Curriculum Vitae

Dr. Ramagopal Uppaluri
Professor (Equivalent to Higher Academic Grade)
Department of Chemical Engineering
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Education

Ph.D. (Process Integration), University of Manchester, U.K. (2002)
M.Tech. (Chemical Engineering), Indian Institute of Technology Kanpur, India (1999)
B.Tech. (Chemical Engineering), Andhra University, Visakhapatnam, India (1997)

Professional Experience

Professor (Equivalent to Higher Academic Grade), IIT Guwahati, India (19th Jan 2022 onwards)
Professor, IIT Guwahati, India (5th Jan 2013 onwards)
Associate Professor, IIT Guwahati, India (4th Nov 2008 – 4th Jan 2013)
Assistant Professor, IIT Guwahati, India (Aug 2004 – Oct 2008)
Research Fellow, Robert Gordon University, Aberdeen, Scotland (Jul 2002 – Jul 2004)

Unique Contributions to Chemical Engineering Education and Research

Education

- Established 1st International Joint M.Tech. in Food Science and Technology (probably the only International Joint M.Tech. degree in India) at IIT Guwahati along with Gifu University, Japan
- Developed Virtual Mass transfer laboratory for remote UG instruction
- Lecture Notes in Refinery Process Design that received accolades from training instructors in India and abroad
- Blooms Taxonomy based pedagogical class notes on 'Petroleum Refining and Petrochemical Technology'

Research

- Established Mass transfer enhanced electroless plating process as a novel research scheme and customized its utility towards nano-noble metal impregnated alumina catalyst
- Developed low cost wound dressing compatible PVA/St composite films
- Customized Chemical Engineering pedagogy towards food products such as vegetable mix soups, papaya based cookies, catechin infused tea, gold milk and bio-extract encapsulated pectin products

Unique Contributions to Human Excellence and Inner Peace

- As Honorary Director (Department of Education) of Bhaktivedanta Institute, Kolkata (a not for profit organization), developed and administered Online Certificate and Diploma Courses on Science and Spirituality and Applied Spirituality namely
    - Foundations of Science and Spirituality
    - Nature of Reality
    - Holistic Personality Development
    - Professional Excellence
    - Personal Excellence
    - Philosophical Excellence
    - Foundations of the Reality – Explorations from Bhagavad Gita
    - Successful Life Journey – Insights based on Bhagavad Gita
    - Yoga and Spirituality – Explorations from Bhagavad Gita
    - Diploma in Science-Spirituality

Research Expertise

Ongoing Research

Experimental

- **Process Engineering** – Solar pumps
- **Process-product Engineering** – Rice husk based nano/micro silica and carbon for rural concrete applications
- **Product Design** – Ready to Cook Mixed vegetable Soup formulations; Ready to eat Papaya based Cookies; Catechins based functional tea product; Ready to eat Squash, Pumpkin and Papaya based Chips; Elephant grass-based bio-ethanol, cellulose, and lignin based value-added product development; Milk latte formulations and Processing; Dry Ayurvedic Kwath formulations and Processing; Potassium carbonate impregnated zeolites for CO_2 separation; Bio-char for pesticide mitigation in north-east India
- **Computational –** Machine learning applications for the prediction and forecasting of greenhouse gas and particulate matters emissions

Indian Knowledge Systems

- Herbal Medicine, Ayurveda, and Naturopathy, Holistic Wellness; Consciousness Studies; Vedanta and Science; Value-education

Past Research

- **Process Engineering** – Bio-mass pyrolysis
- **Process-product Engineering –** Multi-heavy metal removal from waste streams using chitosan-based derivatives; Jeevamrutha bio-fertilizer; Refractance Window Drying based turmeric powder products; Ultrasound-assisted extraction based horticultural extracts; Ceramic membrane-based vegetable processing applications; Chitosan derivative and activated charcoal-based Pd adsorption from synthetic electroless plating solutions; Microfiltration of oil-water emulsions and fruit juices using low-cost ceramic membranes; Mass transfer enhanced electroless plating processes; Surfactant enhanced oil recovery
- **Product Design –** Pt-V and Ru-V catalysis for green production of bio-energy products; Low cost ceramic and polymer-ceramic membranes; PVA-Starch based wound dressing films; Ready to cook leafy and non-leafy soup formulations; Electroless plating based silver composite membranes; Electroless plating based Pd composite membranes; Polymer-natural fiber composites

