

PUBLICATION LIST

Dr. Aditya Kumar, PhD
Email: adityaku43@gmail.com
Ph. No.: +91 736 705 3318

PATENT

1. Dibya Ranjan Rout, Aditya Kumar, *A GO-supported Mn_2O_3 and MoS_2 ternary composite for green hydrogen generation and a process for the preparation thereof* (Patent No. 2569771)
2. Poonam Chauhan, Aditya Kumar, *A bio-degradable water-repellent jute for multipurpose applications and a process for the preparation thereof* (Patent Application No. 202231066156)
3. Sapan Kumar Pandit, Aditya Kumar, *A Biodegradable Water-Repellent Coating for Paperboard Packaging Materials and a process for the preparation thereof* (Patent Application No. 202431069866)
4. Srishti, Aditya Kumar, *A water-repellent and biodegradable-polymer enhanced stiff jute-cotton blended (Juco) fabric and a process for the preparation thereof* (Patent Application No. 202431069395)
5. Sapan Kumar Pandit, Aditya Kumar, *A biodegradable water-repellent PLA coated jute and a process for the preparation thereof* (Patent Application No. 202431092143)
6. Preeti Kumari, Aditya Kumar, *A transparent anti-dust and corrosion-resistant spray coating for the protection of copper artifacts and a process for the preparation thereof* (Patent Application No. 202431095100)
7. Debasis Mahato, Himanshu Kushwaha, Aditya Kumar, *Borax-based fire-retardant coating on jute fabric* (Patent Application No. 202531040934)
8. Murli Dhar Mitra, Aditya Kumar, *Development of B-N-S doped carbon quantum dots for antibiotic amoxicillin sensing* (Patent Application No. 202531072880)
9. Debasis Mahato, Aditya Kumar, *Moisture-repellent and flame-retardant brattice cloth* (Submitted)

BOOK

1. Aditya Kumar, Ajit Behera, Tuan Anh Nguyen, Muhammad Bilal, Ram Gupta, *Antiviral and Antimicrobial Smart Coatings*, 1st Edition, 2023, ISBN: 9780323992916, Elsevier <https://doi.org/10.1016/C2021-0-02168-4>

RESEARCH PUBLICATIONS (Total publications: 86)

1. Dibya Ranjan Rout, Aditya Kumar, Sami Rtimi, *A novel ternary Mn_2O_3 decorated GO- MoS_2 heterostructure for enhanced tetracycline degradation and green H_2 production under visible light*, RSC- Journal of Materials Chemistry A (Q1, impact factor: 9.5)
2. Poonam Chauhan and Aditya Kumar, *Development of superhydrophobic jute for food grain storage applications*, Food Chemistry, 489, 2025, 145017 (Q1, impact factor: 9.8)
3. Sapan Kumar Pandit, Kushal Yadav, Poonam Chauhan, and Aditya Kumar, *Assessing the corrosion resistance for metallic surfaces using long-chain fatty acids*, RSC Applied Interfaces (2025)
4. P Kumari, A Kumar, *Towards the fabrication of a mussel-inspired transparent anti-wetting coating for the protection of cultural artefacts*, Journal of Cultural Heritage (2025), 73, 524-535 (Q2, impact factor: 3.3)
5. M Sahu, S Singh, S Prajapati, D Yadav, M Mitra, A Kumar, D Tiwary, D Verma, *Silver Molybdate-Decorated Nanocomposites of Tin Diselenide for Improved Tribological Activity*, ACS Omega (2025), (Q2, impact factor: 4.3)
6. Somesh Singh, Muskan Sahu, Satyapal Prajapati, Murli Dhar Mitra, Aditya Kumar, Alok

