

Dr. Tolkou Athanasia

Assistant Professor

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Personal Information

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First Name	Athanasia
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Languages	Greek (native), English (C2), Italian (B2), French (B2)

Current Position

02/2025-Today: Assistant Professor, (ΦΕΚ τ.Γ'/574/19.02.2025), Specialization: Wastewater Treatment, Department of Chemistry, Democritus University of Thrace, Laboratory of Chemical Technology, Hephaestus Laboratory.

Undergraduate lectures:

Semester	Lecture Title
5th	Environmental Chemistry (independent teaching)
4th	Chemical Technology (independent co-teaching)
1st	Fundamentals of Chemistry (independent teaching)
1st	Laboratory of Fundamentals of Chemistry (co-teaching)
8th	Laboratory of Materials characterization (co-teaching)

Education

Bachelor Degree (B.Sc.) in Chemistry, Sector: Industrial Chemistry and Chemical Technology, Department of Chemistry, Aristotle University of Thessaloniki.

Master Degree (M.Sc.), Sector: Chemical Technology, Thesis: "Preparation of novel sorbents by deposition of iron and manganese oxide nanoparticles on activated carbon for the combined removal of arsenic (V), chromium (IV) and azo-dyes", Laboratory of General and Inorganic Chemical Technology, Department of Chemistry, Aristotle University of Thessaloniki. Supervisor: Professor Gallios Georgios

Ph.D. Sector: Chemical and Environmental Technology, Doctorate dissertation title: "Synthesis and characterization of novel pre-polymerized inorganic coagulants and their application in water and wastewater

treatment", Laboratory of Chemical Technology and Environmental Technology, Department of Chemistry of Aristotle University of Thessaloniki. Supervisor: Prof. Zouboulis Anastasios.

Postdoctoral Researcher (PostDoc) at the Laboratory of Chemical and Environmental Technology, Department of Chemistry, Aristotle University of Thessaloniki, on Water and Wastewater Management: Removal of inorganic micro-pollutants from natural waters by using innovative hybrid adsorbents. Supervisor: Professor Deliyanni Eleni.

Postdoctoral Researcher (PostDoc) at the Laboratory of Chemical Technology, Department of Chemistry, Democritus University of Thrace, Kavala, on Water and Wastewater Management: Synthesis of innovative adsorbent and coagulant materials and their application in water and wastewater treatment. Supervisor: Professor Georgios Z. Kyzas.

Scientific Work/ Areas of Expertise – Research Interests

Wastewater Treatment, Water Treatment, Chemical Technology, Environmental Chemical Technology, Adsorption, Coagulation-Flocculation, MBRs, Synthesis of Materials, Removal of Heavy Metals, Oxyanions and Dyes, Recovery of Nutrients (Phosphates, Nitrates) from Wastewater, Environmental Remediation, and Environmental Sustainability.

Member of Organizations

- 09/2025-08/2026: Head of the Department of Physical Chemistry and Chemical Technology, (Α.Π. ΔΠΘ/ΤΧ/2464/62/09-09-2025), Department of Chemistry, Democritus University of Thrace.
- Associate Member of Chemistry and the Environment Division (VI) of International Union of Pure and Applied Chemistry (IUPAC).
- Member of the General Assembly of Association of Greek Chemists
- President of the board of the Scientific Department of the Environment, Health and Safety, Association of Greek Chemists

Research Experience

Participation in Research Programs

October 2025 – September 2027: IKYDA 2025, Participation in the Programme for the promotion of the Exchange and Scientific Cooperation between Greece and Germany, (Project MAD-PFAS) for Membrane-ADsorption hybrid technologies for PFAS removal from water and wastewater. Collaboration with the University of Duisburg Essen, Duisburg, Germany.

June 2025-December 2025: Participation in the project "«Hybrid technologies of smart membranes and novel materials for the removal of hexavalent chromium from water» (Smart-Mem-Mat) Research Excellence Partnerships (REP)/ Project Code: ΥΠ3ΤΑ-0560800» which is implemented under the action "Research Excellence Partnerships", Greece 2.0 – National Recovery and Resilience Fund and funded by European Union NextGenerationEU.

