

UMME SALMA

PhD | Researcher-Lecturer in Chemistry



Publications



LinkedIn



ummesalma@cnr.it

Educational Career

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| Degree | Doctor of Philosophy (PhD) |
| Session | 2014-2017 |
| Major | Physical Chemistry |
| University | "La Sapienza" University of Rome, Rome (Italy) |

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| Degree | Master of Philosophy (MPhil) |
| Session | 2011-2013 |
| Major | Physical Chemistry |
| University | University of Sargodha (Pakistan) |

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| Degree | Master of Science (MSc) |
| Session | 2008-2010 |
| Major | Chemistry |
| University | University of The Punjab, Lahore (Pakistan) |

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| Degree | Bachelor's of Science (BSc) |
| Major | Chemistry, Zoology, Botany |
| Session | 2006-2008 |
| University/Institute | University of Sargodha, Sargodha (Pakistan) |

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|----------------------|---|
| Degree | Bachelor's of Education (B.Ed.) |
| Major | Leadership and Management, Educational Technology and Evaluation, Teacher Education, Science Education |
| Session | 2013-2014 |
| University/Institute | Allama Iqbal Open University, Islamabad (Pakistan) |

Experience

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| May 2024–Present | Researcher at Institute of Crystallography (IC), CNR, Bari, Italy |
| Feb 2022 – Jan 2023 | Post-doctoral Researcher at the Institute of Nanotechnology, National Research Council (CNR), Lecce, Italy. |
| Mar 2016 – Jul 2016 | Visiting Research Associate at School of Chemistry and Chemical Engineering, Queen's University Belfast The Queen's University of Belfast, UK . |
| May 2012– Oct 2014 | Lecturer of Chemistry and Academic Coordinator at Punjab College Sargodha, Pakistan. |
| Aug 2010 –Apr 2012 | Lecturer of Chemistry at ITM College of Science and Technology, Sargodha, Pakistan. |

Awards and Honours

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| MOBILITY FELLOWSHIP (2016) | Winner of PhD MOBILITY FELLOWSHIP 2016 "La Sapienza" University of Rome, Italy. |
| PhD Fellowship (2014) | Winner of a three-years fully funded PhD fellowship from the "La Sapienza" University of Rome, Rome, Italy (Rank-1). |
| Best Teacher Award (2013) | Best Teacher Award by Punjab College of Science, Sargodha, Pakistan. |
| HEC Merit Scholarship (2010) | HEC Merit Scholarship awarded during the MPhil degree by the Higher Education Commission (HEC) of Pakistan. |

Certifications

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| COSHH Assessor | The Control of Substances Hazardous to Health (COSHH) Assessor (for wet lab) by The Knights of Safety™ Academy, UK, 2022 |
| Python for Beginners | Python for Beginners by Simply Learn, Skill-Up Technologies-2023 |
| Foundations of Project Management | Foundations of Project Management, Google, Coursera- 2023 |
| Materials Data Sciences and Informatics | Materials Data Sciences and Informatics by Georgia Institute of Technology, US - 2023 |

Journal Publications

1. **U. Salma**; N.V. Plechkova,; L. Gontrani,; M. Carbone, Ionic Twin Nanostructural Comparison: Propylammonium Butanoate vs. Butylammonium Propanoate and Their Interactions with Water. Materials 2024, 17, 4071. <https://doi.org/10.3390/ma17164071>.