- K. Singh, Dhanesh Tiwary, Dinesh K. Verma, ZnSnO₃ quantum dot-reinforced boron carbon nitride nanosheets for enhanced tribological performance, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, (2025), 718, 136857 (Q2, impact factor: 5.4)
7. P Kumari, A Kumar, Solar assisted generation of plasmonic silver photocatalyst for wastewater remediation and green hydrogen production, *Energy and Climate Change*, (2025), 6, 100180 (Q2, impact factor: 5.6)
 8. Somesh Singh, Muskan Sahu, Satypal Prajapati, Anup Kumar, Murli Dhar Mitra, Aditya Kumar, Dhanesh Tiwary, Dinesh K. Verma, Advancement in tribological performance of hexagonal Bi₂Te₃ nanosheets by incorporation of Ag₂MoO₄ nanoparticles, *Hybrid Advances*, (2025), 10, 100429
 9. Srishti, Aditya Kumar, Exploring the viability of anti-microbial, Superhydrophobic jute bags as an approach to sustainable food packaging system, *Food Chemistry*, 460, 2024, 140595 (Q1, impact factor: 9.8)
 10. P Kumari, K Kumar, A Kumar, In-situ oil-spill remediation by an electrodeposited superhydrophobic copper mesh, *Marine Pollution Bulletin*, (2024), 204, 116513 (Q1, impact factor: 4.9)
 11. Srishti, Paras, Aditya Kumar, ANSYS Fluent-CFD analysis of a continuous single-slope single-basin type solar still, *Green Technologies and Sustainability*, (2024), 2, 100105
 12. H Singhal, SK Pandit, P Kumari, A Kumar, In-situ assessment of the performance of oil-water separation by superhydrophobic coated cotton under extreme conditions, *Marine Pollution Bulletin*, (2024), 200, 116062 (Q1, impact factor: 4.9)
 13. Rashi Gururani, Sapan Kumar Pandit, Preeti Kumari and Aditya Kumar, Towards the development of one-step scalable self-cleaning and stain-resistant coating on cellulosic wood, *Fibers and Polymers*, (2024), 25, 1779-1788 (Q2, impact factor: 2.3)
 14. Manamohan Tripathy, Aditya Kumar, Advance biodegradable jute fabric surface with water-repellent properties, *J. Coat. Technol. Innov.*, (2024), 2, 1-16
 15. Srishti, Aditya Kumar, Sustainable approach to oil recovery from oil spills through superhydrophobic jute fabric, *Marine Pollution Bulletin*, (2023), 197, 115701 (Q1, impact factor: 4.9)
 16. Preeti Kumari, Aditya Kumar, In-depth analysis of corrosion-resistance and dynamic stability of superhydrophobic copper developed by a green approach, *Materials Today Communications*, (2023), 36, 106744 (Q2, impact factor: 4.5)
 17. Srishti, Apurba Sinhamahapatra, Aditya Kumar, Assessing the non-wettability and sustainability of cellulosic jute for roadway applications, *Cellulose*, (2023), 30, 7839-7852 (Q1, ISSN: 0969-0239 (print); 1572-882X (web), impact factor: 4.8)
 18. Sapan Kumar Pandit, Kaushal Kumar, Poonam Chauhan, Aditya Kumar, Development of facile superhydrophobic coating on rockwool for oil-water separation, *Surfaces and Interfaces*, 39, 2023, 102962 (Q1, ISSN: 2468-0230 (web), impact factor: 6.3)
 19. Neeraj Kumar Mishra, Aditya Kumar, Kaushal Kumar, Development of ultra-broad band light emitting single phase garnet phosphor based on energy transfer mechanism and its applications in optical temperature sensing and WLED, *Journal of Alloys and Compounds*, (2023), 947, 1694404 (Q1, ISSN: 0925-8388 (print); 1873-4669 (web), impact factor: 6.3) <https://doi.org/10.1016/j.jallcom.2023.169440>
 20. Preeti Kumari, Aditya Kumar, Advanced Oxidation Process: A remediation technique for organic and non-biodegradable pollutant, (2023), *Results in Surfaces and Interfaces*, (2023), 11, 100122 (Q2, impact factor = 4.4)
 21. Poonam Chauhan, Kushal Yadav, Aditya Kumar, Effect on the corrosion resistance property of aluminium substrate by altering the wetting behavior, *Journal of Coatings Technology and Research*, (2023), (Q2, ISSN: 1547-0091 (print); 1935-3804 (web), impact factor: 2.8) <https://doi.org/10.1007/s11998-023-00768-5>
 22. Srishti, Apurba Sinhamahapatra, Aditya Kumar, Review of the progress of solar-driven interfacial water evaporation (SIWE) toward a practical approach, *RSC-Energy Advances*, (2023), 2, 574-605 (Q2, ISSN: 2753-1457 (web) impact factor = 4.3) <https://doi.org/10.1039/D3YA00028A>
 23. Poonam Chauhan, Aditya Kumar, Maximum spreading behavior of a water droplet on the aluminium surfaces with different wettabilities, *Journal of Micromanufacturing*, (2023), 1 (ISSN: 2516-5984 (print)) <https://doi.org/10.1177/25165984221143866>
 24. Sapan Kumar Pandit, Poonam Chauhan, Apurba Sinhamahapatra, Yash Parekh, M Ghalib Enayathullah,

- Kiran Kumar Bokara, Aditya Kumar, COVID-19 repellent cloth, *Frontiers in Chemical Engineering*, 2, (2022), 114 (Q3, ISSN: 2673-2718 (web), impact factor = 2.6) <https://doi.org/10.3389/fceng.2022.1066184>
25. Srishti, Khushi Khandelwal, Aditya Kumar, Apurba Sinhamahapatra, Progress on TiO₂ -based materials for Solar Water Interfacial evaporation, *Frontiers in Chemical Engineering*, (2022) (Q3, ISSN: 2673-2718 (web) impact factor = 2.6) <https://doi.org/10.3389/fceng.2022.1046019>
 26. A. Kumar, K. Nath, Y. Parekh, M. G. Enayathullah, K. K. Bokara, A. Sinhamahapatra, Antimicrobial silver nanoparticle-photodeposited fabrics for SARS-Cov-2 destruction, *Colloid and Interface Science Communications*, 45, (2021), 100542 (Q2, ISSN: 2215-0382 (web) impact factor = 4.7) <https://doi.org/10.1016/j.colcom.2021.100542> (impact factor: 4.7)
 27. Paras, Aditya Kumar, Smart bioinspired anti-wetted surfaces: Perspectives, fabrication, stability and applications, *Current Research in Green and Sustainable Chemistry*, 4, (2021) 100139 (ISSN: 2666-0865 (web)) <https://doi.org/10.1016/j.crgsc.2021.100139>
 28. P. Varshney, S. S. Mohapatra, A. Kumar, Durable and Regenerable Superhydrophobic Coating on Steel Surface for Corrosion Protection, *J. of Bio- and Tribo-Corrosion*, 7, (2021), 38 (ISSN: 2198-4220 (print); 2198-4239 (web)) <https://doi.org/10.1007/s40735-021-00518-3>
 29. A. Kumar, B. K. Tudu, S. K. Pandit, Development of novel anti-wetting coating on cellulosic surface using low carbon butyric acid, *Cellulose*, 28, (2021), 4825-4834 (Q1, ISSN: 0969-0239 (print); 1572-882X (web), impact factor: 4.8) <https://doi.org/10.1007/s10570-021-03797-8>
 30. A. Kumar, M. K. Meena, Fabrication of durable corrosion-resistant polyurethane/SiO₂ nanoparticle composite coating on aluminium, *Colloid and Polymer Science*, 299, (2021), 1-10 (Q3, ISSN: 0303-402X (print); 1435-1536 (web), impact factor: 2.3) <https://doi.org/10.1007/s00396-021-04814-9>
 31. P. Chauhan, A. Kumar, Development of a microbial coating for cellulosic surface using aloe vera and silane, *Carbohydrate Polymer Technologies and Applications*, 1, (2020), 100015 (Q1, ISSN: 2666-8939 (web), impact factor: 6.5) <https://doi.org/10.1016/j.carpta.2020.100015>
 32. A Panda, A Kumar, S Mishra, S S Mohapatra, Soapnut: A Replacement of Synthetic Surfactant for Cosmetic and Biomedical Applications, *Sustainable Chemistry and Pharmacy*, 17, (2020), 100297 (Q1, ISSN: 2352-5541 (web), impact factor: 5.8) <https://doi.org/10.1016/j.scp.2020.100297>
 33. A. Mondal, S. Biswas, Srishti, A. Kumar, J. S. Yu, A. Sinhamahapatra, Sub 10 nm CoO nanoparticles-decorated graphitic carbon nitride for solar hydrogen generation via efficient charge separation, *RSC-Nanoscale Advances*, 2, (2020), 4473-4481 (Q2, ISSN: 2516-0230 (web), impact factor: 4.6) <https://doi.org/10.1039/D0NA00508H>
 34. A Panda, A Kumar, S S Mohapatra, Water Soluble Polymer added High Mass Flux Spray: A Novel Approach for the Attainment of Enhanced Heat Transfer Rate in Transition Regime, *International Journal of Heat and Mass Transfer*, 157, (2020), 119838 (Q1, ISSN: 0017-9310 (print); 1879-2189 (web), impact factor: 5.8) <https://doi.org/10.1016/j.ijheatmasstransfer.2020.119838>
 35. K. Tudu, A. Sinhamahapatra, and A. Kumar, Surface modification of cotton fabric using TiO₂ nanoparticles for self-cleaning, oil-water separation, anti-stain, anti-water absorption, and anti-bacterial properties, *ACS Omega*, 5, (2020), 7850-7860 (Q2, ISSN: 2470-1343 (print); 2470-1343 (web), impact factor: 4.3) <https://doi.org/10.1021/acsomega.9b04067>
 36. K. Tudu, V. Gupta, A. Kumar, and A. Sinhamahapatra, Freshwater production via efficient oil-water separation and solar-assisted water evaporation using black titanium oxide nanoparticles, *Journal of Colloid & Interface Science*, 566, (2020), 183-193 (Q1, ISSN: 0021-9797 (print); 1095-7103 (web), impact factor: 9.7) <https://doi.org/10.1016/j.jcis.2020.01.079>
 37. Sangeetha Sriram, R. K. Singh, and Aditya Kumar, Silica and Silane based polymer composite coating on glass slide by dip-Coating Method, *Surfaces and Interfaces*, 19, (2020), 100472 (Q2, ISSN: 2468-0230 (web), impact factor: 6.3) <https://doi.org/10.1016/j.surfin.2020.100472>
 38. Sangeetha Sriram, R. K. Singh, and Aditya Kumar, Oil-water separation through an ultrahydrophobic filter paper developed by sol-gel dip-coating technique, *Materials Today Proceedings*, 26, (2020), 2495-2501 (ISSN: 2214-7853 (web)) <https://doi.org/10.1016/j.matpr.2020.02.531>
 39. S. Sriram, R. K. Singh, A. Kumar, Preparation of Superhydrophobic Coatings on Filter Paper for Oil-Water Separation, *Materials Science Forum*, 978, (2020) 492-498 (ISSN: 02555476 (print); 16629752 (web),

