploring magneto-ionic effects in electrodeposited nickel-iron alloys Anna Ullrich – *Chemnitz University of Technology, Germany*
15:20 – 15:35	Effect of Fe/Ni Ratio on Electrodeposition of Ni-Fe Alloys and Their Bifunctional Catalytic Performance in Hydrogen and Oxygen Evolution Reactions Safya Elsharkawy – *AGH University of Krakow, Poland*
15:35 – 16:05	**Coffee Break & Poster Session**
	VIII Session – Chair Adriana Ispas
16:05 – 16:20	Effect of heat treatment on electrodeposited Sn NWs in Anodic Alumina Oxide Templates Evangelia Pavlatou – *National Technical University of Athens, Greece*
16:20 – 16:35	Coinage Metal-Glutathione Nanostructured Gels on Nanoparticles and Electrodes Alexander Vaskevich – *Weizmann Institute of Science, Israel*
16:35 – 16:50	Optimization of electrosynthesized Zn-based materials for sustainable antimicrobial applications Margherita Izzi – *Università degli Studi di Bari Aldo Moro, Italy*
16:50 – 17:05	Effect of Growth Temperature on the Physico-chemical Properties of Sprayed cadmium oxide thin films Sandeep Desai – *KIT's College of Engineering, India*
17:05 – 17:20	Self-terminated electrodeposition of ultrathin iron/ iron hydroxide films: concentration and pH buffer dependencies Martin Nichterwitz – *Chemnitz University of Technology, Germany*

17:20 – 17:35	Fast EQCM-D and Raman Characterization for (Sub-)Nanoscale Insights into Electrochemical Processes in Layered Oxide Materials Christian Leppin – *Ruhr University Bochum, Germany*
17:35 – 18:00	**Final Announcements and Greetings**

Saturday April 12th 2025

9:30 – 12:00	**Guided tour of Palazzo Vecchio Museum**

List of Posters

1. Obtaining Pd-Decorated Carbon Black and Graphene Catalysts from Electroplating Wastewater for Efficient Oxygen Reduction Reaction - Marco Bonechi, UNIFI, Italy
2. Oxygen reduction reaction (ORR) in alkaline medium catalyzed using atomically precise Pd (II) catalysts, prepared by extraction of Pd(II) from a mixture of metal ions using modified multi walled carbon nanotubes (MWCNT) - Francesco Montanari, Università degli Studi di Firenze, Italy
3. Electrodeposition of Metals on Silicon for Enhanced Silicon Nanowires (NWs) Fabrication via Metal Assisted Chemical Etching (MACE) - Giulio Pappaianni, Università degli Studi di Firenze, Italy
4. Electroplating in the presence of Microplastics: investigating their influence on Copper deposition – Claudia Giovani, Università degli Studi di Firenze, Italy
5. Electrochemical synthesis, characterization and functionalization of nanoporous Au nanostructures - Anitta Jose, Leibniz Institute for Solid State and Materials Research, Germany
6. Specific ion effects on nickel electrodeposition - Elena Mariani, University of Florence, Italy
7. Novel sustainable acid copper formulations: the L-Cysteine case - Fabio Biffoli, University of Florence, Italy
8. Electrodeposited Ni-MoOx coatings as high efficiency catalysts for green hydrogen production in alkaline solution - A. Petričevića, University of Belgrade, Serbia
9. Enhancing Ni Thin Film Properties via Electrodeposition in Magnetic Fields: A Deep Eutectic Solvent Approach - Safya Elsharkawya, AGH University of Krakow, Poland
10. Electroless deposition of Ru NPs for heterogeneous catalysis application - Judit Lloreda, Universitat de Barcelona, Spain
11. Giant Spectral Shifts of Electrochemically Polarized Plasmonic Nanoparticle on a Mirror - Alexander Vaskevich, Weizmann Institute of Science, Israel
12. Evaluation of adhesion characteristics of electrolytically produced copper thin films of nanostructured characteristics: theory vs. experiment - Ivana O. Mladenović, University of Belgrade, Serbia
13. Influence of duty cycle in the pulsating current regime on morphology and structure of copper coatings - Ivana O. Mladenović, University of Belgrade, Serbia
14. Combined Effect of Boric Acid and Heterogenous Magnetic Field on Cu-Ni Electrodeposition - Zaher Jlailati, Ruhr University Bochum, Deutschland