- **Computational –** Machine learning applications for large scale municipal solid waste management, Modeling, and Optimization of hole cleaning process in oil/gas drilling operations; Differential evolution based optimization of MSF, RO and hybrid MSF-RO processes; Inverse analysis of transient conduction-radiation phenomena; Virtual Labs

Affiliation at IITG

a. Department of Chemical Engineering
b. School of Agro and Rural Technology
c. Centre for the Environment
d. Centre for Indian Knowledge Systems
e. Centre for Sustainable Water Research

Courses Taught

Theory

- Research Methodology & Scientific Writing
- Design Thinking & Scientific Writing
- Research Methodology & Quantitative Techniques for Rural Development
- Advanced Process design
- Chemical Process Technology
- Petrochemicals
- Natural gas engineering
- Refinery process design
- Engineering Optimization
- Chemical Process Calculations
- Indian Knowledge Systems (Ayurveda)

Laboratory

- Practical Excercises in Food Science and Technology
- Global Internship & Seminar
- Technical Communication and Writing
- Engineering Drawing
- Petroleum lab
- Thermodynamics Lab
- Heat and Mass Transfer Lab

Ph.D. Supervision

Ph.D. Thesis Nearing Submission

S. No.	Name of Research Scholar	Thesis title	Main/Co-Guide	Submission date (Tentative)
1	Mr. Hanumanth Reddy Pemmana	Studies on carbon supported Pt-V and Ru-V bimetallic catalysts and microreactor technology for the green production of Lactic acid, 2,5-Furnadicarboxylic acid and 5-hydroxymethylfurfural	Prof. Nageswara Rao Peela (Main Guide)	30th Aug 2023
2	Ms. Swagata Patra	Bio-based synthesis of silver and gold nanoparticles using tea leaves for heavy metal sensing	Prof. Animes K. Golder (Co guide)	1st Nov 2023
3	Ms. Sreemonti Dutta	Formulation and Characterization of atta, aizong rice, pumpkin, raw papaya based ready to eat chips	Prof. Pankaj Kalita (Co guide)	1st Nov 2023
4	Mr. Simons Dhara	Studies on elephant grass biomass based production of bio-ethanol and lignin	Prof. Mihir K. Purkait (Main guide)	1st Nov 2023

5	Mr. Kamal Narayan Baruah	Formulation and optimization of functional tea beverage using tea cultivars of north-east India and Japan	Prof. Siddhartha Singha (Co guide, IITG) Prof. Satoshi Nagaoka (Main guide, Gifu U., Japan)	1st Dec 2023

Ongoing Ph.D. Thesis

S. No.	Name of Research Scholar	Thesis title	Main/Co-Guide	Tentative date of submission (if any)
1	Mrs. Kumudhini Akasapu	Formulation and Characterization of ready to cook vegetable mix soup products	-	-
2	Mrs. Paushali Mukherjee	Formulation and Characterization of Unripe Papaya based Cookies	-	-
3	Mrs. Geetanjali Bhati	Studies on amine functionalized zeolites for CO_2 separation	Prof. Bishnupada Mandal (Main guide)	-
4	Mr. Tapas Das	Studies on Heat, Microwave and Ultrasound based extraction of Bioactives from Lakadong Tumeric into Milk	-	-
5	Mr. Nuruzzaman Choudhury	Design and performance of solar pump for field application in north-east India	Prof. Sudip Mitra (Co guide)	-
6	Ms. Ashmita Das	Synthesis of biochar based nanozyme from locally available agro wastes for the detection and removal of pesticides present in water	Prof. Sudip Mitra (Main guide)	-
7	Mrs. Sneha Singh	Studies on low cost technologies for green synthesis of silica and carbon nanoparticles from rice husk and their application in rural concrete systems	-	-
8	Ms. Aishwarya Jain	Studies on Ksheerapaka Ayurvedic Formulations	-	-
9	Mr. Rohit Kumar	Prediction and forecasting of Greenhouse gas and particulate matters emissions in Guwahati city	-	-
10	Ms. Khusbu Kumari	Studies on nitrate removal from wastewater systems with polymeric membranes	-	-