- impact factor: 0.211) <https://doi.org/10.4028/www.scientific.net/MSF.978.492>
40. Sapan Kumar Pandit, Balraj Krishnan Tudu, Indra Mani Mishra, and Aditya Kumar, Development of stain resistant, superhydrophobic and self-cleaning coating on wood surface, *Progress in Organic Coatings*, 139, (2020), 105453 (Q1, ISSN: 0300-9440 (print); 1873-331X (web), impact factor: 7.3) <https://doi.org/10.1016/j.porgcoat.2019.105453>
 41. Mukesh Kumar Meena, Balraj Krishnan Tudu, Aditya Kumar, and Bharat Bhushan, Development of polyurethane based superhydrophobic coatings on steel surfaces, *Phil. Trans. R. Soc. A*, 378, (2020), 20190446 (Q1, ISSN: 364-503X (print); 1471-2962 (web) impact factor: 3.7) <https://doi.org/10.1098/rsta.2019.0446>
 42. Mukesh Kumar Meena, Apurba Sinhamahapatra, and Aditya Kumar, Superhydrophobic polymer composite coating on glass via spin coating technique, *Colloid and Polymer Science*, 297, (2019), 1499-1505 (Q3, ISSN: 0303-402X (print); 1435-1536 (web), impact factor: 2.3) <https://doi.org/10.1007/s00396-019-04560-z>
 43. A Panda, A Kumar, B Munshi, S S Mohapatra, The Enhancement of Dropwise and Spray Evaporative Cooling by using Extract of Reetha added Water as a Coolant, *Thermochimica Acta*, 680, (2019), 178379 (Q2, ISSN: 0040-6031 (print); 1872-762X (web), impact factor: 3.5) <https://doi.org/10.1016/j.tca.2019.178379>
 44. Balraj Krishnan Tudu, and Aditya Kumar, Robust and durable superhydrophobic steel and copper meshes for separation of oil-water emulsions, *Progress in Organic Coatings*, 133, (2019), 316-324 (Q1, ISSN: 0300-9440 (print); 1873-331X (web), impact factor: 7.3) <https://doi.org/10.1016/j.porgcoat.2019.04.069>
 45. Anita Panda, A. R. Pati, B. Saha, A. Kumar, S. S. Mohapatra, The role of viscous and capillary forces in the prediction of critical conditions defining super-hydrophobic and hydrophilic characteristics, *Chemical Engineering Science*, 207, (2019), 527-541 (Q2, ISSN: 0009-2509 (print); 1873-4405 (web), impact factor: 4.3) <https://doi.org/10.1016/j.ces.2019.06.013>
 46. A. Panda, S. S. Mohapatra, and A. Kumar, Polyethylene Glycol added Water Droplet Evaporative Cooling for Fast Cooling Operations, *Journal of Thermophysics and Heat Transfer*, 33, (2019), 1-12 (Q3, ISSN: 08878722 (print); 15336808 (web), impact factor: 1.7) <https://doi.org/10.2514/1.T5601>
 47. Panda, A. R. Pati, A. Kumar, S. S. Mohapatra, Dropwise evaporation of hydrophilic coolant droplets: A methodology for the development of hydrophilic coating and attainment of enhanced heat transfer, *International Communications in Heat and Mass Transfer*, 105, (2019), 19-27 (Q1, ISSN: 0735-1933 (print); 1879-0178 (web), impact factor: 6.4) <https://doi.org/10.1016/j.icheatmasstransfer.2019.03.015>
 48. Balraj Krishnan Tudu, Aditya Kumar, and Bharat Bhushan, Fabrication of superoleophobic cotton fabric for multi-purpose applications, *Phil. Trans. R. Soc. A*, 377, (2019), 1-13 (Q1, ISSN: 364-503X (print); 1471-2962 (web), impact factor: 3.7) <https://doi.org/10.1098/rsta.2019.0129>
 49. Debasis Nanda, Abanti Sahoo, Aditya Kumar, and Bharat Bhushan, Facile approach to develop durable and reusable superhydrophobic/superoleophilic coatings for steel mesh surfaces, *Journal of Colloid & Interface Science*, 535, (2019), 50-57 (Q1, ISSN: 0021-9797 (print); 1095-7103 (web), impact factor: 9.7) <https://doi.org/10.1016/j.jcis.2018.09.088>
 50. Poonam Chuahan, Aditya Kumar, and Bharat Bhushan, Self-cleaning, Stain-resistant and Anti-bacterial Superhydrophobic Cotton Fabric Prepared by Simple Immersion Technique, *Journal of Colloid & Interface Science*, 535, (2019), 66-74 (Q1, ISSN: 0021-9797 (print); 1095-7103 (web), impact factor: 9.7) <https://doi.org/10.1016/j.jcis.2018.09.087>
 51. Balraj Krishnan Tudu, Aditya Kumar, and Bharat Bhushan, Facile Approach to Develop Anti-corrosive Superhydrophobic Aluminum with High Mechanical, Chemical and Thermal Durability, *Phil. Trans. R. Soc. A*, 377, (2019), 20180272 (Q1, ISSN: 364-503X (print); 1471-2962 (web), impact factor: 3.7) <https://doi.org/10.1098/rsta.2018.0272>
 52. Sangeetha Sriram and Aditya Kumar, Separation of oil-water via porous PMMA/SiO₂ nanoparticles superhydrophobic surface, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 563, (2019), 271-279 (Q2, ISSN: 0927-7757 (print); 1873-4359 (web), impact factor: 5.4) <https://doi.org/10.1016/j.colsurfa.2018.12.017>
 53. P. Varshney, J. Lomga, S. S. Mohapatra, and A. Kumar, Durable and regenerable superhydrophobic coatings