October 2023-December 2024: Participation in the project "Advanced Materials for Sustainable Development: Production and Storage of Green Energy, Energy Saving, and Pollution Control Applications" (TAEDR-0535821), which is implemented under the action "Flagship actions in interdisciplinary scientific fields with a special focus on the productive fabric" (ID 16618), Greece 2.0–National Recovery and Resilience Fund and funded by European Union NextGenerationEU.

August - December 2023: Participation in the project "Selection of research directions and accreditation of parameters and methods of the chemical and biological sector of the Control and Research Laboratory of Prefecture of Central Macedonia", founded by the Region of Central Macedonia, where chemical analysis of environmental samples was performed and a report of deliverables was written.

August 2022 - July 2023: Participation in the project "Development of an integration methodology for the treatment of micropollutants in wastewaters and leachates coupling adsorption, advanced oxidation processes and membrane technology» MIS 5069933 (Project Code 30338), act co-financed by the OP" Competitiveness Entrepreneurship and Innovation "and the European Union (European Regional Development Fund). NSRF 2014-2020, Business Program Competitiveness Entrepreneurship Innovation (EPANEK).

March 2021 - July 2022: Participation in the project "Monitoring and methodologies for the removal of emerging pollutants from liquid waste" MIS 5050732 "MOREM" (Project Code 30316) "act co-financed by the OP" Competitiveness Entrepreneurship and Innovation "and the European Union (European Regional Development Fund). NSRF 2014-2020, Business Program Competitiveness Entrepreneurship Innovation (EPANEK), Bilateral and Multilateral S&T Cooperation Greece - China.

November - December 2021: Participation in the project "Investigation of the residual concentration of pesticides and insecticides in rice crops in the plain of Thessaloniki and the possible toxicity of the edible product due to the presence of small concentrations of toxic metals and minerals.", founded by the Region of Central Macedonia, where chemical analysis of environmental samples was performed and a report of deliverables was written.

January – May 2021: Participation in the project "Selection of research directions and accreditation of parameters and methods of the chemical and biological sector of the Control and Research Laboratory of Prefecture of Central Macedonia", founded by the Region of Central Macedonia, where chemical analysis of environmental samples was performed and a report of deliverables was written.

October 2016 – April 2019: Participation in the Project: Investigation of Pollution Level of Irrigation Networks and Trench of the Thessaloniki Plain and Impact Assessment in the Marine Environment and Monocultures, founded by the Region of Central Macedonia.

April 2018: In the framework of the Greek-German cooperation program MOEL-SOEL, funded by the German Ministry of Research and Technology (BMBF), entitled "Safe and reliable water supply systems in suburban, decentralized and rural areas: Integration of local material needs, innovative and production methods to ensure safe water supply - SafeWatPRO ", Cooperation with Technical University Hamburg and Technical University Poznan, research visit to the University of Hamburg TUHH, April 2018.

March 2016 – December 2017: IKYDA 2016, Participation in the Programme for the promotion of the Exchange and Scientific Cooperation between Greece and Germany, (Project ACR-Tech) for Groundwater treatment for removal of arsenic and chromium(VI) using innovative adsorbing and filtration technologies. Collaboration with the University of Hamburg TUHH.

May 2013 – June 2015: Participation in a joint project (PAVET -project PhoReSe) for the recovery of Phosphorus from secondary effluents of municipal wastewater treatment plants.

May 2013 – June 2015: Participation in a joint project (SYNERGASIA II-project FOULMEM) for the preparation of specific chemicals in the form of composite nano-coagulants that can be used for fouling control in Membrane Bioreactors.

Research Experience Abroad

August 2020 - October 2020, January 2017 and July 2018: Department of Theoretical and Applied Sciences, University of Insubria, Varese, Italy, by Prof. V. Torretta: “Training in energy recovery from waste through anaerobic digestion, in solid waste management efficiency and also in the treatment of landfill leachates”.

July 2016 and 2017: Technical University of Hamburg, Laboratory of Water Resources and Water Supply, Germany by Prof. Mathias Ernst: “Determination of Zeta potential and Particle Size of coagulants with the ZETASIZER Nano -ZS by Malvern, and also determination of Particle size distribution by volume of applied coagulants; volume histogram and cumulative undersize graph of formed flocs during coagulation experiments with The EyeTech Particle Size and Shape Analyser by Ankersmid”.