Degree Awarded/Thesis Submitted

S. No.	Name	Thesis title	Co-supervisor	Year of Award/Submission date
1	Mr. Prabhat K. Patel	Efficacy of commercial and chitosan derived resins for cyclic multi-metal adsorption and desorption from synthetic waste solutions	Prof. Lalit Mohan Pandey (Co guide)	19th June 2023 **(Submitted)**
2	Ms. Tinka Singh	Application of machine learning algorithms for large scale municipal solid waste management in Guwahati city	-	15th July 2023 **(Submitted)**
3	Dr. Udaratta Bhattacharjee	Preparation and characterization of modified Jeevamrutha bio-fertilizer	-	August 2023
4	Dr. Preetisagar Talukdar	Process-Product Characteristics of Refractance Window Dried Turmeric Powder and Golden Milk Products	-	August 2023
5	Dr. Khalid Wani Mehmood	Ultrasound-Assisted Extraction of Bioactives from Horticultural Produces and their Encapsulation with Ion Gelation Method	-	July 2023
6	Dr. D. Rammohan	Catalytic and Non-catalytic co-pyrolysis of Delonix Regia and Butyl Rubber tube Waste: Kinetic and Thermodynamic Investigations	Prof. Nanda Kishore (Main Guide)	2023
7	Dr. S. Senthil	Real-time monitoring and optimization of the oil and gas well drilling process	Prof. S. Senthilmurugan (Main Guide)	2022
8	Dr. Aritra Das	Studies on PVA composite films for wound dressing applications	Prof. Chandan Das	2021
9	Dr. Imdadul H. Mondal	Formulation and characterization of leafy and non-leafy vegetables based mix soup products	Prof. Latha Rangan	2021
10	Dr. Sushma Chakraborthy	Studies on ceramic membrane, sonication and hybrid processes for the clarification of Vegetable Juices and Extracts	Prof. Chandan Das	2021
11	Dr. Srinu Nagireddi	Optimality of commercial resins and functionalized chitosan derivatives for the recovery and reuse of Pd(II) from Synthetic electroless plating solutions	Prof. Animes K. Golder	2020
12	Dr. Bandi Chandrasekhar	Optimal design of MSF, RO and hybrid MSF-RO processes using Differential Evolution algorithm	Prof. Amit Kumar	2016
13	Dr. China Malakondaiah	Fabrication of low cost silver membranes for bacteriostatic and drinking water treatment applications	-	2015
14	Dr. Murali Pujari	Fabrication of low cost dense palladium composite membranes for hydrogen energy applications	Prof. Anil Verma	2015

15	Dr. Rajesh Yennam	Adsorption characteristics of Activated carbon adsorbents for the recovery and reuse of Pd from synthetic electroless plating solutions	-	2015
16	Dr. Sri Harsha Emani	Microfiltration studies using low cost ceramic membranes	Prof. Mihir K. Purkait	2015
17	Dr. Amrita Agarwal	Optimality of electroless plating processes for dense metal-ceramic composite membrane fabrication	Prof. Anil Verma	2015
18	Dr. D. Vasanth	Preparation, characterization and application of kaolin based low cost ceramic membranes	Prof. G. Pugazhenthi (Main Guide)	2014
19	Dr. Vijaya Kr. Bulasara	Performance characteristics of electroless nickel baths for nickel-ceramic composite membrane fabrication	-	2011
20	Dr. Sanjay Chattopadhyay	Development of natural fiber reinforced polypropylene composites and their biodegradability studies	Prof. Aloke K. Ghoshal (Main guide)	2010
21	Dr. Ranjan Das	Retrieval of parameters in heat transfer problems involving thermal radiation	Prof. Subhash C. Mishra (Main guide)	2010
22	Dr. Barun K. Nandi	Preparation and characterization of low cost ceramic membranes for ultrafiltration and microfiltration applications	Prof. Mihir K. Purkait	2009