- for aluminium surfaces with excellent water-repellent self-cleaning and anti-fogging properties, *Tribology International*, 119, (2018), 38-44 (Q1, ISSN: 0301-679X (print); 1879-2464 (web), impact factor: 6.9) <https://doi.org/10.1016/j.triboint.2017.10.033>
54. A. Panda, P. Varshney, S. S. Mohapatra, and A. Kumar, Development of liquid repellent coating on cotton fabric by simple binary silanization with excellent self-cleaning and oil-water separation properties, *Carbohydrate Polymers*, 181, (2018), 1052-1060 (Q1, ISSN: (print); (web), impact factor: 12.5) <https://doi.org/10.1016/j.carbpol.2017.11.044>
 55. N. H Bhatt, A. R Pati, L. Das, A. Panda, P. Varshney, A. Kumar, B. Munshi, and S. S. Mohapatra, The Diminishment of Specific Heat and Surface Tension of Coolant Droplet in a Dropwise Evaporation Process: A Novel Methodology to Enhance the Heat Transfer Rate, *Experimental Heat Transfer*, 31, (2018), 355-372 (Q2, ISSN: 15210480 (web); 08916152 (print), impact factor: 2.9) <https://doi.org/10.1080/08916152.2017.1419314>
 56. A. Panda, A. R. Pati, S. Pradhan, B. Saha, A. Kumar, and S. S. Mohapatra, High Mass Flux Air Atomized Spray with Subcooled Water: A Novel Methodology to Enhance the Heat Transfer Rate in Film Boiling Regime, *International Journal of Heat and Mass Transfer*, 120, (2018) 1287-1304 (Q1, ISSN: 0017-9310 (print); 1879-2189 (web), impact factor: 5.8) <https://doi.org/10.1016/j.ijheatmasstransfer.2017.12.051>
 57. R. Pati, A. Kumar, and S. S. Mohapatra, Upward and Downward Facing High Mass Flux Spray Cooling with Additives: A Novel Technique to Enhance the Heat Removal Rate at High Initial Surface Temperature, *Heat and Mass Transfer*, 54, (2018), 1669-1680 (Q3, ISSN: 0947-7411 (print); 1432-1181 (web), impact factor: 2.0) <https://doi.org/10.1007/s00231-017-2258-2>
 58. R. Pati, Anita Panda, Lily Das, B. Munshi, Aditya Kumar, Abanti Sahoo, Suman Ghosh, S. S. Mohapatra, Dropwise Evaporative Cooling of Hot Water: A Novel Methodology to Enhance Heat Transfer Rate at Very High Surface Temperatures, *International Journal of Thermal Sciences*, 127, (2018), 335-350 (Q1, ISSN: 1290-0729 (print); 1778-4166 (web), impact factor: 5) <https://doi.org/10.1016/j.ijthermalsci.2018.01.028>
 59. Aditya Kumar and Bidisha Gogoi, Development of durable self-cleaning superhydrophobic coatings for aluminium surfaces via chemical etching method, *Tribology International*, 118, (2018), 114-118 (Q1, ISSN: 0301-679X (print); 1879-2464 (web), impact factor: 6.9) <https://doi.org/10.1016/j.triboint.2018.02.032>
 60. M. Satapathy, P. Varshney, D. Nanda, S. S. Mohapatra, A. Behera, and A. Kumar, Fabrication of durable porous and non-porous superhydrophobic LLDPE/SiO₂ nanoparticles coatings with excellent self-cleaning property, *Surface and Coatings Technology*, 341, (2018), 31-39 (Q1, ISSN: 0257-8972 (print); 1879-3347 (web), impact factor: 6.1) <https://doi.org/10.1016/j.surfcoat.2017.07.025>
 61. A. R. Pati, N. H. Bhatt, Lily, S. Teja, S. Nayak, A. Kumar, A. Sahoo, B. Munshi, A. Behera, H. Sutar, and S. S. Mohapatra, The Discrepancy in the Prediction of Surface Temperatures by Inverse Heat Conduction Models for Different Quenching Processes from Very High Initial Surface Temperature, *Inverse Problems in Science & Engineering*, 7, (2018), 808-835 (Q3, ISSN: 17415977 (print); 17415985 (web), impact factor: 1.1) <https://doi.org/10.1080/17415977.2018.1501369>
 62. M. Satapathy, P. Varshney, D. Nanda, A. Panda, S. S. Mohapatra, and A. Kumar, Fabrication of superhydrophobic and superoleophilic polymer composite coatings on cellulosic filter paper for oil-water separation, *Cellulose*, 24, (2017), 4405-4418 (Q1, ISSN: 0969-0239 (print); 1572-882X (web), impact factor: 4.8) <https://doi.org/10.1007/s10570-017-1420-9>
 63. Nanda, P. Varshney, M. Satapathy, S. S. Mohapatra, B. Bhushan, and A. Kumar, Single step method to fabricate durable superliquiphobic coating on aluminum surface with self-cleaning and anti-fogging properties, *Journal of Colloid and Interface Science*, 507, (2017), 397-409 (Q1, ISSN: 0021-9797 (print); 1095-7103 (web), impact factor: 9.7) <https://doi.org/10.1016/j.jcis.2017.08.022>
 64. Nanda, T. Swetha, P. Varshney, P. K. Gupta, S. S. Mohapatra and A. Kumar, Temperature dependent switchable superamphiphobic coating on steel surface, *Journal of Alloys and Compounds*, 727, (2017), 1293-1301 (Q1, ISSN: 0925-8388 (print); 1873-4669 (web), impact factor: 6.3) <https://doi.org/10.1016/j.jallcom.2017.08.249>
 65. J. Lomga, P. Varshney, D. Nanda, M. Satapathy, S. S. Mohapatra, and A. Kumar, Fabrication of durable and regenerable superhydrophobic coatings with excellent self-cleaning and anti-fogging properties for aluminium surfaces, *Journal of Alloys and Compounds*, 712, (2017), 161-170 (Q1, ISSN: 0925-8388 (print);

