

School of Advanced Studies in Industrial Pollution Control Engineering

Book Publications:

- "Advances in oil-water separation: A complete guide for physical, chemical, and Biological processes ", Elsevier Publication, Paperback ISBN: 9780323899789, eBook ISBN: 9780323886314; Editors: Papita Das, Suwendu Manna, Jitendra Pandey, published in 2022

Invited Talk:

- Delivered an Invited talk for a short term course sponsored by ATAL ACADEMY, Govt of India and organized by N.I.T Durgapur " Zero Wastage Practice In Industries " -ZWPI-2023 ; JANUARY 09 -20, 2023. The talk was on "*Application of Biotechnology in Mitigation of Industrial Wastes, 10th January, 2023 (Papita Das)*
- Delivered a talk in the workshop the Department of Chemical Engineering, NIT Rourkela organizing on "Advanced Oxidation Processes for Environmental Remediation (AOPER-2022) under Accelerate Vigyan "KARYASHALA" scheduled from 04-01-2023 to 10-01-2023. The talk was on "Advanced oxidation in combination of chemical processes for disinfection and removal of pharmaceutical pollutants present in wastewater on 10th January, 2023. (Papita Das)
- Delivered a talk on RUSA 2 National Level Skill Development Workshop on "Environmental Monitoring using Geospatial and Advanced Analytical Techniques", under RUSA 2 on 7th February, 2023 (Papita Das)
- Invited talk on Circular economy on utilization of waste biomass in pollution control and energy generation, 16th National Frontiers of Engineering Symposium, INAE symposium, theme area of "Waste Valorization and Circular Economy, 18th – 19th June, 2022 at Jadavpur University. (Papita Das)
- Keynote speaker at International Conference on Green Energy and Sustainable Environmental Technology (GESET-2022), 15-16 September, 2022 at KIIT, Bhubaneswar. The topic was : "*Utilization of Biomass for Treatment of Pollutants*" (Papita Das)
- Invited Speaker during SMRE (Scope for Multidisciplinary Research and Education) 2022 Faculty Development Program, IOAC, Haldia Institute of Technology in associate on with IICE, 23rd July, - 14th Aug, 2022. The talk was : Biomass derived value added products and its application (Papita Das)
- Synthesis and application of nano and nano-coated" materials for wastewater treatment, Department of Applied Chemistry & Chemical Engineering, University of Chittagong, Bangladesh on 31st Aug, 2021 (Papita Das)

- Invited talk on International conference BSAEH 2021 organised by Malaviya National Institute of Technology Jaipur, April 4-8, 2021
- Invited talk on Short term online course sponsored by ATAL ACADEMY, Govt of India , organized by Department of Metallurgical Engineering, NIT-Durgapur on January 22, 2021 (*Papita Das*)
- Invited talk on Short term online course sponsored by ATAL ACADEMY, Govt of India , organized by Department of Metallurgical Engineering, NIT-Durgapur on February 24, 2022 (*Papita Das*)
- Keynote speaker at International Conference on Promoting Environmental Technologies for Waste Management and Sustainable Development (WMSD-2021) organized by KIIT, Bhubaneswar on 12-13th December, 2021 (*Papita Das*)

International Journal Publications

2023:

Sk. Aakash Hossain, Aniket Sardar, Saswata Bose , Raj Kumar Das, **Papita Das**. Synthesis of AgFeO₂ delafossite catalyst and its application for photo-degradation of dye present in solution, *Surfaces & Interfaces*, 43(A) 103583,

Sk. Aakash Hossain, Sampad Sarkar, Saswata Bose, **Papita Das**, Synthesis, characterization, and application of delafossites as catalysts for degrading organic pollutants and degradation mechanisms: A detailed insight, *Surfaces & Interfaces*, 103281, doi.org/10.1016/j.surfin.2023.103281

L Das, **P Das**, **A Bhowal**, Synthesis and application of alginate-nanocellulose composite beads for defluoridation process in a batch and fluidized bed reactor, *Journal of Environmental Management*, 344,118569

Vijoyeta Chakraborty, **Papita Das** , Graphene oxide–coated pyrolysed biochar from waste sawdust and its application for treatment of cadmium-containing solution: batch, fixed-bed column, regeneration, and mathematical modeling, *Biomass Conversion and Biorefinery*, 2023, **DOI** : 10.1007/s13399-020-01153-7, (2023) 13:867–878