Fellowships/Prizes/Awards

Scholarship from the Onassis Public Benefit Foundation to participate in a summer school (Lectures in Physics and Chemistry) at the Foundation of Research and Technology (FORTH), Crete, for Nanoscience and Nanotechnology, emphasizing on Graphene and other 2D materials, in which the winner of the Nobel Prize in Chemistry for the discovery of graphene, Konstantin Novoselov, taught.

Invited presentations to international conferences and/or advanced schools

1. **Invited academic visit and lecture** at College of Environmental Science and Engineering, Tongji University, Shanghai, China, 12-15 October, 2026. Delivery of lecture at postgraduate level on **Recent Advances in Water, Wastewater and Solid Waste Management and Treatment.**
2. **Distinguish Speaker** in International Faculty Development Program on "Transformative Solutions in AI-enabled Sustainable Materials Ecosystems: Interdisciplinary Innovations in Applied Science and Humanities" held on 24–25th September, 2026 organized by University Centre for Research and Development (UCRD), Chandigarh University, Punjab, Mohali, India. Title: **From Waste to Water Treatment: Sustainable Materials and AI-Integrated Approaches for Circular Water Management.**
3. **Invited speaker** at the 9th Environmental Conference of Macedonia, 10 May 2026, Thessaloniki. Title: **New type of coagulants for water and wastewater treatment**.
4. **Invited keynote presentation** at the MDPI Webinar | MDPI 2025 International Women in Engineering Day, 23 June 2025. Title: **Novel approaches in water and wastewater treatment**.
5. **Invited (online) lecture** for BSc and MSc students from the Department of Chemistry at three universities in Sumatera Island, Indonesia: University of Bengkulu (UNIB); University of Lampung (UNILA) and University of Jambi (UNJA), on September 13, 2021. Title: **Application of Coagulation for Water and Wastewater Treatment.**
6. **Invited (online) lectures (15 h**) at the academic year 2022/2023 for PhD students of the Doctoral School of Quantitative and Natural Sciences, in the discipline of Chemical Sciences at the Department of Chemistry of the University Maria Curie-Skłodowska, Lublin, Poland. Title: **Advanced aspects of chemistry in relation to various specialties: Water and Wastewater Technologies**.

Publications in International Scientific Journals (93 papers)

1. Voutsas, P.; Perrucci, M.; Locatelli, M.; **Tolkou, A.K.**; Samanidou, V. Agricultural Waste-Derived Bio-Sorbents Used for the Analysis of UV Filters in Sea Water Samples: An in-Depth Comparison with Commercial Sorbents. *J. Chromatogr. A* **2026**, *1790*, 467584, doi:10.1016/j.chroma.2026.467584.
2. Fykari, S.; **Tolkou, A.K.*** Application of Walnut Shell-Based Composite Activated Carbon Adsorbents for the Removal of Phosphate Ions from Secondary Wastewater. *Appl. Sci.* **2026**, *16*, 9696. https://doi.org/10.3390/app16199696.
3. **Tolkou, A.K.***; Kasviki, N.A.; Zouboulis, A.I. Metal–Organic Framework-Based Materials for Pharmaceuticals Removal from Contaminated Waters by Adsorption. *Separations* **2026**, *13*, 269. https://doi.org/10.3390/separations13100269.
4. Bitsos, D.R.; Komnou, K.-S.; Krotiris, N.; Drivas, C.; Isaacs, M.A.; **Tolkou, A.K.***; Ladomenou, K.* Robust Two-Dimensional Porphyrinic Copper Metal–Organic Framework for Rapid and Efficient Cr(VI) Removal from Water. *ACS Omega* **2026**, doi:10.1021/acsomega.6c07902.
5. Barampouti, E.-K.; **Tolkou, A.K*** Moving Bed Biofilm Reactor Using Plastic Waste as Biofilm Carriers for Ciprofloxacin-Containing Wastewater Treatment. *Processes* **2026**, *14*, 2984. https://doi.org/10.3390/pr14182984.
6. Sventzouri, X.; Nannou, C.I.; Tolkou, A.K.* Application and Characterization of Fruit Peel-Based Natural Adsorbents for Diclofenac and Amoxicillin Removal from Aqueous Solutions: A “Waste-to-Resource” Approach. AppliedChem 2026, 6, 63. https://doi.org/10.3390/appliedchem6030063.
7. Tsoutsa, E.K.; Toubanaki, D.K.; Mavrikou, S.; Samanidou, V.; Tolkou, A.K.* Application of Nano-Bio/Chemosensors for Pharmaceutical Residue Detection and Removal During Wastewater Treatment. Appl. Sci. 2026, 16, 8260. https://doi.org/10.3390/app16168260.