- 1873-4669 (web), impact factor: 6.3) <https://doi.org/10.1016/j.jallcom.2017.01.243>
66. P. Varshney, S. S. Mohapatra, and A. Kumar, Fabrication of mechanically stable superhydrophobic aluminium surface with excellent self-cleaning and anti-fogging properties, *Biomimetics*, 2, (2017), 1-12 (Q1, ISSN: 2313-7673 (web), impact factor: 3.9) <https://doi.org/10.3390/biomimetics2010002>
 67. N. H. Bhatt, Lilly, R. Raj, P. Varshney, A. R. Patti, D. Chauhan, A. Kumar, B. Munshi, S. S. Mohapatra, Enhancement of heat transfer rate of high mass flux spray cooling by ethanol-water-tween20 solution at very high initial surface temperature, *International Journal of Heat and Mass Transfer*, 110, (2017), 330-347 (Q1 ISSN: 0017-9310 (print); 1879-2189 (web), impact factor: 5.8) <https://doi.org/10.1016/j.ijheatmasstransfer.2017.02.094>
 68. N. H. Bhatt, D. Chouhan, A. R. Pati, P. Varshney, L. Das, A. Kumar, B. Munshi, A. Behara, S. S. Mohapatra, Role of Water Temperature in Case of High Mass Flux Spray Cooling of a Hot AISI 304 Steel Plate at Different Initial Surface Temperatures, *Experimental Heat Transfer*, 30, (2017), 369-392 (Q2, ISSN: 15210480 (web); 08916152 (print), impact factor: 2.9) <https://doi.org/10.1080/08916152.2016.1269138>
 69. Aniruddha Dey, Shampa Aich, Sudipto Ghosh, S.S. Mohapatra, A. Kumar, Ajit Behera, Multi-scale modeling of deposition and re-sputtering of NiTi1-x thin film in a magnetron sputtering chamber, *Computer Methods in Materials Science*, 17, (2017), 156-168 (ISSN: 2720-4081(print); 2720-3948 (web))
 70. N. Bhatt, A. R. Pati, A. Kumar, A. Behara, B. Munshi, and S. S. Mohapatra, High Mass Flux Spray Cooling with Additives of Low Specific Heat and Surface Tension: A Novel Process to Enhance the Heat Removal Rate, *Applied Thermal Engineering*, 120, (2017), 537-548 (Q2, ISSN: 1359-4311 (print); 1873-5606 (web), impact factor: 6.9) <https://doi.org/10.1016/j.applthermaleng.2017.03.137>
 71. D. Nanda, P. Varshney, M. Satapathy, S. S. Mohapatra, and A. Kumar, Self-assembled monolayer of functionalized silica microparticles for self-cleaning applications, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 529, (2017), 231-238 (Q2, ISSN: 0927-7757 (print); 1873-4359 (web), impact factor: 5.4) <https://doi.org/10.1016/j.colsurfa.2017.06.007>
 72. P. Varshney, D. Nanda, S. S. Mohapatra, and A. Kumar, A facile modification of steel mesh for selective separation of oil-water mixtures, *RSC-New Journal of Chemistry*, 41, (2017), 7463-7471 (Q3, ISSN: 1144-0546 (print); 1369-9261 (web), impact factor: 2.5) <https://doi.org/10.1039/C7NJ01265A>
 73. P. Varshney, S. S. Mohapatra, and A. Kumar, Superhydrophobic coatings for aluminium surfaces synthesized by chemical etching process, *International Journal of Smart and Nano Materials*, 7, (2016), 248-264 (Q1, ISSN: 19475411 (print), 1947542X (web), impact factor: 6.6) <https://doi.org/10.1080/19475411.2016.1272502>
 74. A. Kumar and B. Bhushan, Nanomechanical, nanotribological and macrotribological characterization of hard coatings and surface treatment of H-13 steel, *Tribology International*, 81, (2015), 149-158 (Q1, ISSN: ISSN: 0301-679X (print); 1879-2464 (web), impact factor: 6.9) <https://doi.org/10.1016/j.triboint.2014.08.010>
 75. S. Yilbas, A. Kumar, and B. Bhushan, Single- and two-layer coatings of metal blends onto carbon steel: mechanical, wear, and friction characterization, *The Journal of Minerals, Metals & Materials Society (TMS)*, 66, (2014), 37-45 (ISSN: 1047-4838 (print); 1543-1851 (web), impact factor: 2.1) <https://doi.org/10.1007/s11837-013-0790-1>
 76. S. Yilbas, A. Kumar, B. Bhushan, and B. J. Abdul Aleem, Material, mechanical, and tribological characterization of laser treated surfaces, *Journal of Thermal Spray Technology*, 23, (2014), 1210-1224 (Q2, ISSN: 1059-9630 (print); 1544-1016 (web), impact factor: 3.3) <https://doi.org/10.1007/s11666-014-0102-5>
 77. A. Kumar, T. Staedler, and X. Jiang, Role of relative size of surface asperity and adhering particle on the adhesion force, *Journal of Colloid and Interface Science*, 409, (2013), 211-218 (Q1, ISSN: 0021-9797 (print); 1095-7103 (web), impact factor: 9.7) <https://doi.org/10.1016/j.jcis.2013.07.039>
 78. A. Kumar and B. Bhushan, Effect of nanoparticles on nanomechanical and nanotribological properties of polyethylene blend films, *Macromolecular Reaction Engineering*, 7, (2013), 538-548 (Q4, ISSN: 18628338 (print); 1862832X (web), impact factor: 1.3) <https://doi.org/10.1002/mren.201300135>
 79. A. Kumar, T. Staedler, and X. Jiang, Effect of normal load and roughness on the friction coefficient in

