

Profile Page



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Research Interests :

1. Thin Film Polymeric Coatings
2. Antimicrobial Coatings
3. Antidust Coatings
4. Fire Retardant Coatings
5. Anti-Fouling Coatings
6. Anticorrosion Coatings
7. Surfactant Enhanced Drying of Polymeric Coatings
8. Polymeric Sensors
9. Renewable Hydrogen Production
10. Modeling & Simulation Using MATLAB
11. Process Engineering
12. Confocal Raman Spectroscopy
13. Finite Element Formulation
14. Finite Difference Formulation
15. MATLAB Programming

Other Profile Links :

Google Scholar Link :

Raj Kumar Arya [Click Here](#)

Personal Web Link :

Youtube [Click Here](#)

Google Scholar Profile [Click Here](#)

Scopus Profile [Click Here](#)

Researcher ID [Click Here](#)

Vidwan ID [Click Here](#)

Personal Homepage [Click Here](#)

Journal Publications :

| Year | Journal | Publication |
|------|--|---|
| 2023 | Separations, 10, 133 | Neha Maheshwari, Raj Kumar Arya, George D. Verros, Pradip B. Dhamole, and Ashwin Kannan, 2023, “Surfactant-Enhanced Extraction of Lutein from Marigold Petals using an Aqueous Two-Phase System”, Separations, 10, 133, Accepted on February 13, 2023 Published on February 15, 2023, https://doi.org/10.3390/separations10020133 |
| 2022 | Electronics, 11(22), 3791 | Himanshu Gupta, Parul Jindal, Om Prakash Verma, Raj Kumar Arya, Abdelhamied A. Ateya, Naglaa F. Soliman , Vijay Mohan, 2022, “Computer Vision-Based Approach for Automatic Detection of Dairy Cow Breed”, Electronics, 11(22), 3791, Accepted on November 16, 2022, Published online on November 18, 2022, |
| 2022 | Drug Delivery and Translational Research | Rahul Kumar, Amit K. Thakur, Gergely Kali, Kancharlapalli Chinaraa Pitchaiah, Raj Kumar Arya, Anurag Kulabhi, 2022, “Particle preparing of pharmaceutical compounds using supercritical antisolvent process: current status and future perspectives”, Drug Delivery and Translational Research, Accepted on December 9, 2022, Published online on December 27, 2022 |
| 2022 | Axioms 2022, 11, 104, Accepted on February 23, Published on February 25, 2022. | Raj Kumar Arya and George D. Verros , “On the Validity of Onsager Reciprocal Relations (ORR) for Heat Transfer in Anisotropic Solids”. |
| 2022 | Drug Delivery and Translational Research, Accepted on July 30, 2022, Published online on August 11, 2022, | Rahul Kumar, Amit Kumar Thakur, Nilanjana Banerjee, Ashutosh Kumar Gajendra Kumar, Gaurav , and Raj Kumar Arya, 2022, “Liquid Antisolvent Crystallization of Pharmaceutical Compounds: Current Status And Future Perspectives” |
| 2022 | Progress in Organic Coatings , 173, 107216 Accepted on September 19, 2022, Published online on September 30, 2022, | Devyani Thapliyal, G D Verros, Raj Kumar Arya, 2022, “A Study on Residual Solvent, Crystallinity and Thermal Properties of Poly(styrene)-Poly(methyl methacrylate)-Toluene Coatings”, Progress in Organic Coatings , 173, 107216 Accepted on September 19, 2022, Published online on September 30, 2022, |
| 2022 | Coatings, 12, 1582, Accepted on October 17, 2022, Published on October 19, 2022 https://doi.org/10.3390/coatings12101582 . | Raj Kumar Arya, Devyani Thapliyal, George D. Verros , Neetu Singh, Dhananjay Singh, Rahul Kumar, Rajesh Kumar Srivastava, Anurag Kumar Tiwari, 2022, “On The Validity of Linearity Axiom in Multi-Component Diffusion and Heat Transfer”, Coatings, 12, 1582, Accepted on October 17, 2022, Published on October 19, 2022 , https://doi.org/10.3390/coatings12101582 . |
| 2022 | Chemical and Process Engineering, 43 (2), 183–191, Accepted on April 6, 2022, DOI: 10.24425/cpe.2022.140821 | Avinash Chandra , Heena Rekhi , Dharmender , Arivind Kumar Gautam , Raj Kumar Arya, 2022, “ Enzyme-assisted turmeric oil extraction from turmeric rhizomes”, Chemical and Process Engineering, 43 (2), 183–191, Accepted on April 6, 2022, DOI: 10.24425/cpe.2022.140821 |

