

PERSONAL INFORMATION

SURNAME	CONSTANTINA
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CURRENT POSITION(S)

- 2012 - Professor, School of Chemical Engineering (SCE), National Technical University of Athens (NTUA), Greece
- 2022 - Director of the Laboratory of General Chemistry, School of Chemical Engineering, NTUA
- 2023 - Member of the Infrastructures Committee of NTUA
- 2017 - 2023 Member of the Deanship of SCE, NTUA
- 2017 - today Member of the Coordinating Committee of the Interdisciplinary Interdepartmental Postgraduate Program (IIPP) "Materials Science and Technology", NTUA
- 2017 - today Responsible for the Infrastructures of SCE, NTUA
- 2010 - today Chairman of the Internal Student Transfer Committee at the SCE, NTUA
- 2018 - today Chairman or Member of Committees for the Implementation, Evaluation of the Results, Monitoring and Final Acceptance of Competitions, NTUA

MEMBERSHIPS & REVIEWING ACTIVITIES

2014 - 2020	Evaluator in Partnership Agreement (PA) 2014-2020 "Development of Human Resources, Education and Lifelong Learning", Greece
2014 - 2020	Evaluator in Partnership Agreement (PA) 2014-2020 "Operational Programme Competitiveness, Entrepreneurship and Innovation 2014-2020 (EPAnEK)", Greece
2020 - 2020	Evaluator of Institute of International Education (IIE), Centennial Fellowship Program, GR
2018 - 2018	Evaluator of Research Proposals, University of Cyprus, Cyprus
2018 - 2018	Evaluator of Fulbright Visiting Scholar Program, Greece
2014 - 2014	Evaluator in Partnership Agreement (PA) 2013-2017, The Project «Kallipos», Greece
2014 - 2014	Evaluator in Partnership Agreement (PA) 2013-2017, Action of National Scope "Cooperation" European Union, Greece
2013 - 2013	Evaluator of Framework Programme for Research, Technological Development, and Innovation (2009-2010), Research Promotion Foundation of Cyprus, Cyprus
2020 -	Topic Editor of "Materials" Journal
1997 -	Reviewer of scientific articles in many international journals (Electrochimica Acta, J. of Applied Electrochemistry, Sensors & Actuators: B. Chemical, European Polymer Journal, Surface and Coatings Technology, Thin Solid Films, Materials, Sensors, Coatings, Catalysts, Crystals, etc.)

OTHER

- Representative of the SCE at the Committee of Communication of the NTUA Senate, 2010-15.
- Member of the Undergraduate Studies Committee of the SCE, 1997-98, 2003-06, 2008-12.
- Member of the Committee for the Open and International Competitions of the SCE, 2008-11.
- Representative of the SCE Teaching Staff in the Senate of NTUA, 2003-04.
- Member of the Central Committee of General Examinations (KGEE) of the Ministry of Education and Chemistry coordinator, September 1999, June 2000, September 2000, June 2001, July 2001.
- Invited Visitor and Employer in DEGUSSA Elektronik GmbH, Geschäftsgebiet Galvanotechnik (now UMICORE Galvanotechnik GmbH), Schwäbisch Gmünd Germany, 1992.
- Invited Visitor and Researcher in Forschungsinstitut für Edelmetalle und Metallchemie (FEM) Schwäbisch Gmünd Germany, 1992.