- elastic and plastic contact regime, Beilstein J. of Nanotechnology, 4, (2013), 66-71 (Q3, ISSN: 2190-4286 (web), impact factor: 2.7) DOI: 10.3762/bjnano.4.7
80. H. Abu Samra, A. Kumar, J. Xia, T. Staedler, and X. Jiang, Development of a new generation of amorphous hard coatings based on the Si–B–C–N–O system for applications in extreme conditions, Surface and Coatings Technology, 223, (2013), 52-67 (Q1, ISSN: 0257-8972 (print); 1879-3347 (web), impact factor: 6.1) <https://doi.org/10.1016/j.surfcoat.2013.02.028>
 81. S. Majumdar, A. Kumar, D. Schliephake, H.-J. Christ, X. Jiang, and M. Heilmaier, Microstructural and Micro-Mechanical Properties of Mo-Si-B Alloyed with Y and La, Materials Science and Engineering A, 573, (2013), 257-263 (Q1, ISSN: 0921-5093 (print); 1873-4936 (web), impact factor: 7.0) <https://doi.org/10.1016/j.msea.2013.02.053>
 82. A. Kumar, N. Huang, T. Staedler, C. Sun, and X. Jiang, Mechanical Characterization of Aluminum doped Zinc Oxide (Al:ZnO) Nanorods prepared by Sol-Gel Method, Applied Surface Science, 265, (2012), 758-763 (Q1, ISSN: 0169-4332 (print); 1873-5584 (web), impact factor: 6.9) <https://doi.org/10.1016/j.apsusc.2012.11.101>
 83. J. Shi, A. Kumar, L. Zhang, X. Jiang, Z.L. Pei, J. Gong, and C. Sun, Effect of Cu addition on properties of Ti-Al-Si-N nanocomposite films deposited by cathodic vacuum arc ion plating, Surface and Coatings Technology, 206, (2012), 2947-2953 (Q1, ISSN: 0257-8972 (print); 1879-3347 (web), impact factor: 6.1) <https://doi.org/10.1016/j.surfcoat.2011.12.027>
 84. J. Shi, C.M. Muders, A. Kumar, X. Jiang, Z.L. Pei, J. Gong, and C. Sun, Study on nanocomposite Ti-Al-Si-Cu-N films with various Si contents deposited by cathodic vacuum arc ion plating, Applied Surface Science, 258, (2012), 9642-9649 (Q1, ISSN: 0169-4332 (print); 1873-5584 (web), impact factor: 6.9) <https://doi.org/10.1016/j.apsusc.2012.06.002>
 85. Z. Q. Yao, S. L. Liu, L. Zhang, B. He, A. Kumar, X. Jiang, W. J. Zhang, and G. Shao, Room temperature fabrication of p-channel Cu₂O thin-film transistors on flexible polyethylene terephthalate substrates, Applied Physics Letters, 101, (2012), 042114-1-4 (Q2, ISSN: 6951 (print); 1077-3118 (web), impact factor: 3.6) <https://doi.org/10.1063/1.4739524>
 86. Z. Q. Yao, B. He, L. Zhang, C. Q. Zhuang, T. W. Ng, S. L. Liu, M. Vogel, A. Kumar, W. J. Zhang, C. S. Lee, S. T. Lee, and X. Jiang, Energy band engineering and controlled p-type conductivity of CuAlO₂ thin Films by nonisovalent Cu-O alloying, Applied Physics Letters, 100, (2012), 062102-1-4 (Q2, ISSN: 0003-6951 (print); 1077-3118 (web), impact factor: 3.6) <https://doi.org/10.1063/1.3683499>

BOOKS/BOOK CHAPTERS

1. Debasis Nanda and Aditya Kumar, Methods and Fabrication Techniques of superhydrophobic surfaces, *Superhydrophobic Polymer Coatings: Fundamentals, Design, Fabrications, and Applications* (Sushanta Samal Smita Mohanty Sanjay Kumar Nayak, Ed), 1st Ed. Elsevier, (2019) <https://doi.org/10.1016/B978-0-12-816671-0.00004-7>
2. T. Staedler, K. Diehl, R. Fuchs, J. Meyer, A. Kumar, and X. Jiang, Nanoindentation based colloid probe technique: A unique opportunity to study the mechanical contact of individual micron sized particles, *Particles in Contact – Micro Mechanics, Micro Process Dynamics, and Particle Collective* (S. Antonyuk, Ed), Springer (2019) https://doi.org/10.1007/978-3-030-15899-6_15
3. Debasis Nanda, Aprub Sinhamahapatra, and Aditya Kumar, Superhydrophobic Metal Surface, *Materials with Extreme Wetting Properties: Methods and Emerging Industrial Applications* (Ioannis Karapanagiotis and Majid Hosseini, Ed), Springer (2020). https://doi.org/10.1007/978-3-030-59565-4_8
4. Ajit Behera, Patitapabana Parida and Aditya Kumar, NiTi thin film shape memory alloy and their industrial application, *Functional Materials and Advanced Manufacturing* (C. Prakash, S. Singh, J. P. Davim, Ed), CRC Press, Taylor & Francis publisher, (2020). [https://DOI: 10.1201/9780429298042-9](https://doi.org/10.1201/9780429298042-9)
5. Paras, Aditya Kumar, Anti-Wetting Polymeric Coatings, *Materials Science and Materials Engineering (Encyclopedia 2021)* DOI:10.1016/B978-0-12-820352-1.00141-3