Sponsored Research Projects

S. No.	Project Title	Funding Agency	Co-PI/PI	Period
1	Development of cross linked chitosan based resins for the recovery of Palladium from synthetic and spent electroless plating solutions (PI)	CSIR, New-Delhi	Prof. Animes Golder (Co-PI)	2014-2017
2	Identification of competent alkali-surfactant-polymer formulations for enhanced oil recovery of Assam crude oil (Co-PI)	DST, New-Delhi	Dr. Pankaj Tiwari (IITG) - PI Dr. Subrata Gogoi (Dibrugarh U.)	2013-2016
3	Development of supported noble metal catalysts using surfactant assisted electroless plating process for dehydrogenation of light alkanes (Co-PI)	DST, New-Delhi	Prof. Mahuya De (PI)	2013-2016
4	Development of electrochemical reactor and solid electrolyte for efficient electrochemical reduction of CO_2, (Co-PI)	DST, New-Delhi	Prof. Anil Verma (PI)	2012-2015
5	Low cost ceramic membranes for juice clarification (PI)	DBT, New-Delhi	-	2011-2014
6	Fabrication of low cost dense palladium composite membranes for hydrogen energy applications (PI)	DST, New-Delhi	Prof. Anil Verma (PI)	2011-2014
7	Preparation and characterization of low cost silver-ceramic composite membranes for bacteriostatic and drinking water treatment applications (PI)	CSIR, New-Delhi	-	2011-2014
8	Optimization of mass transfer enhanced electroless Plating	CSIR,	Prof. Mihir K. Purkait (Co-PI)	2008-

	parameters for metal composite membrane fabrication (PI)	New-Delhi		2011
9	Development of cost effective surfactant formulations for enhanced oil recovery in Assam oil fields (PI)	OIL, Duliajan	-	2008-2010
10	Thermal analysis of Graphite furnace chamber (Co-PI)	DRDL, Hyderabad	Prof. Subhash C. Mishra	2006-2009

Consultancy Projects

S. No.	Project Title	Funding Agency	PC/Co-C	Period
1	Study on Assessment of Technologies for CO2 capture and storage for carbon sequestration (Co-C)	NTPC, New-Delhi	Prof. A. K. Ghoshal (PC) Prof. S. Gumma (Co-C) Prof. P. Saha (Co-C) Prof. B. P. Mandal (Co-C)	2009-2010
2	Development of PSA Process for separation of C5+ gases and water vapour from OIL's Gas lift Pipelines (Co-C)	OIL, Duliajan	Prof. S. Gumma (PC) Prof. A. K. Ghoshal (Co-C) Prof. P. Saha (Co-C) Prof. B. P. Mandal (Co-C)	2008-2010
3	Heat Exchanger Network (HEN) Analysis of CDU I, DCU I, CDU II and DCU II at BRPL (PC)	BRPL, Bongaigaon	Prof. A. K. Ghoshal (Co-C)	2007-2008
4	Environmental and Social Impact Assessment (E&SIA) study for the Biomass Plant at Morigaon (Co-C)	Amrit Bio-energy and Industries Limited, Kolkata	Prof. Sharad Gokhale (PC) Prof. A. K. Ghoshal (Co-C)	2007-2008
5	A Preliminary Project Report on Generation of Electrical Power from small quantities of Gas available in Isolated Pockets of Oil Fields (PC)	OIL, Duliajan	Prof. A. K. Ghoshla (Co-C) Dr. Anugrah Singh (Co-C) Dr. U. K. Saha (Co-C) Dr. Anil Verma (Co-C)	2007-2008
6	Heat Exchanger Network (HEN) Analysis of Crude Distillation Unit (CDU) and Delayed Coking Unit (DCU) – PC	IOCL, Guwahati	Prof. A. K. Ghoshal (Co-C)	2006-2007