PARTICIPATION TO TRANSLATION AND WRITING OF SCIENTIFIC BOOKS

- J. Harte, C. Holdren, R. Schneider and C. Shirley: «Toxics from A to Z: A guide to everyday pollution hazards», University of California Press, USA (1991). Ed. NTUA, 2006, p.560.
- Tro J. Nivaldo: CHEMISTRY: «Structure and Properties. USA. Ed. Broken Hill Publishers Ltd, 2021, p. 1084.
- N. Spyrellis, P. Cavallotti, C. Kollia: «Surface Treatment of Aluminium», Ed. EAST, Germany, 1996, p. 41.
- N. Spyrellis: «Metal Electroplating Technology», Ed. NTUA, 1992, p. 303.
- C. Kollia and N. Spyrellis: «Wastes of Metal Electroplating Industries», Ed. NTUA, 1998, p. 33.
- P. Vassiliou, C. Kollia and C. Samara: «Electroless Plating (from A to N)», Ed. NTUA, 2002, p. 240.
- J. Charalambous, C. Kollia, P. Gyftou, E.A. Pavlatou, M. Gatou: «General Chemistry Laboratory Exercises», Ed. NTUA, 2021, p. 90.

K. Milonakou Koufoudaki, S. Hamilakis, C. Kollia: «Preparation and Characterization of Thin Hybrid (Inorganic - Organic) Semiconductive Films. Determination of Energy Gap by Reflectance Spectrum», IPP MST Laboratory Exercises Ed. NTUA, 2020, p. 12.

N. Spyrellis and C. Kollia: «Application of Pulsed Current for Electrodeposition of Metals - Metal Matrix Composites (Production and Properties)» IPP MST Advanced Laboratory Exercises, Ed. NTUA, 2001, p. 17.

RESEARCH ACTIVITIES

• Chemistry and Surface Technology

Electrodeposition of Metals (Ni, Cu, Zn, Sn, Rh)

Pulse and Pulse Reversed Electrolysis

Metal Matrix Composite Materials

Materials Structure and Electrocrystallization

Materials Properties (e.g. microhardness, roughness, corrosion resistance, electrochemical, tensile strength, etc.)

Other Plating Techniques (Spin coating, PVD techniques, etc.)

• Chemistry and Properties of Semiconductors

Electrodeposition and Characterization of Inorganic Semiconductive Thin Films

Electro-Codeposition of Hybrid Semiconductive Systems

Development and Characterization of Hybrid (Organic-Inorganic) Semiconductors

Development and Characterization of Organic and Polymeric Semiconductors

Preparation and Characterization of Ceramic Semiconductors

Spin Coating

• Environment and Energy

Wastewater Treatment of Electroplating Industries

Metals Recovery from Electrolytic Baths

Integrated Industrial Brine Treatment Systems

Integrated Systems for Converting Bio-Wastes into Energy

Industrial Waste Treatment and Materials Recovery in the Framework of the Circular Economy

Supervisor of more than 15 doctoral theses

EDUCATIONAL ACTIVITIES

• Under-Graduate Courses

Environmental Science and Technology (2017-, SCE, 6th semester)

Environment and Development (2017-, SCE, 6th semester)

Water Management (2017-, SCE, 9th semester)

Water Management (2017-, SCE, 9th semester, Laboratory)

General Chemistry (2001-, SAMPS, 5th semester)

General Chemistry (2001-, SAMPS, 5th semester, Laboratory)

General Chemistry (1992-, SNAME 8th semester)

Science and Engineering of Metallic Materials (2017-, SCE, 9th semester, Laboratory)

Surface Treatment (2005-2013, SCE, 4th semester)

Inorganic and Electrochemical Industries Technology (1996-2002, SCE, 8th semester, Laboratory)

Chemistry I (1993-1999, SRSE, 1st semester)

Chemistry (1999-2004, SRSE, 4th semester)

Chemistry (2015-2019, SME, 1st semester)

Chemistry I (1987-1998, SMME, 1st semester, Laboratory)

Chemistry II (1987-1998, SMME, 2nd semester, Laboratory)

Chemistry (1999-2002, SMME, 1st semester, Laboratory)

Electroplating Technology (1994-2000, SMME, 7th semester)

Electroplating Technology (1993-2000, SMME, 7th semester, Laboratory)

Special Issues of Chemistry-Metals Corrosion and Protection (1986-1997, SECE, 5th semester, Laboratory)

Supervisor of more than 50 diploma theses

• Post-Graduate Courses

❖ IPP “Materials Science and Technology”