6. Pooja Gupta, Aditya Kumar, Apurba Sinhamahapatra, Liquid Fuel From Plastic Waste, *Materials Science and Materials Engineering (Encyclopedia 2021)* DOI:10.1016/B978-0-12-820352-1.00128-0
7. Paras, Aditya Kumar, Anti-Bacterial and Anti-Viral Polymeric Coatings, *Materials Science and Materials Engineering (Encyclopedia 2021)* DOI:10.1016/b978-0-12-820352-1.00118-8
8. Preeti Kumari, Poonam Chauhan, Aditya Kumar, Superwetting Materials for Modification of Meshes for Oil/Water Separation, *Oil–Water Mixtures and Emulsions, Volume 2: Advanced Materials for Separation and Treatment*, ACS Symposium Series Vol. 1408, 2022 DOI: 10.1021/bk-2022-1408.ch001
9. Kushal Yadav and Aditya Kumar, Introduction of smart coatings in various directions, *Antiviral and Antimicrobial Smart Coatings, 1st Ed, Elsevier (2023)* <https://doi.org/10.1016/B978-0-323-99291-6.00017-7>
10. Preeti Kumari and Aditya Kumar, Working principles of various smart coatings on microbes/virus growth, *Antiviral and Antimicrobial Smart Coatings, 1st Ed, Elsevier (2023)* <https://doi.org/10.1016/B978-0-323-99291-6.00003-7>
11. Srishti, Aditya Kumar, and Apurba Sinhamahapatra, Biomimetics in smart coatings, *Antiviral and Antimicrobial Smart Coatings, 1st Ed, Elsevier (2023)* <https://doi.org/10.1016/B978-0-323-99291-6.00013-X>
12. Vibha Devi and Aditya Kumar, Plant extract-based antibacterial coating: An introduction, *Antiviral and Antimicrobial Smart Coatings, 1st Ed, Elsevier (2023)* <https://doi.org/10.1016/B978-0-323-99291-6.00004-9>

CONFERENCES/SEMINARS

1. An environment friendly copper based superhydrophobic coating on steel substrate via electrodeposition to reduce corrosion, Symposium SPIE Smart Structures + Non-destructive evaluation, California, USA, 12-16 March 2023
2. Development of self-cleaning and stain-resistant superhydrophobic corrugated sheet by using one step spray technique, International Conference on Chemical Engineering Innovations & Sustainability (ICEIS2023), Kolkata, 26 - 27 Feb 2023
3. Influence on antibacterial activity of cloth using different plant leaves extracts, 11th Fiber and Polymer Research Symposium, Turkey, 4-5 Nov 2022
4. Study of the influence of chemicals for coal water slurry gasification, International Conference on Net Zero Emission Technologies (N0ET - 2022), Dhanbad, India, 12-13 Dec 2022
5. Development of a super hydrophobic coating on marble surface, CHEMCON-2022, Kanpur, India, 27-30 Dec 2022
6. Photoreduction of Cr(VI) to Cr(III) over photodeposited copper on TiO₂ (Cu/TiO₂) in the presence of glycerol, Chemical Engineering: Enabling Transition Towards Sustainable Future (ChemTSF-2022), Roorkee, India, 8-10 Sept 2022
7. Effect of micro roughness on wettability and anti-corrosion property, World congress on micro and nano manufacturing, Bombay, India, 20-23 Sept 2021
8. Superhydrophobic cotton fabric with aloe-vera extract treated, International e-poster conference on current outlook in material science and engineering (COMSE-2K20), Tripura University, 25 May 2020
9. Study of superhydrophobic textured coating on the Al surface prepared by different chemical etchant with its droplet dynamic behavior, 2nd International conference on nanoscience and nanotechnology, Vellore, India, 29 Nov-01 Dec 2019
10. Self-cleaning, Stain-resistance, and antibacterial activity of cotton with and without using herbal extract, A two day International Indo-German workshop on waste to wealth, Bhopal, India, 25-26 June 2019
11. Superhydrophobic wood for multi purposes, Indo-German workshop on waste to wealth (IGW3-2019), Bhopal, India, 25-26 June 2019
12. Silver nanoparticles based superhydrophobic anti-viral coating on cloth, ICNAN'19, Vellore, India, 29 Nov-01 Dec 2019

13. Development of superhydrophobic surfaces for efficient solar evaporation using reduced metal oxide, CHEMCON'19, Delhi, India, 2019
14. Black TiO₂ nanoparticles based superhydrophobic coating on metallic meshes, Indo-German Workshop on Waste to wealth, Bhopal, India, 16-19 Dec 2019
15. Development of Excellent Water-Repellent Coatings for Metallic and Ceramic Surfaces, 8th International Conference on Mechanical and Intelligent Manufacturing Technologies, Cape Town, South Africa, 3-6 Feb 2017
16. Probing the mechanical particle-particle and particle-wall interaction based on nanoindentation, 7th International Conference for Conveying and Handling of Particulate Solids, Friedrichshafen, Germany, 10-13 Sept 2012
17. Effect of Si content on microstructure and mechanical properties of nanocomposite Ti-Al-Si-Cu-N films, 13th International Conference on Plasma Surface Engineering, Garmisch-Partenkirchen, Germany, 10-14 Sept 2012
18. Accessing the Tribological Contact between Microsphere and Surfaces based on Nanoindentation, Nanobrücken II Nanomechanical Testing Workshop and Hysitron User Meeting, Saarbrücken, Germany, 22-23 March 2012
19. Nanotribology in the Predominantly Elastic and Plastic Contact Regime, 3rd European conference on Tribology, ECOTRIB 2011 and Viennano 2011, Vienna, Austria, 7-9 June 2011
20. Probing the Mechanical Interaction between Particles based on Nanoindentation, 3rd European conference on Tribology, ECOTRIB 2011 and Viennano 2011, Vienna, Austria, 7-9 June 2011
21. Development of a new generation of amorphous hard coatings based on the Si-B-C-N-O system for applications in extreme condition, Asia-Pacific-Interfinish 2010, Singapore, 20-22 Oct 2012
22. Effect of Roughness and/or Normal Load on the Tribological Contact during Nanoindentation, the 11th International Conference on Tribology Romania, ROTRIB'10, 04-06 Nov 2010
23. Mechanical Characterization of Aluminum doped Zinc oxide (ZnO:Al) Nanorods, 3rd German-Japanese Symposium on Nanostructures, 3rd International Symposium on Nanostructures, Wenden Olpe, Germany, 28 Feb-02 March 2010