Vijoyeta Chakraborty, **Papita Das**, Synthesis of nano-silica-coated biochar from thermal conversion of sawdust and its application for Cr removal: kinetic modelling using linear and nonlinear method and modelling using artificial neural network analysis, *Biomass Conversion and Biorefinery*, DOI:10.1007/s13399-020-01024-1 , (2023) 13:821–831

Vijoyeta Chakraborty, **Papita Das** , Pankaj K Roy, Synthesis and application of various metal oxide / biomaterial–coated carbonaceous nanomaterials derived from waste biomass for removal of Cr⁺⁶ present in solution, *Biomass Conversion and Biorefinery* (2023) 13:2099–2112

Anup P. Pardey, **Avijit Bhowal**, **Papita Das**, Sudhanya Karmakar, Performance of slurry contact adsorber operating under high gravity for removal of fluoride, *Chemical Engineering and Processing - Process Intensification*, 191 (2023) 109463

SANDIPAN BHATTACHARYA, SHEIKH AAKASH HOSSAIN, **AVIJIT BHOWAL** and **PAPITA DAS** Integral approach of adsorption and photo-degradation of Bisphenol A using pyrolyzed Rice Straw Biochar coated with metal oxide: Batch, mechanism and optimization, *Sadhana Journal* (Accepted)

2022

Vijoyeta Chakraborty, **Papita Das**, Investigation on efficiency of synthesized lanthanum oxide–coated biochar and graphene oxide–coated biochar on removal of fluoride: batch and fixed bed continuous reactor performance modeling, *Biomass Conversion and Biorefinery*, DOI : 10.1007/s13399-022-02661-4

Preetha Ganguly, **Papita Das**, Integral approach for second-generation bio-ethanol production and wastewater treatment using peanut shell waste: yield, removal, and ANN studies, *Biomass Conversion and Biorefinery*, DOI : 10.1007/s13399-021-02277-0

Sandipan Bhattacharya, **Papita Das**, **Avijit Bhowal**, Subrata K Majumder, Metal-oxide coated Graphene oxide nano-composite for the treatment of pharmaceutical compound in photocatalytic reactor: Batch, Kinetics and Mathematical Modeling using Response Surface Methodology and Artificial Neural Network, *Environmental Science & Pollution Research*, 2022, 29, 61938–61953, DOI : 10.1007/s11356-021-18227-2

Sagnik Das, Sandipan Bhattacharya, **Papita Das**, Titanium Oxide coated coconut husk derived biochar composite and its application for removal of crystal violet dye, *Biomass Conversion and Biorefinery*, , DOI: 10.1007/s13399-022-02956-6

Rwiddhi Sarkhel, Preetha Ganguly, **Papita Das**, **Avijit Bhowal**, Shubhalakshmi Sengupta, Synthesis of biodegradable PVA/cellulose polymer composites and their application in dye removal, Environmental Quality Management, 1-11, <https://doi.org/10.1002/tqem.21920>.

Achievements by Faculty (Last 5 years):

Year	Achievement	Faculty Name
2017	Member of the State Expert Appraisal Committee [SEAC] of the Department of Environment, West Bengal Pollution Control Board	Prof Papita Das
2017	Member of “No Increase in Pollution”, of the Department of Environment, West Bengal Pollution Control Board	Prof Papita Das
2019	Awarded 8th National award (2017-18) (Runner up) for Technology Innovation for the nomination “Novel Biodegradable natural filler reinforced hybrid polymer Composites”, under the category of Green/Biodegradable Polymer by Department of Chemicals and Petrochemicals, Govt of India	Prof Papita Das
2020	Ranked in World Ranking of top 2% Scientist published by Stanford University which represents the top 2% the most –cited scientists in various discipline (Rank 614 among 55697 researchers in the field of Chemical Engineering based on career long impact).	Prof Papita Das

2021	Ranked in World Ranking of top 2% Scientist (2021) published by Stanford University which represents the top 2% the most –cited scientists in various discipline (Rank 534 among 66189 researchers in the field of Chemical Engineering based on career long impact and Rank 217 for single year 2020).	Prof Papita Das
2022	Ranked in World Ranking of top 2% Scientist (2022) published by Stanford University which represents the top 2% the most –cited scientists in the field of Chemical Engineering based on career long impact and for single year 2021).	Prof Papita Das
2023	Ranked in World Ranking of top 2% Scientist (2023) published by Stanford University which represents the top 2% the most –cited scientists in the field of Chemical Engineering based on career long impact and for single year 2022).	Prof Papita Das
2021	Associate Editor (Journal): <ul style="list-style-type: none"> • Frontiers in Chemical Engineering (Environmental Chemical Engineer); 2021 • Frontiers in Nanotechnology (Environmental Nanotechnology), 2021 • Chemical Science & Engineering Research, Ariviyal Publishing, 2021 	Prof Papita Das
2022-2023	Editor in Chief of the Journal : Current Indian Science - Chemical Engineering Division (Bentham Science Publications)	Prof Papita Das