8. Komnou, K.-S.; Tolkou, A.K.* Modified Activated Carbons Derived from Chestnut Shell Waste Biomass for the Removal of Triclosan from Aqueous Solution. Appl. Sci. 2026, 16, 7972. https://doi.org/10.3390/app16167972.
9. Kasviki, N.A.; Kyzas, G.Z. & Tolkou, A.K.* Layer-by-layer assembled nanomembranes for heavy metal removal from contaminated water. J Nanopart Res 28, 207 (2026). https://doi.org/10.1007/s11051-026-06728-5.
10. Chalkidi, P.; Tolkou, A.K.* Phosphate Removal from Wastewater via Coagulation and Preliminary Evaluation of the Recovered Residues for Lettuce (Lactuca sativa) Cultivation. Sustainability, 2026, 18, 7809. https://doi.org/10.3390/su18157809.
11. Sagar, S.K.; Gkika, D.A.; Sorlini, S.; Tolkou, A.K.* Comparative Performance and Techno-Economic Evaluation of Pristine and Hybrid Sn- and Mg- Based Coagulants for the Removal of Cr(VI) and Fluoride Ions. Sep. Purif. Technol. 2026, 409, 139319, doi:10.3390/urbansci10050262.
12. Voutsas, P.; Nikolaidou, Z.; Komnou, K.-S.; Tolkou, A.K.; Samanidou, V.* Chestnut-Derived Activated Carbon as a Green Extraction Sorbent for the Quantification of Bisphenols in Surface Waters. Microchem. J. 2026, 227, 118876, doi:10.1016/j.microc.2026.118876.
13. Gatopoulou, M.S.; Tolkou, A.K.; Katsoyiannis, I.A.* Reviewing Applied Methods and Strategies for Sustainable Potable Water Reuse in Water-Scarce Regions. Appl. Sci. 2026, 16, 6522, doi:10.3390/app16136522.
14. Sagar, S.K.; Sorlini, S.; Devrajani, S.K.; Tolkou, A.K.* Removal of Fluoride Anions and Chromium (VI) from Water and Urban Wastewater by Coagulation: Emphasis on Public Health. Urban Sci. 2026, 10, 262. https://doi.org/10.3390/urbansci10050262.
15. Meretoudi, A.D.; Tolkou, A.K.; Poulopoulos, S.G.; Papi, R.M.; Lambropoulou, D.A.; Kyzas, G.Z.* Fabrication of Chitosan/Graphene Oxide/PVA-Vanillin@TiO_2 Composites for Anti-Inflammatory Drug Removal from Wastewater. Nanomaterials 2026, 16, 414. https://doi.org/10.3390/nano16070414.
16. Kouvalakidou, S.L.; Tolkou, A.K.; Katsoyiannis, I.A.; Kostoglou, M.; Kyzas, G.Z.* Efficient decontamination of textile effluents by using activated carbon derived from pine-cones and pine-needle forestry wastes: Synthesis, modeling and adsorption evaluation. J. Environ. Chem. Eng. 2026, 14, 122291, https://doi.org/10.1016/j.jece.2026.122291.
17. Kouvalakidou, S.L.; Tolkou, A.K.; Gkika, D.A.; Marlagkoutsos, S.; Katsoyiannis, I.A.; Kostoglou, M.; Kyzas, G.Z.* Mechanistic Adsorption Modeling and Cost Analysis for Integrated Batch and Continuous-Flow Performance of Sustainable Forestry Waste-Derived Activated Carbons for Pharmaceutical Removal. Ind. Eng. Chem. Res. 2026, 65, 11, 6209–6225, https://doi.org/10.1021/acs.iecr.5c05230.
18. Maroulas, K. N.; Tolkou, A. K.; Efthymiopoulos, P.; Kalavrouziotis, I. K.; Ntougias, S.; Katsoyiannis, I. A.; Kostoglou, M.; Kyzas, G. Z. Adsorption Columns for the Removal of Hazardous Hexavalent Chromium, Arsenite and Fluoride Ions from Aqueous Media by Novel N, P - Doped Graphene Oxide/Chitosan Composites. Sep. Purif. Technol. 2026, 137465. https://doi.org/https://doi.org/10.1016/j.seppur.2026.137465.
19. Fykari, S.; Kyzas, G.Z.; Tolkou, A.K.* Eco-Friendly Orange Peels/Aluminum/Graphene Oxide Composites for Reactive Red 120 and Methylene Violet Dye Removal from Textile Wastewater. C 2026, 12, 23. https://doi.org/10.3390/c12010023.
20. Gkika, D.A.*; Toubanaki, D.K.; Thysiadou, A.A.; Kyzas, G.Z.; Tolkou, A.K.* Toward Circular and Sustainable Urban Wastewater Treatment: Integrating Adsorption and Advanced Oxidation Processes. Urban Sci. 2026, 10, 25. https://doi.org/10.3390/urbansci10010025.
21. Maroulas, K.N.; Tolkou, A.K.; Ladomenou, K.; Drivas, C.; Isaacs, M.A.; Ntougias, S.; Katsoyiannis, I.A.; Kyzas, G.Z. Doped Biopolymer Composites for Engineered Water Purification: Mechanistic Insights into Multi-Ion Adsorption. Ind. Eng. Chem. Res. 2026, 65, 1, 724–746. https://doi.org/10.1021/acs.iecr.5c02848.
22. Maroulas, K.N.; Tolkou, A.K.; Theologis, D.; Kostoglou, M.; Katsoyiannis, I.A.; Kyzas, G.Z.* Adsorption of Dyes, Pharmaceuticals, and Humic Acids onto Chitosan Biomaterials Doped with Activated Carbon: Colloidal Approaches and Interaction Explanations. Langmuir 2025, 41, 49, 33472–33490. https://doi.org/10.1021/acs.langmuir.5c05055.
23. Kalli, E.; Maroulas, K.N.; Thysiadou, A.A.; Kyzas, G.Z.; Tolkou, A.K.* Performance Evaluation of Hybrid and Conventional Coagulants for the Removal of Sunset Yellow and Methylene Violet Dyes from Wastewater. Processes 2025, 13(11), 3430. https://doi.org/10.3390/pr13113430.