Properties of Surfaces and Interfaces (1999-, 2nd semester)

Structure and Properties of Semiconductors (2017-, 1st semester)

Laboratory Exercises (2000-, 1st semester)

Advanced Laboratory Exercises (2000-, 2nd semester)

❖ IPP “Environment and Development”

Pollution and Protection Environment (2022-, 1st semester)

Management and Control Environment-Environmental Policies (2022-, 1st semester)

Waste Management and Materials Recovery (2023-, 2nd semester)

Supervisor of more than 40 master theses

PUBLICATIONS

Publication of more than 60 scientific papers in international journals, e.g.

- Hybrid Copper Halide Material with Perovskite like structure with tetrahedral units; synthesis, characterization and optical properties, A. Ioannou, G. C. Ayfantis, K. Milonakou-Koufoudaki, G. Danezis, C. A Georgiou, V. Psycharis, C. A. Raptopoulou, C. Kollia, N. Kelaidis, N. N. Lathiotakis, G. A. Mousdis, *Polyedron*, 231, February 2023, <https://doi.org/10.1016/j.poly.2022.116247>
- Micrometer thick Sm-Co films for applications on flexible systems, Athanasios Tzanis, Nikolaos Koutsokostas, Toni Helm, Constantina Kollia, Thanassis Speliotis, *Materials Science and Engineering: B*, 280, 115691, 2022, <https://doi.org/10.1016/j.mseb.2022.115691>
- Villari magnetomechanical coupling at hcp-cobalt thin films on flexible substrates, Athanasios Tzanis, Manos Zeibekis, Alexandra Pilidi, Nikolaos Koutsokostas, Constantina Kollia, Thanassis Speliotis, *Materials Science and Engineering: B*, 264, 114945, February 2021, <https://doi.org/10.1016/j.mseb.2020.114945>
- Natural dyes in hybrid chalcogenide multi-layer thin films, K Milonakou-Koufoudaki, C Mitzithra, S Hamilakis, C Kollia and Z Loizos, *Bull. Mater. Sci.* 43, 140, 2020, <https://doi.org/10.1007/s12034-020-02123-5>
- Development, characterization, and study of new (Cd,Zn)Se-based hybrid semiconductive systems, K. Milonakou-Koufoudaki, T. Lyros, C. Mitzithra, S. Hamilakis, C. Kollia & Z. Loizos, *Journal of Applied Electrochemistry* 47, 1023–1033, 2017, <https://doi.org/10.1007/s10800-017-1097-7>
- Production and Identification of Highly Photoconductive CdSe-based Hybrid Organic-Inorganic Multi-Layer Material, M. Yfanti-Katti, F. Prokopos-Chouliaras, K. Milonakou-Koufoudaki, C. Mitzithra, K. Kordatos, S. Hamilakis, C. Kollia, and Z. Loizos, *Semiconductors*, 51, No. 12, 1592–1596, 2017, DOI: 10.1134/S106378261712020X, <https://link.springer.com/article/10.1134/S106378261712020X>
- Electrodeposition of CdSe photoabsorber thin films in the presence of selected organic additives, S. Hamilakis, D. Balgis, K. Milonakou-Koufoudaki, C. Mitzithra, C. Kollia, Z. Loizos, *Materials Letters*, 145, 11-14, 2015, <https://doi.org/10.1016/j.matlet.2015.01.052>
- Hexagonal electrodeposited CdSe in new multi-layer hybrid organic–inorganic semiconductive systems with remarkable high photoconductivity, S. Hamilakis, N. Gallias, C. Mitzithra, K. Kordatos, C. Kollia, Z. Loizos, *Materials Letters*, 143, 63–66, 2015, <https://doi.org/10.1016/j.matlet.2014.12.031>
- Ni/ZrO₂ composite electrodeposition in the presence of coumarin: textural modifications and properties, M. M. Dardavila, S. Hamilakis, Z. Loizos and C. Kollia, *Journal of Applied Electrochemistry*, 45, 503-514, 2015, DOI 10.1007/s10800-015-0804-5
- Study of the relation existing between photoresistivity and substituents characteristics of some coumarin derivatives, Amalakis S., Roussaki M., Mitzithra C., Dardavila M.M., Raptopoulou C., Psycharis V., Kollia C., Loizos Z., *Chemical Engineering Transactions*, 41, 265-270, 2014, DOI: 10.3303/CET1441045, <https://doi.org/10.3303/CET1441045>
- One-step electro-codeposition for developing new hybrid semiconductors, E. Chountoulesi, C. Mitzithra, S. Hamilakis, K. Kordatos, C. Kollia, Z. Loizos, *Materials Letters*, 93, 45–48, 2013, <http://dx.doi.org/10.1016/j.matlet.2012.11.030>
- Development of New CdTe Based Hybrid Semiconducting Layers Produced in one Step by Electro-Codeposition, C. Mitzithra, E. Chountoulesi, S. Hamilakis, K. Kordatos, C. Kollia, and Z. Loizos, *Semiconductors*, 47, No. 10, 1303–1307, 2013, DOI: 10.1134/S1063782613100229, <https://doi.org/10.1134/S1063782613100229>
- Low-Cost Synthesis of Fullerene Derivatives, Eleni Chountoulesi, Christine Mitzithra, Stylianos Hamilakis, Konstantinos Kordatos, Constantina Kollia, and Zaphirios Loizos, *Synthetic Communications*, 43, 1–8, 2013, DOI: 10.1080/00397911.2012.679332, <https://doi.org/10.1080/00397911.2012.679332>
- CdSe Semiconducting Layers Produced by Pulse Electrolysis, C. Mitzithra, S. Hamilakis, C. Kollia, and Z. Loizos, *Semiconductors*, 46, No. 5, 615–618, 2012, DOI: 10.1134/S1063782612050168, <https://doi.org/10.1134/S1063782612050168>
- Development and study of new hybrid semiconducting systems involving Cd chalcogenide thin films coated by a fullerene derivative, C. Mitzithra, V. Kaniaris, S. Hamilakis, K. Kordatos, C. Kollia, Z. Loizos, *Materials Letters*, 65, 1651–1654, 2011, DOI:10.1016/j.matlet.2011.03.015, <https://doi.org/10.1016/j.matlet.2011.03.015>
- Pulse electrolysis for the production of hard Ni/ZrO₂ composite coatings, M.M. Dardavila and C. Kollia, *Defect and Diffusion Forum*, 312-315, 235-239, 2011, <https://doi.org/10.4028/www.scientific.net/DDF.312-315.235>
- Vacuum heated electrodeless nickel plated contacts, C.T. Dervos, P. Vassiliou, J. Novacovich, C. Kollia, *IEEE Transactions on Components & Packaging Technologies*, 27 (No1), 131-137, 2004, DOI:10.1109/TCAPT.2004.825775
- Nickel matrix composite electrocoatings as electrical contacts, C.T. Dervos, C. Kollia, S. Psarrou and P. Vassiliou, *IEEE Transactions on Components and Packaging Technologies*, 22 (No 3) 460-466, 1999, DOI:10.1109/6144.796551