2. **U. Salma**, S. Nasir, Synthesis of Silver Nanoparticles using Narcissus Leaf Extract: A Green and Rapid Approach. ChemRxiv. 2024; <https://doi.org/10.26434/chemrxiv-2024-m2896>.
3. **U. Salma**, Comparative Analysis of Oxalic Acid Extraction from Tomatoes and Spinach and Its Application in Wood and Metal Cleaning (April 1, 2024). Available at SSRN: <http://dx.doi.org/10.2139/ssrn.4780267>.
4. **U. Salma**, G. Siciliano, E. Primiceri, A. Turco, I. Tarantini, F. Ferrara, and M. Serena Chiriaco. 2023. "Electrochemical Sensors for Liquid Biopsy and Their Integration into Lab-on-Chip Platforms: Revolutionizing the Approach to Diseases" Chemosensors 11, no. 10: 517. <https://doi.org/10.3390/chemosensors11100517>.
5. Book Chapter, Electrical Conductivities and Dielectric Properties of Ionic Liquids and Their Solutions, Plechkova, N.V., **Salma, U.**, Shcherbakov, V.V., Artemkina, Y.M., Properties and Applications of Ionic Liquids, 2023, pp. 35–104.
6. R. Abro, N. Kiran, S. Ahmed, A. Muhammad, A. S. Jatoti, S. A. Mazari, **U. Salma**, N. V. Plechkova., "Extractive Desulfurization of Fuel Oils using Deep Eutectic Solvents: A Comprehensive Review", Journal of Environmental Chemical Engineering, Volume 10, Issue 3, 107369, 2022. Publisher: Elsevier. (IF: 7.968). DOI: <https://doi.org/10.1016/j.jece.2022.107369>
7. L. Gontrani, R. Caminiti, **U. Salma**, M. Campetella, "A Structural and Theoretical Study of the Alkylammonium Nitrates Forefather: Liquid Methylammonium Nitrate", Chemical Physics Letters, Volume 684, 304-309, 2017. Publisher: North-Holland. (IF: 2.328). DOI: <https://doi.org/10.1016/j.cplett.2017.07.017>
8. **U. Salma**, N. V. Plechkova, R. Caminiti, L. Gontrani, "The Opposite Effect of Water and N-Methyl-2-Pyrrolidone Cosolvents on The Nanostructural Organization of Ethylammonium Butanoate Ionic Liquid: a Small and Wide Angle X-Ray Scattering and Molecular Dynamics Simulations Study", J Phys Chem B., Volume 121, 6399–6407, 2017. Publisher: American Chemical Society (IF: 3.146). DOI: <https://doi.org/10.1021/acs.jpcc.7b01837>
9. **U. Salma**, M. Usula, R. Caminiti, L. Gontrani, N. V. Plechkova, K. R. Seddon, "X- Ray and Molecular Dynamics Studies of Butylammoniu Butanoate- Water Binary Mixtures", Phys. Chem. Chem. Phys., Volume 19, 1975-1981, 2017. Publisher: Royal Society of Chemistry. (IF: 4.449). DOI: <https://doi.org/10.1039/C6CP06860J>
10. **U. Salma**, P. Ballirano, M. Usula, R. Caminiti, N. V. Plechkova, K. R. Seddon and L. Gontrani, "A new insight into the nanostructure of alkylammonium alkanoates based ionic liquids in water", Phys. Chem. Chem. Phys., Volume 18, 11497-11502, 2016. Publisher: Royal Society of Chemistry. (IF: 4.449). DOI: <https://doi.org/10.1039/C5CP07953E> [10.1007/s00339-011-6661-0](https://doi.org/10.1007/s00339-011-6661-0)
11. L. Gontrani, **U. Salma** and R. Caminiti, (2017) "To swell or to shrink? Alkylammonium alkanoates plus molecular solvents." 10-14 September, 2017, Paestum, Italy.
12. **U. Salma**, R. Caminiti, and L. Gontrani, (2016) "Effect of Water on the Nanostructure of Alkylammonium Based Ionic Liquids", Merck Young Chemists Symposium, October 25th-27th, Rimini, Italy.
13. L. Gontrani, **U. Salma**, Sadun C., Caminiti R., (2015) "Halogen Bond in Liquid Acetonitriles: the First X-Ray Diffraction and Molecular Dynamics Study", at Congresso DCTC 2015 (Divisione Chimica Teorica e Computazionale), 12-14 December, CNR, Rome, Italy.

Language Skills

Urdu: Native

| | Listening | Reading | Speaking | Writing |
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| English | C2 | C2 | C2 | C2 |
| Italian | B2 | B2 | B1 | B1 |

References

- **Prof. Ruggero Caminiti**
Full Professor of Physical Chemistry
Department of Chemistry, “La Sapienza” University of Rome, Italy.
- **Dr. Natalia Plechkova**
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Queen’s University Belfast, Belfast, UK.