24. Gkika, D.A.; Tolkou, A.K.; Kyzas, G.Z.* Comparison of Nanocomposites Groups Performance in Cements: A Review. Earth: Environmental Sustainability 2025, 1(2), 176–194. https://doi.org/10.53941/eesus.2025.100014.
25. Meretoudi, A.D.; Kalampogias, I.; Koumentakou, I.; Kalavrouziotis, I.K.; Tolkou, A.K.; Kyzas, G.Z.*. Chitosan/Montmorillonite/Graphene Oxide Composites for the Adsorption of Dyes from Single-Component Solutions, Binary Mixtures, and Real Textile Wastewaters: On Understanding the Adsorption Interactions. Langmuir 2025, 41, 34, 23198–23213. doi:10.1021/acs.langmuir.5c03148.
26. Tolkou, A.K.*; Giannoulaki, A.; Chalkidi, P.; Arvaniti, E.; Fykari, S.; Kritaki, S.; Kyzas, G.Z. Removal of Anionic and Cationic Dyes from Wastewater by Tetravalent Tin-Based Novel Coagulants. *Processes* 2025, 13(7), 2103. https://doi.org/10.3390/pr13072103.
27. Tolkou, A.K.*; Katsoyiannis, I.A.; Kyzas, G.Z. Aluminum-Modified Graphene Oxide Composite Adsorbent for Humic Acid Removal from Water. *J. Compos. Sci.* 2025, 9, 327. https://doi.org/10.3390/jcs9070327
28. Meretoudi, A.D.; Tolkou, A.K.; Kosheleva, R.I.; Xanthopoulou, M.; Tzollas, N.M.; Kostoglou, M.; Katsoyiannis, I.A.; Kyzas, G.Z.*. Carrageenan@Graphene Oxide Nanocomposites for the Adsorption of Trivalent Arsenic, Hexavalent Chromium, and Fluoride Ions from Aqueous Solutions: Conceptualization Modeling of Adsorptive Interfacial Interactions, Kinetics, and Swelling. *Langmuir* 2025, 41, 16529–16547. doi:10.1021/acs.langmuir.5c01927.
29. Gkika, D.A.; Tolkou, A.K.; Poulopoulos, S.G.; Kalavrouziotis, I.K.; Kyzas, G.Z. Cost-Effectiveness of Regenerated Green Materials for Removal of Pharmaceuticals from Wastewater. Waste Manag. 2025, 204, 114952, doi:10.1016/j.wasman.2025.114952.
30. Gkika, D.A.; Tolkou, A.K.; Katsoyiannis, I.A.; Kyzas, G.Z. The Adsorption-Desorption-Regeneration Pathway to a Circular Economy: The Role of Waste-Derived Adsorbents on Chromium Removal. Sep. Purif. Technol. 2025, 368, 132996, doi:10.1016/j.seppur.2025.132996
31. Malouchi, N.; Tolkou, A.K.; Maroulas, K.N.; Kosheleva, R.I.; Kostoglou, M.; Katsoyiannis*, I.A.; Kyzas*, G.Z. Colloids and Surfaces A: Physicochemical and Engineering Aspects Polyphenolic Derivatives of Chitosan as Adsorbents for the Removal of Ibuprofen from Pharmaceutical Solutions. Colloids Surfaces A Physicochem. Eng. Asp. 2025, 715, 136647, doi:10.1016/j.colsurfa.2025.136647.