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| 2022 | Bulgarian Chemical Communications, 53, D , 62-72, DOI: 10.34049/bcc.53.D.33, http://www.bcc.bas.bg/BCC_Volumes/Volume_53_Special_D_2021/bcc-53-d-2021-62-72-arya.pdf | Aman Pathaniya , Devyani Thapliyal, Raj Kumar Arya, 2021, “Reduction and Biosorption of Hexavalent Chromium Ions From Wastewaters: A Review” |
| 2022 | Chemical and Process Engineering, 43(2), 229-242, Accepted on April 6, DOI: 10.24425/cpe.2022.140826 | Raj Kumar Arya, Ghanshyam Meena, Devyani Thapliyal, Sanghamitra Barman, Gopinath Halder, Pooja Shandilya, 2022, “Low-Cost Removal of Basic Red 9 Using Cow Dung Ash”, 43(2), 229-242, Accepted on April 6, DOI: 10.24425/cpe.2022.140826 |
| 2022 | Chemosphere, 288(3), 132609, Accepted on October 17, 2021, Available online on October 20, 2021, | Aanchal Rathi, Sanghamitra Barman, Soumen Basu, Raj Kumar Arya, “Post-fabrication structural changes and enhanced photodegradation activity of semiconductors@zeolite composites towards noxious contaminants” |
| 2022 | Biomass Conversion and Biorefinery, Accepted on December 4, 2021, Published online on January 21, 2022, | Shraboni Mukherjee, Biswajit Kamila, Sayanta Paul, Baisakhi Hazra, Somnath Chowdhury, Raj Kumar Arya, Sanghamitra Barman, Gopinath Halder, “Insight into biosorptive uptake of fluoride by chemically activated biochar: experimental modeling and parametric optimization” |
| 2022 | Environmental Science and Pollution Research, Accepted on December 29, 2021, Published on January 5, 2022 , | Deepak Singh, Sunita Singh, Suresh Kumar Patel, Shishir Sinha, Raj Kumar Arya, Dhananjay Singh, “Experimental investigation of different?shaped microwave?heated potatoes: thermal and quality characteristics analysis for food preservation” |
| 2022 | Chemical Engineering & Technology, Accepted on December 30, 2021, Published online on December 31, 2021, | Smitarani Pati,Om Prakash Verma,Raj Kumar Arya,Anurag Kumar Tiwari, “Transient Modeling and Simulation of a Multiple-Stage Evaporator in the Paper Industry”, |
| 2022 | Chemical Engineering & Technology, Accepted on December 30, 2021, Published online on December 31, 2021, | Meenakshi Sheoran, Avinash Chandra, Arvind Kumar Gautam, Raj Kumar Arya, Haripada Bhunia, Harish J. Pant, “Comparative Study of Two Identical Industrial Digesters Using Radiotracer- Based Residence Time Distribution Measurement” |
| 2022 | Coatings, 12, 186, Accepted on January 26, 2022, Published online on January 31, 2022 | Meenakshi Kumawat, Devyani Thapliyal, George D. Verros, Raj Kumar Arya, Sanghamitra Barman, Gopinath Halder and Pooja Shandilya, “PANI-Based Hydrogen Sulfide Gas Sensors” |
| 2022 | Environmental Science and Pollution Research, Accepted on January 26, 2022, Published online on February 14, 2022 | Gurleenjot Kaur, Neetu Singh, Anita Rajor, Raj Kumar Arya, 2022, “Removal of doxycycline hypochloride from aqueous solution by rice husk ash using response surface methodology and disposability study” |
| 2022 | Materials Today: Proceedings | Rahul Gupta, Mehak Sharma, Vishakha Jangir, Arvind K. Gautam, Avinash Chandra, Raj Kumar Arya, “A theoretical and mathematical study on the importance of petroleum derivatives in the production of sanitizer based products” |
| 2021 | Coatings, 11(9), 1049; Accepted on August 24, 2021, Published on August 30, 2021, | Raj Kumar Arya1, Devyani Thapliyal, Jyoti Sharma, G. D. Verros, “Glassy Polymers – Diffusion, Sorption, Ageing, and Applications” |
| 2021 | International Journal of Hydrogen Energy, Accepted on August 27, 2021, Published online on September 15, 2021 | Pooja Shandilya, Rohit Sharma, Raj Kumar Arya, Amit Kumar, Dai-Viet N. Vo, Gaurav Sharma, “Recent Progress And Challenges In Photocatalytic Water Splitting Using Layered Double Hydroxides (LDH) Based Nanocomposites” |
| 2021 | The European Physical Plus, 136, 1138, Accepted on October 26, 2021, Published online on November 13, 2021. | Devyani Thapliyal, Raj Kumar Arya , George D. Verros, “On the multi-component diffusion in the linear region of the extended thermodynamics framework” |