2023	<ul style="list-style-type: none"> • Editorial Board Member: Bioresources & Bioprocessing (Springer Nature) • Editorial Board Member: Applied Surface Science Advances, (Elsevier Publications) 	Prof Papita Das
2022	<p>Edited Book "Advances in oil-water separation: A complete guide for physical, chemical, and Biological processes ", Elsevier Publication, Paperback ISBN: 9780323899789, eBook ISBN: 9780323886314</p>	Prof Papita Das

Book Chapter Publications:

- R Sarkhel, P Ganguly, **P Das**, Industrial dye degradation by different nanocomposite doped material. In: Photocatalytic degradation of dyes, current trends and future perspectives. Elsevier, Netherlands, 377-403, 2020. DOI: 10.1016/C2020-0-00551-7. ISBN: 978-0-12-823876-9.
- Preetha Ganguly, Riddhi Sarkhel, Papita Das (2020). The second and third generation biofuel technology: comparative perspectives. In: Sustainable Fuel Technologies Handbook Elsevier publications, . ISBN: 978-0-12-822989-7, Page: 29-46
- Karun Kumar Jana, Avijit Bhowal, Papita Das, Nanocoated membranes for oil/water separation, Advances in Oil-Water Separation, Elsevier Publication, 2022, page: 207-230
- Riddhi Sarkhel, Shubhalakshmi Sengupta, Papita Das, and Avijit Bhowal, Dye Removal Using Polymer Composites as Adsorbents, Polymer Technology in Dye-containing Wastewater, Vol 2, Sustainable Textiles: Production, Processing, Manufacturing & Chemistry, page 85-104, ISBN 978-981-19-0885-9 ISBN 978-981-19-0886-6 (eBook), 2022
- Lopamudra Das, Papita Das, Avijit Bhowal, Chiranjib Bhattacharya, Natural Biodegradable Polymeric Bio-adsorbents for Textile , Polymer Technology in Dye-containing Wastewater, Vol 2, Sustainable Textiles: Production, Processing, Manufacturing & Chemistry, page 209-226, ISBN 978-981-19-0885-9 ISBN 978-981-19-0886-6 (eBook), 2022
- Das, L., Saha, N., Saha, P., Bhowal, A., Bhattacharya, C., 2020. Application of Synthesized Nanocellulose Material for Removal of Malachite Green from Wastewater, in: Recent Trends in Waste Water Treatment and Water Resource Management. https://doi.org/10.1007/978-981-15-0706-9_2, page 11-22

- Rwiddhi Sarkhel, Shubhalakshmi Sengupta, Papita Das, and Avijit Bhowal, Dye Removal Using Polymer Composites as Adsorbents, Polymer Technology in Dye-containing Wastewater, Vol 2, Sustainable Textiles: Production, Processing, Manufacturing & Chemistry, page 85-104, ISBN 978-981-19-0885-9 ISBN 978-981-19-0886-6 (eBook), 2022
- Lopamudra Das, Papita Das, Avijit Bhowal, Chiranjib Bhattacharya, Natural Biodegradable Polymeric Bio-adsorbents for Textile , Polymer Technology in Dye-containing Wastewater, Vol 2, Sustainable Textiles: Production, Processing, Manufacturing & Chemistry, page 209-226, ISBN 978-981-19-0885-9 ISBN 978-981-19-0886-6 (eBook), 2022
- [Subhasis Ghosh](#), Sayan Mulherjee, SK. Aakash Hossain, Poushali Chakraborty, Sanket Roy, **Papita Das**, An Overview of Nanomaterials-Synthesis, and Their Application for Wastewater Treatment, Biorefinery for Water and Wastewater Treatment pp 27–47, DOI: 10.1007/978-3-031-20822-5_2, ISBN: 978-3-031-20822-5, Springer, 2023
- SANDIPAN BHATTACHARYA, PRIYA BANERJEE and **PAPITA DAS**, Graphene Oxide Based Nanocomposites for Wastewater Treatment, Carbon Composites: Composites with Nanotubes, Nanomaterials, and Graphene Oxide. Eduardo A. Castro, Ann Rose Abraham, & A. K. Haghi (Eds.), Apple academic press, 79-115, 2023. ISBN: 9781774912492, 2023
- Preetha Ganguly, Rwiddhi Sarkhel, Sandipan Bhattacharya, and Papita Das, Graphene-Based Nanocomposite Solutions for Different Environmental Problems, Chapter 4, 85- 106; Springer Nature Singapore Pte Ltd. 2023 K. Mohanty et al. (eds.), Graphene and its Derivatives (Volume 2), Materials Horizons: From Nature to Nanomaterials, https://doi.org/10.1007/978-981-99-4382-1_4