PhD THESES

1. Debasis Nanda, Aditya Kumar (Sup), Abanti Sahoo (Co-Sup), *Studies on Multipurpose Liquid Repelling Functional Coatings for Various Industrial Applications* (2020)
2. Sangeetha Sriram, Aditya Kumar (Co-Sup), R. K. Singh (Sup), *Fabrication of liquid-repellent Coatings on Cellulosic and Glass Surfaces for Various Industrial Applications* (2021)
3. Anita Panda, Aditya Kumar (Co-Sup), S. S. Mohapatra (Sup), *Enhancement of Spray Cooling In Transition and Nucleate Boiling Regime by Using Novel Techniques* (2022)
4. Balraj K. Tudu, Aditya Kumar (Sup), *Development of superliquiphobic coatings on metallic & cellulosic surfaces for industrial applications* (2022)
5. Poonam Chauhan, Aditya Kumar (Sup), *Development of Water-Repellent Coatings for Cellulosic and Metallic Surfaces* (2023)
6. Srithi, Aditya Kumar (Sup), Apurba Sinhamahapatra (Co-Sup), *Development of water-repellent, biodegradable jute fabric-showcasing versatile applications* (2025)
7. Preeti Kumari, Aditya Kumar (Sup), Silvia Salgar Chaparro (Co-Sup), *Development of bioinspired water-repellent and anti-corrosive coatings on copper for multifunctional applications* (Submitted, 2025)
8. Sapan K Pandit, Aditya Kumar (Sup), *Development of water repellent paints* (Anticipating)
9. Debasis Mahato, Aditya Kumar (Sup), *Development of photocatalyst for hydrogen generation* (Anticipating)
10. Jayendra Pandey, Aditya Kumar (Co-Sup), Kaushal Kumar (Sup), *Development of nanomaterials for carbon capture* (Anticipating)

11. Shivam Kumar Tewary, Aditya Kumar (Sup), *Industrial waste utilization for energy production* (Anticipating)
12. Poornima Pandey Chelluboyana Aditya Kumar (Sup), *Water-repellent coating for industrial applications* (Anticipating)
13. Raaja Reuben R, Aditya Kumar (Sup), *Hydrogen generation* (Anticipating)
14. Krishan Chand, Aditya Kumar (Sup), *Surface science, nanotechnology* (Anticipating)
15. MD Nawaid Anjum, Aditya Kumar (Sup), Ejaz Ahmad (Co-Sup), *Bio-polymer* (Anticipating)
16. Anuska Mishra, Aditya Kumar (Co-Sup), Ejaz Ahmad (Sup), *Photocatalyst* (Anticipating)

PG (M. Tech) THESES

1. Jasmine Lomga, Aditya Kumar (Sup), *Development of bioinspired superhydrophobic coating on aluminium surface for industrial application* (2016)
2. Mitra Satpathy, Aditya Kumar (Sup), *Development of Durable Superhydrophobic Polymer Composite Coatings for Self-Cleaning and Oil-Water Separation Applications* (2017)
3. Sapan K Pandit, Aditya Kumar (Sup), I M Mishra (Co-Sup), *Superhydrophobic coatings on wood surfaces by simple immersion technique* (2019)
4. Mukesh Kumar Meena, Aditya Kumar (Sup), *Superhydrophobic polymer composite coatings on various substrates* (2019)
5. Kalpita Nath, Aditya Kumar (Sup), *Silver nanoparticles based multi-tasking superhydrophobic coatings on cotton fabric* (2020)
6. Ankit Shukla, Aditya Kumar (Sup), *Study of Leidenfrost Phenomena and the drop dynamics of water droplet falling over heated flat and horizontal aluminum surface using ANSYS* (2021)
7. Abhishek Dharmesh, Aditya Kumar (Sup), *Impact of water droplet on superhydrophobic surface* (2021)
8. Paras, Aditya Kumar (Sup), *Fabrication of Advanced Solar Powered Water Purification System* (2021)
9. Kushal Yadav, Aditya Kumar (Sup), *Development of superhydrophobic anticorrosive nanocoatings* (2022)
10. Hritik Sigal, Aditya Kumar (Sup), *Oil-water separation using superhydrophobic cotton fabric* (2023)
11. Rashi Gururani, Aditya Kumar (Sup), *Development of bio-inspired self-cleaning coating on wooden surface* (2023)
12. Shashwat S Yadav, Aditya Kumar (Sup), *Development of zirconia and titania nanocomposite for green hydrogen production* (2024)
13. Namita Dube, Aditya Kumar (Sup), *Superhydrophobic porous sorbent for oil-water separation* (2025)
14. Jhanvi Gupta, Aditya Kumar (Sup), *Extraction of high-valued added chemicals from Molasses* (Anticipating)
15. Kajal Thapliyal, Aditya Kumar (Sup), *Extraction of high-valued added chemicals from Bagasse* (Anticipating)

EDITORIAL & BOOK

1. Lead editor of Book - Antiviral and Antimicrobial Smart Coatings, Elsevier (2023)
2. Associate Editor - Surface and Interface Engineering (Frontiers in Chemical Engineering), 2020-present
3. Guest Associate Editor - Biomedical Nanotechnology (Frontiers in Nanotechnology), 2022-present
4. Guest Editor - Energy and Climate Change, 2024-present