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| 2021 | Coatings, 11, 1529, Accepted on December 8, 2021, Published on December 12, 2021 | Raj Kumar Arya , Jyoti Sharma , Rahul Shrivastava , Devyani Thapliyal and George D. Verros, “Modeling of Surfactant-Enhanced Drying of Poly(styrene)-p-xylene Polymeric Coatings Using Machine Learning Technique”, |
| 2021 | Healthcare, 9, 1766, Accepted on December 16, 2021, Published on December 20, 2021, | Raj Kumar Arya , George D. Verros and Devyani Thapliyal, “Towards a Mathematical Model for the Viral Progression in the Pharynx” |
| 2021 | Progress in Organic Coatings, 150, 106001 | Raj Kumar Arya, Harmandeep Kaur, Manju Rawat , Jyoti Sharma , Avinash Chandra, Sanjeev Ahuja, “Influence of Plasticizer (Triphenyl Phosphate) Loading on Drying of Binary Coatings: Poly(Styrene)-p-Xylene Coatings” |
| 2021 | Journal of Applied Polymer Science, e50888 (1-15) | Raj Kumar Arya, Jasmine Kaur, Avinash Chandra, Jyoti Sharma, Manju Rawat, Sanjeev Ahuja, "Designing of Biodegradable Polycaprolactone – Binary and Ternary Coatings to Minimize the Defects and Cost of Solvent(s)" |
| 2021 | Drying Technology | Raj Kumar Arya, D. Giribabu, Jyoti Sharma , Manju Rawat , , Avinash Chandra, Sanghamitra Barman, “Effect of Surfactant on Drying & Rheology of Poly(vinyl alcohol) - Water Coatings” |
| 2021 | International Polymer Processing, 36 (5), 545-556 | Arman Hamza, Raj Kumar Arya, Abhijit Dinkar Palsodkar, Gopala Ram Bhadu, S.J.A. Rizvi , “Influence of Crystal Structure on Thermo-Mechanical Properties of Injection Molded ?-Nucleated iPP ” |
| 2020 | Journal of Indian Chemical Society, 97, 403-408 | Meenakshi Sheoran , Navjot Kaur , Avinash Chandra , Arvind Kumar Gautam ,Raj Kumar Arya, “ Pilot-scale Soda Pulping of Wheat Straw Using Continuous Pulp Digester” |
| 2019 | Progress in Organic Coatings, 135, 622-628 | A Comprehensive Model For The Drying of Glassy Polymer Coatings: The Low Solvent Concentration Area of The System Poly(Styrene)/p-Xylene |
| 2019 | Progress in Organic Coatings, 132, 343–352 | Anubhav Prashar, Jyoti Sharma, Sanjeev Ahuja, Avinash Chandra, Raj Kumar Arya, “Quaternary Polymeric Coating An Alternative to Minimize the Use of Single Solvent: Poly(methyl methacrylate) – Ethylbenzene – Toluene – Acetone System” |
| 2019 | Progress in Organic Coatings,132, 468- 474 | Jyoti Sharma, Sanjeev Ahuja, Raj Kumar Arya, “Effect of Molecular Weight on Morphology and Thermal Properties of Poly(Styrene)-Poly(Methyl Methacrylate)-Ethylbenzene Coatings” |
| 2019 | Progress in Organic Coatings, 134, 219 – 225 | Jyoti Sharma, Raj Kumar Arya, G. D. Verros, “A Unified Model For The Drying of Glassy Polymer Coatings” |
| 2019 | Progress in Organic Coatings, 134, 119 – 125 | Jyoti Sharma, Sanjeev Kumar Ahuja, Raj Kumar Arya, “Effect of Molecular Weight on Residual Solvent and Other Parameters in Polymer-Polymer-Solvent Coatings: Poly(Styrene) – Poly(Methyl Methacrylate)-Ethylbenzene System” |
| 2019 | Progress in Organic Coatings, 134, 297 – 302 | Jyoti Sharma, Sanjeev Ahuja, Raj Kumar Arya, “Depth Profile Study of Poly(styrene) – Poly(methyl methacrylate) – Tetrahydrofuran Coatings”, , https://doi.org/10.1016/j.porgcoat.2019.05.016 , Accepted on 10 May 2019, |
| 2019 | Indian Chemical Engineer | Yashika Raparia, Gopinath Halder, Raj Kumar Arya, Sanghamitra Barman, “Catalytic Performance of Modified Beta Zeolite On The Synthesis of Styrene and Xylene: A Kinetic Study”, DOI:10.1080/00194506.2019.1670741 |
| 2019 | Progress in Organic Coatings, 127, 319-329 | Anubhav Prashar, Jyoti Sharma, Sanjeev Ahuja, Avinash Chandra, Raj Kumar Arya, “Quaternary Polymeric Coating as an Alternative to Minimize the Use of Costly or Toxic Solvents: Poly(styrene) – Ethylbenzene – Toluene – p-Xylene System”. |