Online Educational Projects

S. No.	Project Title	Funding Agency	PC/Co-C	Period
1	Petroleum Refining and Petrochemical Technology for project entitled 'Developing suitable pedagogical methods for various classes, intellectual calibers and research in e-learning' (PC)	MHRD, New-Delhi	Prof. G. Pugazenthi (Co-C) Prof. Tapas K. Mandal (Co-C)	2009-2012
2	Virtual Mass transfer laboratory under Virtual Labs (PC)	MHRD, New-Delhi	Prof. Anil Verma (Co-C)	2008-2014
3	Chemical Process Technology – Web Course (PC)	MHRD, New-Delhi	-	2010-2012
4	Refinery Process Design, CD Cell Lecture Notes	QIP Cell, IIT Guwahati	-	2008-2010

Administrative Experience

S. No.	Position	Location	Period
1	Academic Coordinator for International Joint Masters Degree in Food Science and Technology along with Gifu University, Japan	IIT Guwahati	May 2016 – Feb 2020
2	Professor-in-Charge, Green Office	IIT Guwahati	Dec 2013 – Aug 2019
3	Member, Student Disciplinary Committee	IIT Guwahati	Nov 2010 - July 2012
4	Chairman, Technical Board	IIT Guwahati	Apr 2006 – Sep 2008
5	Convenor, Faculty Forum	IIT Guwahati	Jul 2006 – Apr 2007
6	Joint Co-ordinator, IIT Guwahati website	IIT Guwahati	Oct 2005 – Dec 2006

Recognition/Outreach/Mentorship

1. Member, Editorial Board, Indian Journal of Biochemistry and Biophysics, (Nov 2021 – till date)
2. Member, Project Advisory Committee (PAC), DST-NECTAR (2018 – till date)
3. Member, Board of Studies (BoS) of Petroleum Engineering & Petrochemical Engineering, JNTU Kakinada, Andhra Pradesh (2016 – till date)
4. Member, Board of Studies (BoS) of Chemical and Polymer Engineering, Tripura University (2017 – till date)
5. Head of AICTE team, AICTE-UGC Committee for Deemed University status for ICT, Mumbai (2016 – 2017)

International Journal Publications

A) Bio-fertilizer

1. Bhattacharjee U., and **Uppaluri R.**, (2023). Production and optimization of Jeevamrutha bio-fertilizer formulations for soil fertility and its role in waste minimization, **Sustainable Chemistry for Climate Action**, 2, 100025.

2. Bhattacharjee U., and **Uppaluri R.**, (2023). Growth and nutritional characteristics of Phaseolus vulgaris and Jeevamrutha bio-fertilizer-vermicompost system, **Bioresource Technology Reports**, 22, 101416.

3. Bhattacharjee U., and **Uppaluri R.**, (2022). Screening and scoping of precursors associated to the production of Jeevamrutha bio-fertilizer, **Materials Today: Proceedings**, 68(4), 679-685.

B) Advanced Food Processing

4. Kamal Narayan Baruah, Siddhartha Singha and **Uppaluri R.**, (2023). Optimization of the enzymatic extraction of catechins from Assam tea leaves, **Biomass Conversion and Biorefinery,** 1-25.

5. Kumudhini Akasapu and **Uppaluri R.**, (2023). Efficacy of score deviation method as a novel sensory evaluation technique for the identification of optimal mixed vegetable soup formulations, **International Journal of Gastronomy and Food Science,** 100761.

6. Kamal Narayan Baruah, Siddhartha Singha and **Uppaluri R.**, (2023). Determination of Catechin Contents in S3A3 and TV18 Tea Cultivar using HPLC Method, **Agricultural Engineering**, 55, 11-18.

7. Kamal Narayan Baruah, Siddhartha Singha and **Uppaluri R.**, (2023). Preparation of potato starch nanoparticles using acid hydrolysis and ultrasonic post-treatment, **ACS Food Science and Technology**, 3, 4, 626-634.

8. Wani Khalid M., **Uppaluri R.**, (2023). Efficacy of ionic gelation based encapsulation of bioactves from papaya leaf extract: characterization and storage stability, **Biomass Conversion and Biorefinery**, 1-18.