15. How electrodeposition conditions of palladium affect hydrogen absorption - Andrea Comparini, Valmet Plating s.r.l., Italy
16. Metal oxide nanofibers made via electrospinning for photoelectrochemical water splitting - Denis Eberhart, Martin-Luther-University Halle-Wittenberg, Germany
17. Role of the local diffusion fields in electrolytic formation of zinc irregular forms from the alkaline electrolyte - Nebojša D. Nikolić, University of Belgrade, Serbia
18. Anodization of Multicomponent Alloys for degradation of environmental pollutants - Katarzyna Skibińska, AGH University of Krakow, Poland
19. Evaluating the substrate effect and durability of electrochromic WO3 films for smart window applications - Eve Evans Perks, University of Bristol, UK
20. Characterization of Sb–Pd electrocatalyst formed by electrodeposition technique for application in Direct Ethanol Fuel Cells - Jelena D. Lović, University of Belgrade, Serbia
21. A Supramolecular Approach to Single Atom PGM-based Catalysts: from Metal Recovery and Cross-Couplings to the Oxygen Reduction Reaction - Matteo Savastano, University San Raffaele, Italy
22. The influence of starting plant material on Ni@C-type catalysts' characteristics - Kamil Dudek, AGH University of Cracow, Poland
23. OER Properties of Ni-Co-CeO_2/Ni Composite Electrode Prepared by Magnetically Induced Jet Electrodeposition - Wei Jiang, Technische Universität Dresden, Germany
24. Electrodeposition of Tunable Ag-Au Nanoparticles from Reverse Micelles - Thais Schroeder Rossi, Ruhr-Universität Bochum, Germany
25. P.U.L.S.E.: Unified Process on Zamak, Brass, and Aluminum Alloys, Safe and Eco-Friendly - Arianna Meoli, Creazioni Lorenza srl, Italy
26. The effect of surface morphology on electrocatalytic performances of Pt@Ni and Pt@Cr thin film catalysts for the methanol oxidation reaction - Sanja I. Stevanović, University of Belgrade, Republic of Serbia
27. Comparative Study of Platinum Deposition Methods on Ni Support for Enhanced Formic Acid Electrooxidation - Dragana L. Milošević, University of Belgrade, Republic of Serbia
28. Electrodeposited Near-Room-Temperature Micro-Thermoelectric Generators - Farjana J. Sonia, Leibniz Institute for Solid State and Materials Research, Germany
29. Electrodeposition of Sn-Ni Alloy Nanowires Involving Deep Eutectic Solvents - Liana Anicai, National University of Science and Technology POLITEHNICA Bucharest, Romania
30. The Role of Nanostructuring in Pseudocapacitive Manganese Oxide Materials - Oliver Röth, University Bochum, Germany
31. Magnetic Field Assisted Electrodeposition of Topographically and Chemically Structured Copper-Nickel Deposits - Kristina Tschulik, Ruhr University Bochum, Deutschland

32. Cu_2O photocathodes: From electrochemical synthesis to improved stability with an ALD-based TiO_2 coating - Anne Noubi, Martin-Luther-University Halle-Wittenberg, Germany
33. Electrodeposition of Crystalline Thin Films of Co_3O_4 on Glassy Carbon with Octahedral Nanoparticles-like Morphology: Exploring Shape-Selective Growth Mechanisms - Anas Akhtar, Ruhr-Universität Bochum, Germany
34. Pulse electrodeposition of a free-nickel gold-iron alloy for decorative applications - Giammarco Maria Romano, University of Florence, Italy
35. Electrodeposition-Based Synthesis of Hierarchical Nanoporous Au Nanowire Networks and Their Electrochemical Properties - Mohan Li, GSI Helmholtz Centre for Heavy Ion Research, Germany