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| 2019 | Progress in Organic Coatings, 128, 181-195 | Jyoti Sharma, Sanjeev Ahuja, Raj Kumar Arya, “Experimental Designing of Polymer-Polymer-Solvent Coatings: Poly(styrene)-Poly(ethylene glycol)-Chlorobenzene Coating”. |
| 2019 | Progress in Organic Coatings, 127, 401-407 | Ishita Sharma, Jyoti Sharma, Sanjeev Ahuja, Raj Kumar Arya, “Optimization of Sodium Dodecyl Sulphate Loading in Poly(Vinyl Alcohol)-Water Coatings”. |
| 2018 | Applied Nanoscience, ,8(8), 2077-2092 | Shekhar Agnihotri, Devendra Sillu, Garima Sharma, Raj Kumar Arya, "Photocatalytic and Antibacterial Potential of Silver Nanoparticles Derived from Pineapple Waste: Process Optimization and Modeling Kinetics for Dye Removal" |
| 2018 | Progress in Organic Coatings, 125, 32–39 | Harleen Kaur, Jyoti Sharma, Divyansh Jindal, Raj Kumar Arya, Sanjeev Kumar Ahuja, and Shashi Bhushan Arya, “Crosslinked Polymer Doped Binary Coatings for Corrosion Protection” |
| 2018 | Progress in Organic Coatings, 125, 443-452 | Daisy Sharma, Jyoti Sharma, Raj Kumar Arya, Sanjeev Ahuja, “Surfactant Enhanced Drying of Water-based Polymeric Coating” |
| 2018 | Chemical Engineering & Technology, 41, 4, 875-882 | Sanjeev Ahuja, Raj Kumar Arya, “Laplace Transform Treatment for Chemical Engineering Systems: Whether to Use 0? or 0+?” |
| 2018 | Reviews in Chemical Engineering , 34, 3, 427 – 453 | Kshitij Tewari, Gaurav Singhal, and Raj Kumar Arya, “Adsorption Removal of Malachite Green Dye from Aqueous Solution” |
| 2018 | Progress in Organic Coatings ,114, 78-89 | Aman Pathania, Jyoti Sharma, Raj Kumar Arya, Sanjeev Ahuja, “Effect of Crosslinked Polymer Content on Drying of Binary Polymer—Solvent Coatings” |
| 2018 | Journal of Porous Materials, , Accepted on 3 December 2018. | Jyoti Sharma, Sanjeev Ahuja, Raj Kumar Arya, “Drying Induced Phase Separation in Poly(styrene)-Poly(ethylene glycol)-Chlorobenzene System”. |
| 2017 | Progress in Organic Coatings, 113, 200 – 206 | Jyoti Sharma, Raj Kumar Arya, Sanjeev Ahuja, Chitresh Kumar Bhargava , “Residual Solvent Study In Polymer – Polymer – Solvent Coatings: Poly(styrene) – Poly(methyl methacrylate) – Tetrahydrofuran Coatings” |
| 2017 | Progress in Organic Coatings, 111, 83 – 92 | Jyoti Sharma, Kshitij Tewari, Raj Kumar Arya, “Diffusion in Polymeric Systems – A Review on Free Volume Theory” |
| 2017 | Chemical Engineering & Technology, 40, 9, 1630 – 1637 | Sanjeev Ahuja and Raj Kumar Arya, “Comparison of The Performances of Different Reduced Forms of a Condenser Model” |
| 2017 | Chemical Engineering & Technology, 40, 1, 39 - 49 | Chitresh Kumar Bhargava and Raj Kumar Arya, “Simplified MATLAB Solution Schemes for Heat Transfer Equations” |
| 2017 | Progress in Organic Coatings, 105, 149 – 162 | Aman Pathania, Raj Kumar Arya, Sanjeev Ahuja, “Crosslinked Polymeric Coatings: Preparation, Characterization, and Diffusion Study” |
| 2016 | Progress in Organic Coatings, 95, 8 – 19 | Raj Kumar Arya , Kshitij Tiwari, Sakshi Shukla, “Non-Fickian Drying of Binary Polymeric Coatings: Depth Profiling Study Using Confocal Raman Spectroscopy” |
| 2015 | Separation Science & Technology, 50,9, 1310 – 1320 | Abhi Sharma, Anmol Sharma and Raj Kumar Arya, “Removal of Mercury(II) Ions from Aqueous Solution – A Review of Recent Work” |
| 2015 | Chemical Engineering & Technology, 38(3), 530 – 536 | Kshitij Tiwari, Sumit Agrawal, and Raj Kumar Arya, “Generalized Pinch Analysis Scheme Using MATLAB” |
| 2015 | Progress in Organic Coatings, 78, 155 – 167 | Raj Kumar Arya and Chitresh Kumar Bhargava, “Simulation Analysis of Drying of Ternary Polymeric Solution Coatings” |
| 2015 | Drying Technology, 33, 1, 92 – 102 | Chitresh Kumar Bhargava and Raj Kumar Arya, “Design of Binary Polymeric Coatings for Minimizing the Residual Solvent Part I: Experimentation” |
| 2014 | Drying Technology, 32(14), 1727 – 1740 | Udit Mohan Singhal, Rahul Dixit and Raj Kumar Arya, “Drying of Multilayer Polymeric Coatings Part I: An Experimental Study” |

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| 2014 | Drying Technology, 32(8), 992 – 1002 | Raj Kumar Arya, “Measurement of Concentrations Profiles in Thin Film Binary Polymer-Solvent Coatings Using Confocal Raman Spectroscopy: Free Volume Model Validation” |
| 2014 | Indian Journal of Pharmaceutical Education and Research, 48(1), 61–68 | Raj Kumar Arya, “Characterization of Bio-Active Nanoparticles – Bhasma An Ayurvedic Drug”, |
| 2013 | South African Journal of Chemical Engineering, 18, 1, 30 – 40 | Raj Kumar Arya, “Phase Separation in Multicomponent Polymer – Solvent – Nonsolvent Coatings” |
| 2013 | Computers and Chemical Engineering, 50, 5,152-183 | Raj Kumar Arya, “Finite Element Solution of Coupled-Partial Differential and ordinary Equations in Multicomponent Polymeric Coatings” |
| 2013 | Journal of Applied Polymer Science, 126, 6, 3906 - 3918 | Raj Kumar Arya and Madhu Vinjamur, “Measurement of Concentration Profiles Using Confocal Raman Spectroscopy in Multicomponent Polymeric Coatings – Model Validation” |
| 2012 | Polish Journal of Chemical Technology, 14, 4, 83-87 | Jitendra Katariya and Raj Kumar Arya, “Drying of Binary Thin Film Polymeric Coatings: An Experimental Study” |
| 2012 | Journal of Polymer Engineering, 32, 8-9, 463-473 | Raj Kumar Arya and Madhu Vinjamur, “Sensitivity Analysis of Free-Volume Theory Parameters in Multicomponent Polymer-Solvent-Solvent Systems” |
| 2012 | International Journal of Renewable Energy Research, 2(2), 289-294 | Raj Kumar Arya, “Photoelectrochemical Hydrogen Production Using Visible Light” |
| 2011 | International Journal of Chemical Engineering and Applications, 2(6), 421-424 | Raj Kumar Arya, “Calibration Curves to Measure Concentrations in Multicomponent Polymeric Coatings Using Confocal Raman Spectroscopy” |
| 2009 | Industrial & Engineering Chemistry Research, 48(23), 10504-10514 | Raj Kumar Arya and Madhu Vinjamur, “Near –Optimization of Operating Conditions and Residence Time in Multi-zone Dryers for Polymer Coatings” |