9. Wani Khalid M., **Uppaluri R.**, (2022). Pulsed ultrasound-assisted extraction of bioactive compounds from papaya pulp and papaya peel using response surface methodology: Optimization and comparison with hot water extraction, **Applied Food Research**, 2(2), 100178.

10. Wani Khalid M., **Uppaluri R.**, (2022). Continuous and pulsed ultrasound-assisted extraction of pectin from pomelo fruit peel using citric acid, **Biomass Conversion and Biorefinery**, 1, 1-16.

11. Mukherjee P., Mondal I.H., Rangan R. and **Uppaluri R.**, (2022). RSM based optimal drying-parameters of unripe-papaya (*Carica papaya* L.), **Materials Today**: Proceedings, 68, 854-861.

12. Wani Khalid M., **Uppaluri R.**, (2022). Efficacy of ultrasound-assisted extraction of bioactive constituents from *Psidium guajava* leaves, **Applied Food Research**, 2(1), 100096.

13. Imdadul H. Mondal, **Uppaluri R**., and Latha Rangan (2022). Tray drying characteristics of *Musa splendida* and *Musa Balbisiana Colla* pseudo-stem, **Journal of Thermal Analysis and Calorimetry**, 147, 8743-8756.

14. Sushma Chakraborty, **Uppaluri R**., and Chandan Das (2021). Efficacy of sonication-microfiltration hybrid process for the production of clairified bitter gourd extracts, **Journal of Food Process Engineering,** 44 (11) e13854.

15. Preetisagar Talukdar, **Uppaluri R**., (2021). Process and product characteristics of refractance window dried *Curcuma Longa*, **Journal of Food Science**, 86 (2), 443-453.

16. Sushma Chakraborty, **Uppaluri R**., and Chandan Das (2020). Combinatorial Optimality of Membrane Morphology and Feedstock during Microfiltration of Bottle Gourd Juice, **Innovative Food Science and Emerging Technologies**, 63, 102382.

17. Sushma Chakraborty, **Uppaluri R**., and Chandan Das (2020). Feasibility of low cost kaolin based ceramic membranes for organic *Lagernaria siceraria* juice production, **Food and Bioprocess Technology**, 13, 1009-1023.

18. Sushma Chakraborty, **Uppaluri R**., and Chandan Das (2020). Optimization of ultrasound-assisted extraction (UAE) process for the recovery of bioactive compounds from bitter gourd using response surface methodology, **Food and Bioproducts Processing**, 120, 114-122.

19. Mondal I. H., Rangan R. and **Uppaluri R**., (2020). A robust and novel methodology for the optimal targeting of leafy vegetable mix soup formulations, **LWT Food Science and Technology,** 134, 110152.

20. Mondal I. H., Rangan R. and **Uppaluri R**., (2020). Process-product characteristics of tray dried *Benincasa hispida*, **Journal of Food Processing and Preservation**, 44 (9), e14697.

21. Mondal I. H., Rangan R. and **Uppaluri R**., (2021). Symphony of kinetics and statistical design approaches for response analysis during tray drying of *Lagernaria siceraria* leaves, **Journal of Thermal Analysis and Calorimetry**, 145, 2389-2403.

22. Mondal I. H., Rangan R. and **Uppaluri R**., (2020). Parametric optimality of tray dried *Musa balbisiana blossom*, **Journal of Food Science and Technology**, *57*(12) 4599-4612.

23. Mondal I. H., Rangan R. and **Uppaluri R**., (2019). Effect of oven and intermittent airflow assisted tray drying methods on nutritional parameters of few leafy and non-leafy vegetables of North-east India, **Heliyon**, *5*(11), e029342.

C) Machine learning and Artificial Intelligence Applications in Science and Engineering

24. Singh T., **Uppaluri R.,** (2023). Feed-forward ANN and traditional machine learning-based prediction of biogas generation rate from meteorological and organic waste parameters, **The Journal of Supercomputing,** In Press.