32. Kouzoutzoglou-Efremidou A., Tolkou* A.K., Maroulas K.N., Kosheleva R.I., Katsoyiannis I.A., Kyzas* G.Z. Interfacial adsorption interactions of dyes and chitosan/activated carbon@curcumin derivatives in singe-component and binary solutions", Langmuir 2025 41 (5), 3603-3622. 10.1021/acs.langmuir.4c04769.
33. Malouchi, N.; Tolkou, A.K.*; Kyzas, G.Z.*; Katsoyiannis, I.A. Ibuprofen Removal by Aluminum-Modified Activated Carbon (AC@Al) Derived from Coconut Shells. Appl. Sci. 2024, 14, 9929. https://doi.org/10.3390/app14219929.
34. Karaeva* A., Ivascu, L., Tolkou A.K., Torretta V. Rada E.C., THE ROLE OF THE PUBLIC IN THE IMPLEMENTATION OF NATIONAL ENERGY POLICY OBJECTIVES. *WIT Transactions on Ecology and the Environment* 2024, 262, 969 - 979. https://doi:10.2495/SDP240801.
35. Malouchi, N.; Tolkou, A.K.*; Maroulas, K.N.; Katsoyiannis, I.A.; Kyzas, G.Z.* Removal of Ibuprofen from Aqueous Solutions by Using Graphene Oxide@MgO. J. Compos. Sci. 2024, 8, 434. https://doi.org/10.3390/jcs8100434.
36. Tolkou, A.K.; Posantzis, A.; Maroulas, K.N.; Kosheleva, R.I.; Koumentakou, I.; Kostoglou, M.; Kyzas, G.Z.* Fluoride Removal from Aqueous Solutions by Using Super-Adsorbents of Chitosan/Orange Peels/Activated Carbon@MgO: Synthesis, Characterization, and Adsorption Evaluation. Processes 2024, 12, 2043. https://doi.org/10.3390/pr12092043.
37. Baltrocchi, A.P.D.; Carnevale Miino, M.; Katsoyiannis, I.A.; Tolkou, A.K.; Maggi, L.; Rada, E.C.; Torretta, V. Assessment of environmental sustainability of drinking water treatments for arsenic removal. Resour. Conserv. Recycl. 2024, 211, 107878. https://doi.org/10.1016/J.RESCONREC.2024.107878.
38. Kouvalakidou, S. L.; Lazaridou, M.; Tolkou, A. K.; Bikiaris, N. D.; Liakos, E.; Kostoglou, M.; Kyzas, G. Z. Amphoteric Chitosan Derivatives for the Removal of Basic and Reactive Dyes from Aqueous Solutions. J. Mol. Liq. 2024, 411, 125779.
39. Tsoutsa, E.K.; Tolkou, A.K.*; Kyzas, G.Z.; Katsoyiannis, I.A. New Trends in Composite Coagulants for Water and Wastewater Treatment. Macromol 2024, 4, 509-532. https://doi.org/10.3390/macromol4030030.