Conference Publications :

| Year | Conference | Publication |
|------|---|---|
| 2022 | International Conference on “ Chemical, Bio & Environmental Engineering”, February 13-14, Department of Chemical Engineering, Dr. B.R. Ambedkar NIT Jalandhar, Punjab, India. | Alina bharti, Aman Pathania, D. Giribabu,Raj Kumar Arya, “Effect of Polyols on Rheology of PVA-Water Based Coatings”. |
| 2020 | International Conference on “ Chemical, Bio & Environmental Engineering”, February 13-14, Department of Chemical Engineering, Dr. B.R. Ambedkar NIT Jalandhar, Punjab, India. | Rashi Shankar Srivastava, Aman Pathania and D. Giribabu, Raj Kumar Arya, “Instability of Plane Couette Flow In Shear Thinning Fluids Over A Gel”, |
| 2020 | International Conference on “ Chemical, Bio & Environmental Engineering”, February 13-14, Department of Chemical Engineering, Dr. B.R. Ambedkar NIT Jalandhar, Punjab, India. | Randeep Singh, Aman Pathania, D. Giribabu,Raj Kumar Arya, “Effect of Different Surfactants on Rheology of Pva-Water Based Coatings”. |
| 2020 | International Conference on “ Chemical, Bio & Environmental Engineering”, February 13-14, Department of Chemical Engineering, Dr. B.R. Ambedkar NIT Jalandhar, Punjab, India. | Meenakshi Sheoran , Navjot Kaur , Avinash Chandra , Arvind Kumar Gautam ,Raj Kumar Arya, “ Pilot-scale Soda Pulping of Wheat Straw Using Continuous Pulp Digester”. |
| 2018 | CHEMCON 2018, Dec 27 – 30, Dr. B. R. Ambedkar NIT, Jalandhar, Punjab, India. | Jyoti Sharma, Sanjeev Ahuja, and Raj Kumar Arya, “Effect of Molecular Weight on Residual Solvent in Poly(Styrene)-Poly(Methyl Methacrylate)-Ethylbenzene Coatings” |

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| 2016 | CHEMCON 2016, Dec 27 – 30, Anna University, Chennai, India. | Aman Pathania and Raj Kumar Arya, “Residual Solvent Study During the Drying of Crosslinked Polymeric Coatings” |
| 2015 | CHEMCON 2015, Dec 27-30, IIT Guwahati, Assam, India. | Chitresh Kumar Bhargava and Raj Kumar Arya, “Polymer – Polymer – Solvent Coatings” |
| 2015 | CHEMCON 2015, Dec 27-30, IIT Guwahati, Assam, India. | Kshitij Tiwari , Sakshi Shukla , and Raj Kumar Arya, “Generalized Pinch Analysis Scheme Using MATLAB: Number of Heat Exchanger & Their Heating and Cooling Loads”, |
| 2014 | CHEMCON 2014, Dec 27-30, UICET Chandigarh, Punjab, India. | Chitresh Kumar Bhargava and Raj Kumar Arya, “Simulation Analysis of Drying of Ternary Solution Coatings” |
| 2014 | CHEMCON 2014, Dec 27-30, UICET Chandigarh, Punjab, India. | Kshitij Tiwari and Raj Kumar Arya, “A Simple and Practical Approach For Determining Pinch Temperatures and Utility Requirement Using MATLAB” |
| 2013 | CHEMCON-2013, Dec 27-30, UICT Mumbai, India. | Udit Mohan Singhal, Rahul Dixit, and Raj Kumar Arya, “Drying of Multilayer Polymeric Coatings: Experimental Study” |
| 2012 | National conference on “Recent Advances in Chemical Engineering (RACE-2012)”, February 4, University Department of Chemical Technology, North Maharashtra University, Jalgaon, Maharashtra, India. | Jitendra Katariya and Raj Kumar Arya, “Drying of Binary Thin Film Polymeric Coatings: Experimental Validation”, |
| 2010 | 15th International Coating Science and Technology Symposium, September 12-15, St. Paul, MN, USA. | Raj Kumar Arya and Madhu Vinjamur, “Non-Fickian Transport in Binary Polymer Coatings” |
| 2010 | International Conference on System Dynamics and Control –ICSDC, August 19 – 22 , MIT Manipal, Karnataka, India. | Raj Kumar Arya and B. Vishwanath Sasank, “Finite Element Formulation of Transport Equations in Multicomponent Polymeric Coatings and Optimization of Free Volume Theory Parameters” |
| 2008 | 14th International Coating Science and Technology Symposium, September 7-10, Marina del Rey, California. | Raj Kumar Arya and Madhu Vinjamur, “Depth Profiling of Multicomponent Coatings to Test Theories of Diffusion” |

Book/Chapter Publications :

| Type | Title | Publisher | Authors | ISBN/ISS N No. | Year |
|------|---|---------------------------------|--|----------------|------|
| Book | Drying of Crosslinked Binary Polymeric Coatings | LAP LAMBERT Academic Publishing | Aman Pathania, Raj Kumar Arya, Jyoti Sharma | 9786203464252 | 2021 |
| Book | Drying of Quaternary Coatings | LAP LAMBERT Academic Publishing | Anubhav Prashar, Raj Kumar Arya, Sanjeev Kumar Ahuja | 9786203464245 | 2021 |
| Book | Drying of Binary Thin Film Polymeric Coatings | LAP LAMBERT Academic Publishing | Jitendra Katariya, Raj Kumar Arya | 9786203464283 | 2021 |
| Book | Drying of Polymer - Polymer-Solvent Coatings | LAP LAMBERT Academic Publishing | Jyoti Sharma, Raj Kumar Arya, Sanjeev Kumar Ahuja | 9786203464238 | 2021 |