25. Singh T., **Uppaluri R.,** (2023). Optimizing biogas production: A novel hybrid approach using anaerobic digestion calculator and machine learning techniques on Indian biogas plant, **Clean Technologies and Environmental Policy**, 1-25.

26. Singh T., **Uppaluri R.**, (2023). Application of ANN and traditional ML algorithms in modelling compost production under different climatic conditions, **Neural Computing and Applications**, 35 (18), 13465-13484.

27. Singh T., **Uppaluri R.**, (2022). Machine leaning tool-based prediction and forecasting of municipal solid waste generation rate: a case study in Guwahati, Assam, India, **International Journal of Environmental Science and Technology**, 1 – 24.

D) Nanotechnology

28. Swagata P., **Uppaluri R.**, and Animes K. Golder (2023). Ultrasensitive Colorimetric Detection and Determination of Hg(II) Using Bioinspired AgNPs Synthesized from Mature Camellia Sinensis Leaves, **Results in Optics**, 11, 100411.

E) Waste Biomass to Value Product Development

29. Dhara S., Sekhar S., Niladri D., Pranjal, **Uppaluri R.**, and Purkait M. K., (2023). Ravenna grass extracted alkaline lignin-based polysulfone mixed matrix membrane (MMM) for aqueous Cr (VI) removal, **ACS Applied Polymer Materials**, 5, 8, 6399-6411.

30. Dhara S., **Uppaluri R**. and Purkait M. K., (2023). High purity alkaline lignin extraction from *Saccharum Ravannae* and optimization of lignin recovery through RSM, **International Journal of Biological Macromolecules**, 123594.

F) Adsorption

31. Patel, P., Pandey, L. and **Uppaluri R.** (2023). Synthesized carboxymethyl-chitosan variant composites for cyclic adsorption-desorption based removal of Fe, Pb and Cu, Chemosphere, In Press.

32. Patel, P., Pandey, L. and **Uppaluri R.** (2023). Cyclic desorption based efficacy of polyvinyl alcohol-chitosan variant resins for multi heavy-metal removal, **International Journal of Biological Macromolecules**, 242, 124812.

33. Patel, P., Pandey, L. and **Uppaluri R.** (2023). Adsorptive removal of Zn, Fe, and Pb from Zn dominant simulated industrial wastewater solution using polyvinyl alcohol grafted chitosan variant resins, **Chemical Engineering Journal**, 141563.

34. Patel P. K., Nagireddi S., **Uppaluri R.**, and Pandey L. M., (2022). Batch adsorption characteristics of Dowex Marathon MSA commercial resin for Au(III) removal from synthetic electroless plating solutions, **Materials Today**: Proceedings, 68, 824-829.

35. Srinu N., Golder A. K. and **Uppaluri R.**, (2020). Combinatorial optimality of functional groups, process parameters and Pd(II) adsorption-desorption characteristics for commercial anion exchange resins-synthetic electroless plating systems, **Environmental Science and Pollution Research**, 27, 24614-24626.

36. Srinu N., Golder A. K. and **Uppaluri R.**, (2019). Role of EDTA on the Pd(II) adsorption characteristics of chitosan cross-linked 3-Amino-1,2,4-triazole-5-thiol derivative from synthetic electroless plating solutions, **International Journal of Biological Macromolecules,** 127, 320-329.

37. Srinu N., Golder A. K. and **Uppaluri R.**, (2018). Role of protonation and functional groups in Pd(II) recovery and reuse characteristics of commercial anion exchange resin-synthetic electroless plating solutions systems, **Journal of Water Process Engineering**, 22, 227-238.

38. Rajesh Y., Srinu N., Namra G., and **Uppaluri R.**, (2017). Preparation, characterization and Pd(II) adsorption characteristics of chitosan-AC composites from electroless plating solutions, **Desalination and Water Treatment**, 84, 279-291.

39. Srinu N., **Uppaluri R.**, and Katiyar V., (2017). Pd(II) adsorption characteristics of glutaraldehyde cross-linked chitosan copolymer resin, **International Journal of Biological Macromolecules**, 94, Part A, 72-84.