- Electrical Properties of CdSe Photovoltaic Electrodeposits in a Marine Environment, A. Mitsis, Z. Loizos, C.T. Dervos, P. Vassiliou, C. Kollia and N. Spyrellis, J. of Materials Science Letters 17 (16), 1371-1373, 1998, DOI: [10.1023/A:1026464010901](https://doi.org/10.1023/A:1026464010901)
- Substrate effect on the structure and properties of electrodeposited CdSe and Cd(Se,Te) coatings, M. Bouroushian, C. Kollia, Z. Loizos, N. Spyrellis and G. Maurin, Applied Surface Science, 102, 112-119, 1996, [https://doi.org/10.1016/0169-4332\(96\)00032-3](https://doi.org/10.1016/0169-4332(96)00032-3)
- Nickel/microcapsules composite electrocoatings. Synthesis of water-containing micro-capsules and preparation of the coatings, Kentepozidou, C. Kiparissides, F. Kotzia, C. Kollia and N. Spyrellis, J. Materials Science 31, 1175-1181, 1996, DOI: [10.1007/bf00353096](https://doi.org/10.1007/bf00353096)
- Microhardness and roughness in nickel electrodeposition under Pulse Reversed Current conditions, C. Kollia and N. Spyrellis, Surface and Coatings Technology, 58 (2), 101-105, 1993, [https://doi.org/10.1016/0257-8972\(93\)90180-V](https://doi.org/10.1016/0257-8972(93)90180-V)
- Nickel plating by Pulse electrolysis: textural and microstructural modifications due to the adsorption/desorption phenomena, C. Kollia, N. Spyrellis, J. Amblard, M. Froment and G. Maurin, J. Applied Electrochem., 20, 1025-1032, 1990, DOI: <https://doi.org/10.1007/BF01019584>