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|--------------|---|---------------------------------|--|---------------|------|
| Book Chapter | Removal of Endocrine-Disrupting Compounds by Wastewater Treatment" | Springer, Cham | Gargi Sinha Sarkar, Aanchal Rathi, Soumen Basu, Raj Kumar Arya, G. N. Halder, Sanghamitra Barman, 2021, " In: Roy S., Garg A., Garg S., Tran T.A. (eds) Advanced Industrial Wastewater Treatment and Reclamation of Water. Environmental Science and Engineering, November 21, 2021, https://doi.org/10.1007/978-3-030-83811-9_7 . | 9783030838119 | 2021 |
| Book Chapter | Polymer Coatings Methods | Taylor & Francis / CRC Press | Daisy Sharma, Manju Rawat, Jyoti Sharma, Raj Kumar Arya, Sanjeev Kumar Ahuja | 9780429199226 | 2020 |
| Book Chapter | Jyoti Sharma, Manju Rawat, Daisy Sharma, Sanjeev Kumar Ahuja, and Raj Kumar Arya | Taylor & Francis / CRC Press | Morphology of polymeric coatings, Polymer Coatings: Technologies and Applications | 9780429199226 | 2020 |
| Book Chapter | Spectroscopy of Polymeric Coatings, Polymer Coatings: Technologies and Applications | Taylor & Francis / CRC Press | Jyoti Sharma, Manju Rawat, Daisy Sharma, Sanjeev Kumar Ahuja, and Raj Kumar Arya | 9780429199226 | 2020 |
| Book Chapter | Introduction to Polymeric Coatings, Polymer Coatings: Technologies and Applications | Taylor & Francis / CRC Press | Manju Rawat, Daisy Sharma, Jyoti Sharma, Raj Kumar Arya, and Sanjeev Kumar Ahuja | 9780429199226 | 2020 |
| Book | Diffusion in Multicomponent Polymeric Coatings | LAP LAMBERT Academic Publishing | Raj Kumar Arya | 9783838381565 | 2010 |

Research Projects :

| Role | Project Type | Title | Funding Agency | From | To | Amount | Status | Co-Investigator |
|------------------------|--------------|---|--|------------|------------|-------------|---------|-----------------|
| Principal Investigator | Extra Mural | Drying of Polymer – Polymer – Solvent Coatings: Experimental and Simulation Study | Science & Engineering Research Board - Department of Science & Technology, New Delhi | 20-02-2017 | 19-02-2021 | Rs 42.20910 | Ongoing | |

Events Organized :

| Category | Type | Title | Venue | From | To | Designation |
|----------|----------|---|---|------------|------------|-------------|
| Webinar | National | A Webinar on "Heavy Crude Oil Production Technologies- Practical Approach", 8 August 2020, 11:30 hours by Mr. Hemant Kumar Sonkar , Chief Engineer (Production), Asia Pacific BU, ONGC Videsh Ltd., New Delhi. | Department of Chemical Engineering, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar, Punjab - 144011, India | 08-08-2020 | 08-08-2020 | Coordinator |
| Webinar | National | A Webinar on "Why a Manuscript is Rejected", 27 August 2020, 13:30 hours by Prof. Sakamon Devahastin, Editor Drying Technology - An International Journal. | Department of Chemical Engineering, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar, Punjab - 144011, India | 27-08-2020 | 27-08-2020 | Coordinator |
| Webinar | National | A Webinar on "IT not only Enabler, But Critical Element of Engineering and Business Operation" 05 September 2020, 11:30 AM, by Mr. Praveen Verma, Global Program Director, Energy and Utilities, Birlasoft India Ltd. | Department of Chemical Engineering, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar, Punjab - 144011, India | 05-09-2020 | 05-09-2020 | Coordinator |

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|------------------------------|----------|--|---|------------|------------|-------------|
| Webinar | National | A Webinar on "Process Scale Up - Aspects and Importance" 12 September 2020, 11:30 AM by Mr. Rahul Chaudhari , Senior Manager (Process), Aarti Industries Ltd, Gujarat. | Department of Chemical Engineering, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar, Punjab - 144011, India | 12-09-2020 | 12-09-2020 | Coordinator |
| Webinar | National | A Webinar on "Hydroprocessing Technologies in Petroleum Refinery" on 19 September 2020, 11:00 AM by Mr. Ravi Kumar, Ex. Manager, IOCL, Faridabad. | Department of Chemical Engineering, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar, Punjab - 144011, India | 19-09-2020 | 19-09-2020 | Coordinator |
| STC | National | TEQIP-III Sponsored one week Online Short Term Course on “Current Industrial Practices in Chemical Engineering”, October 7 to 11, 2020. | Department of Chemical Engineering, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar, Punjab - 144011, India | 07-10-2020 | 11-10-2020 | Coordinator |
| Alumni - Student Interaction | National | 1st Alumni - Student Interaction on “ Training, Placement, and Career guidance to face the challenging world”, 12th July 2020. | Department of Chemical Engineering, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar, Punjab - 144011, India | 12-07-2020 | 12-07-2020 | Coordinator |
| Alumni - Student Interaction | National | 2nd Alumni - Student Interaction on “Right career path, guidance for right course selection” 7th August 2020. | Department of Chemical Engineering, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar, Punjab - 144011, India | 07-08-2020 | 07-08-2020 | Coordinator |
| Alumni - Student Interaction | National | 3rd Alumni - Student Interaction on “Career as Business and Data Analytics”, 16th August 2020. | Department of Chemical Engineering, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar, Punjab - 144011, India | 16-08-2020 | 16-08-2020 | Coordinator |