Conferences attended:

Name of the Teacher / RS	Title of the Paper	Name of the Conference / Seminar	Place	Duration (From .. To)
Lopamudra Das, MS Karuna, Papita	Advances in eco-friendly approaches for	Chemtsf-2022	IIT Roorkee	September 8-10, 2022

Das, Avijit Bhowal	Defluoridation process using Sugarcane bagasse- derivatives and composites			
Lopamudra Das, Sharwan Kumar, Varsha Singh, Uddeshya Gangwar, Sumit Gangwar, Dr. MS Karuna, Hiba Roshan Khan, Papita Das, Avijit Bhowal	Synthesis and application of agro-waste derived nanocellulose/P VA hybrid hydrogel for treatment of textile dye containing waste water: Batch and Column study	ACMS -2022	Heritage Institute of technology	14-16th April ,2022.

Lopamudra Das, Papita Das, Avijit Bhowal	Development of agro-waste derived Biopolymer grafted adsorbents for fluoride removal, 1st International Conference on Advances in Biopolymers and Composites: Health, Environment, and Energy	ABC-HEE, 2022	Motilal Nehru National Institute of Technology (MNIT)	October 20-22, 2022
Susanta Ray, Papita Das, Pankaj Kumar Roy	A CRITICAL REVIEW AND ANALYSIS OF FAECAL SLUDGE TREATMENT OPTIONS AT URBAN AREAS AND CITIES IN INDIA TOWARDS SUSTAINABLE DEVELOPMENT OF WATER RESOURCES AND	International Conference on Green Energy & Sustainable Environmental Technology (GESET-2022)	KIIT Deemed to be University, Bhubaneswar, Odisha,	15-16 September, 2022

	ECO-FRIENDLY POLLUTION CONTROL			
Susanta Ray, Papita Das, Pankaj Kumar Roy	A Critical Analysis for Anticipated Outcome from Independent Faecal Sludge and Septage Treatment Plants at Unsewered Urban Areas in the State of West Bengal, India for Achieving Sustainable Faecal Waste Management and Maintaining Circular Economy.	12th International Conference on 12th IconSWM-CE & IPLA Global Forum 2022 Sustainable Waste Management & Circular Economy and IPLA Global Forum 2022 (12th IconSWM-CE & IPLA Global Forum 2022)	Sri Venkateswar a University, Tirupati, Andhra Pradesh, India	November 30 - December 03, 2022
Susanta Ray, Papita Das, Pankaj Kumar	Emphasis for Setting up of Faecal Sludge	National Seminar on Urban Waste Management and Air	The Stadel, Salt Lake,	January 20 - 21, 2023

Roy	and Septage Management for Urban Sanitation Drive Towards Sustainable Development of Water Resources, Resource Recovery and Pollution Control in India	Pollution Control : Issues and Challenges - Organized by IPHE, India	Kolkata	
Moumita Sharma, Avijit Bhowal, Siddhartha Datta	Process Intensification in Concentration of watermelon juice by Air Stripping under high gravity	ICEIS - 2023	Jadavpur University	Feb 26-27, 2023
Moumita Sharma, Nilutpal Goswami, Avijit Bhowal, Siddhartha Datta	Sustainable remedy to prevent thermal pollution of water by evaporative cooling in high	International Conference on Sustainable Resilient Remediation (ICSRR'2023)	CES, Anna University, Chennai	Feb 2 nd and 3 rd , 2023