40. Srinu N., Golder A. K. and **Uppaluri R.**, (2017). Investigation on Pd(II) removal and recovery characteristics of chitosan from electroless plating solutions, **Journal of Water Process Engineering**, 19, 8-17.

41. Rajesh Y., Namrata G. and **Uppaluri R.** (2016), Ni (II) adsorption characteristics of commercial activated carbon from synthetic electroless plating solutions, **Desalination and Water Treatment**, 57 (29), 13807-13817.

42. Rajesh Y., **Uppaluri R.** (2016). Effect of surfactant and sonication on Pd(II) adsorption from synthetic electroless plating solutions using commercial activated carbon adsorbent, **Desalination and Water Treatment**, 57(54), 26073-26088.

43. Rajesh Y., Pujari M., and **Uppaluri R.**, (2014). Equilibrium and Kinetic studies of Ni (II) adsorption using Pineapple and Bamboo Stem based adsorbents, **Separation Science and Technology**, 49, 533-544.

44. Cheripally G. S., Mannava A., Kumar G., Gupta R., Saha P., Mandal B., **Uppaluri R.**, Gumma S. and Ghoshal A. K., (2013). Measurement and modelling of adsorption of lower hydrocarbons on activated carbon, **Journal of Chemical and Engineering Data**, 58(6), 1606 – 1612.

G) Wound Dressing Films

45. Aritra Das, Srirupa Bhattacharya, Chandan Das and **Uppaluri R**., (2020). Optimality of Poly-vinyl alcohol/Starch/Glycerol/Citric Acid in Wound Dressing Applicable Composite Films, **International Journal of Biological Macromolecules**, 155, 260-272.

46. Aritra Das, Chandan Das and **Uppaluri R**., (2019). Compositional synergy of poly-vinyl alcohol, starch, glycerol and citric acid concentrations during wound dressing films fabrication, **International Journal of Biological Macromolecules**, 1, 70-79.

47. Aritra Das, Chandan Das and **Uppaluri R**., (2019). Feasibility of poly-vinyl alcohol/starch/citric acid composite films for wound dressing applications, **International Journal of Biological Macromolecules**, 131, 998-1007.

H) Advanced Catalysis

48. Hanumanth Reddy P., Prince Kumar B., **Uppaluri R.**, and Nageswara Rao P., (2023). Selective aeriobic-oxidation of glycerol to lactic acid over ruthenium-vanadium bimetallic catalysts, **Journal of Industrial and Engineering Chemistry,** 124, 224-231.

49. Rammohan D., Kishore N., **Uppaluri R.**, (2023). Thermogravimetric analysis of pyrolysis of Delonix regia biomass in the presence of zeolite, mixed metal oxides and carbon supported noble metal catalysts, **Results in Engineering**, 17, 100936.

50. Rammohan D., Kishore N., **Uppaluri R.**, (2023). Kinetics and Thermodynamic investigation of pyrolysis of butyl rubber tube waste, **Eurpoean Journal of Sustainable Development Research**, 7(2), em0215, 1-12.

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Conferences, Short-term Courses & Workshops

1. Co-ordinator, International Joint Webinar on Recent Advances in Translational Research in Food Science and Technology along with Gifu University, Japan (16th Oct 2020).
2. Convenor, Indo-Japan Bilateral Symposium on Future Perspectives of Bio-resource Utilization in North-east India (IJBS'17) (01-04 Feb 2018)
3. Co-ordinator & Instructor, KIC-TEQIP workshop on Technical Writing, Centre for Educational Technology (CET), IIT Guwahati (6-7 Dec 2014).
4. Advanced Chemical Process Design, IIT Guwahati (2013)
5. CD cell workshop on Engineering Optimization using MATLAB and EXCEL, IIT Guwahati (2012)
6. MATLAB Workshop, IIT Guwahati (2007)
7. Advanced Chemical Process Design, IIT Guwahati (2005)
8. Advanced Reactor Simulation, Optimization and Control, IIT Guwahati (2005)

Extra-curricular Activities

1. Honorary Director, Department of Education, Bhaktivedanta Institute, Kolkata (1st Jan 2015 onwards).

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