CONFERENCES/WORKSHOPS/etc.

Participation in more than 80 national and international scientific conferences. More recent:

12th PanHellenic Conference of Chemical Engineering, 29-31 May 2019, Athens:

- Hybrid Organic-Inorganic Compounds of Copper with Structures corresponding to Perovskites.
 - Photoconductivity of 2D up to 3D Lead Perovskites.
 - Electrodeposition of Thin Semiconductor Films in the presence of selected Organic Salts.
 - Development, Characterization and Study of CdSe and Zn_xCd_{1-x}Se Hybrid Systems with α Chlorophyll
- 10th ESEE ISC, 28/09-02/10 2014, Sardinia, Italy.
- Effect of some selected organic additives on semiconductive behavior of electrodeposited CdSe thin films.
 - Study of the relation existing between photoresistivity and substituents characteristics of some coumarin derivatives.
 - Microstructure, microhardness and corrosion resistance of Ni and Ni/ZrO₂ electrocoatings produced from a Watts-coumarin bath.

RESEARCH GRANTS

Participation in more than 35 European (e.g. LIFE, INCO-MED, BRITE-EURAM, INTAS, LEONARDO DA VINCI, COMETT, COPERNICUS, and national projects as researcher and 3 as supervisor). More recent:

<i>Project Title</i>	<i>Funding source</i>	<i>Period</i>
Enhancing sustainable and green leather technology in Indonesia (ELEGTEC) (Scientific Supervisor-Partners Coordinator)	ERASMUS-EDU-2023-CBHE-STRAND-2	2024 - 2026
Study of the Energy Application of New Hybrid Multilayer Semiconductor Systems inside Photoelectrochemical Cells (Special Prize) (Scientific Supervisor)	EMPIRIKION FOUNDATION, GR	2017 - 2021
Demonstration of an advanced technique for eliminating coal mine wastewater (brines) combined with resource recovery (Researcher)	LIFE BRINE-MINING, LIFE18 ENV/GR/000019	2019-2023 https://brinemining.eu
Climate Proofing Urban Municipalities (Researcher)	LIFE15 CCA/CY/000086 – URBANPROOF http://urbanproof.eu/el/	2016-2021
Adaptation to Climate change Impacts on the Mediterranean islands' Agriculture (Researcher)	LIFE14 CCA/GR/000928 - ADAPT2CLIMA www.adapt2clima.eu	2015-2020
Sustainable management of livestock waste for the removal/recovery of nutrients (Researcher)	LIFE+, LIFE12 ENV/CY/000544 LIVEWASTE	2013 – 2016
Demonstration of an integrated waste-to-energy system for energy generation from biodegradable organic waste and wastewater (Researcher)	EE-LIFE08 ENV/CY/000457 LIVEWASTE	04/2010-06/2013