	gravity equipment			
Moumita Sharma, Nilutpal Goswami, Avijit Bhowal, Siddhartha Datta	Process Intensification in a cross-flow rotating packed bed for evaporative cooling of water	International Conference on Advances in chemical and Material sciences (ACMS 2022)	Heritage Institute of Technology , Kolkata	Apr 14-16, 2022.
Sandipan Bhattacharya, Papita Das and Avijit Bhowal	Synthesis of activated biochar from rice straw for the purpose of removing Bisphenol A from water	International Conference on Chemical Engineering Innovation & Sustainability (ICEIS 2023)	Jadavpur University	Feb 26-27, 2023
Subhasis Ghosh, Sirsha Ganguly, Sanket Roy, Sayan Mukherjee, Papita Das	Cellulose from acid pre-treated lignocellulosic biomass and its application in dye removal	International Conference on Chemical Engineering Innovation & Sustainability (ICEIS 2023)	Jadavpur University	Feb 26-27, 2023
Sanket Roy,	Synthesis of	International	Jadavpur	Feb 26-27,

Sayan Mukherjee, Subhasis Ghosh, Papita Das	Cellulose using waste rice husk for the treatment of Wastewater	Conference on Chemical Engineering Innovation & Sustainability (ICEIS 2023)	University	2023
Subhasis Ghosh, Sanket Roy, Sayan Mukherjee, Papita Das	Production of biochar from lignocellulosic biomass and its application in dye removal	International Conference on Sustainable Resilient Remediation (ICSRR'23)	Anna University	Feb 2-3, 2023
Sayan Mukherjee, Subhasis Ghosh, Papita Das	Application of Advanced Oxidation for the removal of Indigo Carmine dye from wastewater.	International Conference on Sustainable Resilient Remediation (ICSRR'23)	Anna University	Feb 2-3, 2023

Sayan Mukherjee, Sanket Roy, Subhasis Ghosh, Surajit Mondal, Papita Das	A waste-to-wealth approach in the removal of Congo Red dye in wastewater using Plastic Char derived from municipal wastes.	International Conference on Chemical Engineering Innovation & Sustainability (ICEIS 2023)	Jadavpur University	Feb 26-27, 2023
Sk. Aakash Hossain, Saswata Bose, Papita Das	Effect of annealing on ZnO nanoparticles for photocatalytic degradation of Malachite Green from aquatic environment	International Conference on Sustainable Resilient Remediation (ICSRR 2023)	Anna University	Feb 2-3, 2023
Sk. Aakash Hossain, Saswata	Synthesis,	International Conference on	Jadavpur	Feb 26-27,

Bose, Papita Das	characterization, and application of AgFeO ₂ delafossite catalyst for photo-degrading dye present in solution	Chemical Engineering Innovation & Sustainability (ICEIS 2023)	University	2023
Sampad Sarkar, Papita Das, Avijit Bhowal	Adsorption and kinetics study of ground Peanut shell on Safranin in aqueous solution.	International Conference on Sustainable Resilient Remediation (ICSRR, 2023)	Anna University	Feb 2-3, 2023
Sampad Sarkar, Poushali Chakrabarti, Papia Das, Avijit Bhowal	Adsorption and kinetics study of nano-silica-coated Peanut Shell biochar on basic dye Safranin in aqueous solution.	International Conference on Chemical Engineering Innovation & Sustainability (ICEIS 2023)	Jadavpur University	Feb 26-27, 2023

Avik Mukherjee, Saswata Bose, Papita Das	Microplastic pollution- A serious cause of concern: Effects and possible remedies.	International Conference on Chemical Engineering Innovation & Sustainability (ICEIS 2023)	Jadavpur University	Feb 26-27, 2023
Poushali Chakraborty, Arkaprava Roy, Papita Das, Avijit Bhowal	Removal of naphthalene wastewater remediation by adsorption using PVA-silica membrane-like composite with incorporated activated banana biochar	International Conference on Sustainable Resilient Remediation (ICSRR, 2023)	Anna University	Feb 2-3, 2023
Poushali Chakraborty, Sampad Sarkar, Papita Das, Avijit Bhowal, Suwendu Manna	Synthesis and application of biochar-incorporated sodium alginate-kaolin hydrogel	International Conference on Chemical Engineering Innovation & Sustainability (ICEIS 2023)	Jadavpur University	Feb 26-27, 2023

	beads to remove naphthalene from wastewater			
Arkaprava Roy, Poushali Chakraborty, Papita Das	Cellulose incorporated sodium alginate-kaolin hydrogels for removal of congo red dye for wastewater remediation	International Conference on Chemical Engineering Innovation & Sustainability (ICEIS 2023)	Jadavpur University	Feb 26-27, 2023

PhD student of School. Total ongoing : 10; PhD awarded 1 (2023)