40. Malouchi, N., Chatzimichailidou, S., Tolkou, A.K., Kyzas, G.Z., Calgaro, L., Marcomini, A., Katsoyiannis*, I.A. The Removal of Per- and Poly-Fluoroalkyl Substances from Water: A Review on Destructive and Non-Destructive Methods. Separations 2024, 11, 122. https://doi.org/10.3390/separations11040122.
41. Tolkou*, A. K.; Maroulas, K. N.; Theologis, D.; Katsoyiannis, I. A. Comparison of Modified Peels : Natural Peels or Peels-Based Activated Carbons for the Removal of Several Pollutants Found in Wastewaters. C 2024, 10, 22. https://doi.org/10.3390/c10010022.
42. Dago-serry, Y., Maroulas, K. N., Tolkou, A. K., Kokkinos, N. K., Kyzas, G. Z. How the Chitosan Structure Can Affect the Adsorption of Pharmaceuticals from Wastewaters: An Overview. Carbohydr. Polym. Technol. Appl. 2024, 7, 100466. https://doi.org/10.1016/j.carpta.2024.100466.
43. Tsoutsa, E. K., Tolkou, A. K., Kyzas, G. Z., Katsoyiannis, I. A. An Update on Agricultural Wastes Used as Natural Adsorbents or Coagulants in Single or Combined Systems for the Removal of Dyes from Wastewater. Water, Air, Soil Pollut. 2024. https://doi.org/10.1007/s11270-024-06979-9.
44. Tolkou* A. K., Tsoutsa E. K., Katsoyiannis I. A., Kyzas* G. Z. Colloids and Surfaces A : Physicochemical and Engineering Aspects Simultaneous Removal of Anionic and Cationic Dyes on Quaternary Mixtures by Adsorption onto Banana , Orange and Pomegranate Peels. Colloids Surfaces A Physicochem. Eng. Asp. 2024, 685, 133176. https://doi.org/10.1016/j.colsurfa.2024.133176.
45. Tolkou, A. K., Tsoutsa E. K., Kyzas G. Z., Katsoyiannis* I. A. Sustainable Use of Low - Cost Adsorbents Prepared from Waste Fruit Peels for the Removal of Selected Reactive and Basic Dyes Found in Wastewaters. Environ. Sci. Pollut. Res. 2024, No. 0123456789. https://doi.org/10.1007/s11356-024-31868-3.
46. Karaeva* A., Ivascu, L., Tolkou, A.K., Kyzas, G.Z., Giurea R. Reducing the Negative Impact on Atmospheric Air : An Overview of Economic and Administrative and Legal Tools. MATEC Web of Conferences 2024, 389, 00066, 1–10. https://doi.org/10.1051/matecconf/202438900066.
47. Gkika D.A., Tolkou A.K., Lambropoulou D.A., Bikiaris B.N., Kokkinos P., Kalavrouziotis I.K., Kyzas* G.Z. Application of Molecularly Imprinted Polymers (MIPs) as environmental separation tools. RSC Applied Polymers 2024, DOI: 10.1039/D3LP00203A.
48. Dago-Serry Y., Maroulas K.N., Tolkou, A.K., AbdelAll N., Alodhayb A.N., Khouqeer G.A., Kyzas* G.Z. Composite Super-Adsorbents of Chitosan/Activated Carbon for the Removal of Nonsteroidal Anti-Inflammatory Drug from Wastewaters. Journal of Molecular Structure, 2024, 1298 (P2), 137044. https://doi.org/10.1016/j.molstruc.2023.137044.
49. Chalaris* M., Gkika D.A., Tolkou A.K., Kyzas G.Z. Advancements and sustainable strategies for the treatment and management of wastewaters from metallurgical industries: An Overview. Environmental Science and Pollution Research 2023, No. 0123456789. https://doi.org/10.1007/s11356-023-30891-0.
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Editorial of Special Issues

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Books/Chapters (23 Chapters)

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2. Tolkou A.K., “New type of coagulants for water and wastewater treatment”, 9th Environmental Conference of Macedonia, May 8-10 2026, Thessaloniki.
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7. Fykari S., Kyzas G.Z., Tolkou A.K., “Sustainable orange peels/aluminum@graphene oxide composites for efficient removal of synthetic dyes from textile wastewater", 2nd International Conference on Circularity, Sustainability and Resilience in Water, Wastewater and Sludge Management (CSRW26), March 29 to April 02 2026, Thessaloniki.
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