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|--------------------|---------------|--|---|------------|------------|-------------|
| Online Alumni Meet | National | 1st Online Alumni Meet | Department of Chemical Engineering, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar, Punjab - 144011, India | 30-10-2020 | 30-10-2020 | Coordinator |
| STC | National | TEQIP-III Sponsored one week Online Short Term Course on “Computational Methods and Analysis for Engineers” | Department of Chemical Engineering, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar, Punjab, India | 18-11-2020 | 22-11-2020 | Coordinator |
| STC | International | Self Sponsored one week Online International Short Term Course on “Current and Future Scope of Surface Coatings” | Department of Chemical Engineering, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar, Punjab - 144011, India | 2-12-2020 | 6-12-2020 | Coordinator |

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|------------|---------------|--|---|------------|------------|---------------------|
| Conference | International | International Chemical Engineering Conference (100 Glorious Years of Chemical Engineering & Technology) 2021 (ICHEEC 2021), (Virtual Mode) | Department of Chemical Engineering, Dr B R Ambedkar National Institute of Technology, Jalandhar, Punjab, India. International Chemical Engineering Conference (100 Glorious Years of Chemical Engineering & Technology) 2021 (ICHEEC 2021), (Virtual Mode), September 16-19, 2021, Jalandhar, Punjab, India. Chief Patron: Prof. Lalit Kumar Awasthi, Director NITJ, Co-patron: Prof. M.K.Jha, President IICHE, India, for 2021, organizing chairman: Dr. Raj Kumar Arya, Associate Professor, the organizing secretaries: Dr. Renu Gupta, Associate Prof. & Head Chemical Engineering and Dr. Anurag Kumar Tiwari, Assistant Professor, | 16-09-2021 | 19-09-2021 | Organizing chairman |
|------------|---------------|--|---|------------|------------|---------------------|

Professional Affiliations :

| Designation | Organization |
|-------------|--|
| Life Member | Indian Institute of Chemical Engineers |

PhD Supervised :

| Scholar Name | Research Topic | Status | Year | Co-Supervisor |
|--|---|---------|------|---------------|
| Sarojini Verma (22501007), PhD Scholar | Formulation and Drying Studies of Antimicrobial Packaging Films | Ongoing | 2023 | |

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|---|---|-----------|------|---|
| Devyani Thapliyal (21801001), PhD Scholar | Antimicrobial Polymeric Coatings | Ongoing | 2021 | Dr. G. D. Verros , Aristotle University of Thessaloniki, Greece |
| Jyoti Sharma, Ph.D. Scholar | Experimental Investigations of Thermal Properties and Depth Profiles During the Drying of Polymer-Polymer-Solvent Coatings | Completed | 2020 | Dr. Sanjeev Kumar Ahuja, TIET, Patiala |
| Anubhav Prashar, M. Tech. Scholar | “Drying of Quaternary Coatings of Poly(styrene) and Poly(methyl methacrylate), Department of Chemical Engineering, Thapar Institute of Engineering & Technology, Patiala, Punjab, India | Completed | 2018 | Dr. Sanjeev Kumar Ahuja, TIET, Patiala |
| Ishita Sharma, M. Sc. Scholar | “Optimization of Sodium Dodecyl Sulphate Loading in Poly(vinyl alcohol) – Water Coatings”, School of Chemistry and Biochemistry, Thapar Institute of Engineering & Technology, Patiala, Punjab, India | Completed | 2018 | Dr. Sanjeev Kumar Ahuja, TIET, Patiala |
| Aman Pathania, M. Tech. Scholar | “ Effect of Crosslinked Polymer on Drying of Binary Polymeric Coatings”, Department of Chemical Engineering, Thapar University, Patiala, Punjab, India. | Completed | 2017 | |
| Harleen Kaur, M. Sc. Scholar | “Use of Cross-linked Polymeric Coatings for Corrosion Protection”, School of Chemistry and Biochemistry, Thapar University, Patiala, Punjab, India. | Completed | 2017 | |
| Daisy Sharma, M. Sc. Scholar | “Surfactant Enhanced Drying of Waterbased Polymeric Coatings”, School of Chemistry and Biochemistry, Thapar University, Patiala, Punjab, India. | Completed | 2017 | |
| Tanisha, M. Sc. Scholar | “Characterization and Kinetic Study of Alkali Catalyzed Synthesis of Polyvinyl Alcohol”, School of Chemistry and Biochemistry, Thapar University, Patiala, Punjab, India | Completed | 2017 | Dr. Sanjeev Kumar Ahuja, TIET, Patiala |
| Ghanshyam Meena, M. Tech. Scholar | “Adsorption of Dyes from Aqueous Solution Using Cow Dung”, Department of Chemical Engineering, Jaypee University of Engineering & Technology, Guna, M.P., India. | Completed | 2014 | |
| Jitendra Katariya, M. Tech. Scholar | Drying of Binary Thin Film Polymeric Coatings”, Department of Chemical Engineering, Jaypee University of Engineering & Technology, Guna, M.P., India. | Completed | 2012 | |

PG Dissertation Guided :

| Student Name | Dissertation Title | Status | Year | Co-Supervisor |
|-------------------|--|-----------|------|-------------------------|
| Meenakshi Kumawat | “Preparation of Polymeric Chemiresistive Sensor for H ₂ S Gas Detection”, Department of Chemical Engineering, Dr B R Ambedkar National Institute of Technology, Jalandhar, Punjab, India. | Completed | 2021 | |
| Anubhav Prashar | “Drying of Quaternary Coatings of Poly(styrene) and Poly(methyl methacrylate), Department of Chemical Engineering, Thapar Institute of Engineering & Technology, Patiala, Punjab, India | Completed | 2018 | Dr. Sanjeev Kumar Ahuja |

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|-------------------|---|-----------|------|-------------------------|
| Ishita Sharma | “Optimization of Sodium Dodecyl Sulphate Loading in Poly(vinyl alcohol) – Water Coatings”, School of Chemistry and Biochemistry, Thapar Institute of Engineering & Technology, Patiala, Punjab, India | Completed | 2018 | Dr. Sanjeev Kumar Ahuja |
| Aman Pathania | “ Effect of Crosslinked Polymer on Drying of Binary Polymeric Coatings”, Department of Chemical Engineering, Thapar University, Patiala, Punjab, India. | Completed | 2017 | |
| Harleen Kaur | “Use of Cross-linked Polymeric Coatings for Corrosion Protection”, School of Chemistry and Biochemistry, Thapar University, Patiala, Punjab, India. | Completed | 2017 | |
| Daisy Sharma | “Surfactant Enhanced Drying of Waterbased Polymeric Coatings”, School of Chemistry and Biochemistry, Thapar University, Patiala, Punjab, India. | Completed | 2017 | |
| Tanisha | “Characterization and Kinetic Study of Alkali Catalyzed Synthesis of Polyvinyl Alcohol”, School of Chemistry and Biochemistry, Thapar University, Patiala, Punjab, India(as co-supervisor, Sanjeev Ahuja- Supervisor). | Completed | 2017 | Dr. Sanjeev Kumar Ahuja |
| Ghanshyam Meena | “Adsorption of Dyes from Aqueous Solution Using Cow Dung”, Department of Chemical Engineering, Jaypee University of Engineering & Technology, Guna, M.P., India. | Completed | 2014 | |
| Jitendra Katariya | “Drying of Binary Thin Film Polymeric Coatings”, Department of Chemical Engineering, Jaypee University of Engineering & Technology, Guna, M.P., India. | Completed | 2012 | |

Patents :

| Name | Reg./Ref. No. | Date of Award/Filling | Organization | Status |
|--|---------------|-----------------------|--------------------------|---------|
| A method for performing mathematical modeling and validation of polymer - polymer - solvent coating by Raj Kumar Arya and G D Verros | 2022/12894 | 22-02-2023 | REPUBLIC OF SOUTH AFRICA | Granted |

Admin. Responsibilities :

| Position Held | Organization | From | To |
|---|---|------------|------------|
| M. Tech. Course Moderation Coordinator | Jaypee University of Engineering & Technology, Guna | 01-06-2010 | 14-06-2014 |
| Department Time Table Coordinator | Jaypee University of Engineering & Technology, Guna | 01-06-2010 | 14-06-2014 |
| Ph.D. Entrance Test Paper Coordinator | Jaypee University of Engineering & Technology, Guna | 01-06-2010 | 14-06-2014 |
| National Board of Accreditation (NBA) Report Compilation Member | Thapar University, Patiala | 01-08-2014 | 30-06-2015 |

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|--|--|------------|------------|
| National Assessment and Accreditation Council (NAAC) Report Preparation Member | Thapar University, Patiala | 01-08-2014 | 30-06-2015 |
| Department Planning & Policy Committee Secretary | Thapar University, Patiala | 01-08-2015 | 31-05-2016 |
| Member Senate Post Graduate Committee PG Coordinator | Thapar University, Patiala | 01-09-2016 | 31-08-2018 |
| Deputy Registrar Academic (UG) | Dr. B. R. Ambedkar National Institute of Technology, Jalandhar | 25-10-2018 | |
| Department Training & Placement Coordinator | Dr. B. R. Ambedkar National Institute of Technology, Jalandhar | 25-10-2018 | 19-09-2022 |
| Department Alumni Coordinator | Dr. B. R. Ambedkar National Institute of Technology, Jalandhar | 25-10-2018 | 19-09-2022 |
| Industry-Academia Interaction Coordinator | Dr. B. R. Ambedkar National Institute of Technology, Jalandhar | 25-10-2018 | 19-09-2022 |
| Expert talk coordinator | Dr. B. R. Ambedkar National Institute of Technology, Jalandhar | 25-10-2018 | 19-09-2022 |

Award and Honours :

| Title | Activity | Given by | Year |
|--|---|---|------|
| 3rd Position in poster presentation during CHEMCON 2016 in the category of Polymer/ polymer rheology | Aman Pathania and Raj Kumar Arya, 2016, “Residual Solvent Study During the Drying of Crosslinked Polymeric Coatings”, CHEMCON 2016, Dec 27 – 30, Anna University, Chennai, India. | CHEMCON | 2016 |
| Best Undergraduate Research Paper Award For Publishing in Highest Impact Factor Journal | Raj Kumar Arya and Chitresh Kumar Bhargava, 2015, “Simulation Analysis of Drying of Ternary Polymeric Solution Coatings”, Progress in Organic Coatings, 78, 155 – 167, Accepted on 23 September 2014, Published online on 12 October 2014, DOI: 10.1016/j.porgcoat.2014.09.011. | IICHE | 2015 |
| 2nd Prize | Model making content at Institute Level | Department of Chemical Engineering, HBTI Kanpur, U.P., India. | 1999 |