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
    - 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** – Multi-heavy metal removal from waste streams using chitosan-based derivatives; Jeevamrutha bio-fertilizer; rice husk based nano/micro silica and carbon for rural concrete applications
- **Product Design** – Milk latte formulations and Processing; Dry Ayurvedic Kwath formulations and Processing; Catechins based functional tea product; Ready to eat Squash and Papaya based Chips; Ready to eat Papaya based Cookies; Ready to Cook Mixed vegetable Soup formulations; Potassium carbonate impregnated zeolites for CO_2 separation; Elephant grass-based bio-ethanol, cellulose, and lignin based value-added product development; Bio-char for pesticide mitigation in north-east India

Computational

- Machine learning applications for large scale municipal solid waste management

Indian Knowledge Systems

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

Past Research

- **Process Engineering** – Bio-mass pyrolysis
- **Process-product Engineering –** 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 –** 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

Courses Taught

Theory

- Research Methodology & Scientific Writing
- Design Thinking & Scientific Writing
- Advanced Process design
- Chemical Process Technology
- Petrochemicals
- Natural gas engineering
- Refinery process design
- Engineering Optimization
- Chemical Process Calculations

Laboratory

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

Ph.D. Supervision

Thesis Submitted/Synopsis/Writing

S. No.	Name of Research Scholar	Thesis title	Main/Co-Guide	Submission date
1	Mr. Khalid Wani Mehmood	Ultrasound-Assisted Extraction of Bioactives from Horticultural Produces and their Encapsulation with Ion Gelation Method	-	27th Dec 2022 (Submitted)
2	Ms. Preetisagar Talukdar	Process-Product Characteristics of Refractance Window Dried Turmeric Powder and Golden Milk Products	-	28th Dec 2022 (Submitted)
3	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)	15th May 2023
4	Ms. Udaratta Bhattacharjee	Preparation and characterization of modified Jeevamrutha bio-fertilizer	-	1st May 2023
5	Ms. Tinka Singh	Application of machine learning algorithms for large scale municipal solid waste management in Guwahati city	-	1st June 2023
6	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 July 2023

7	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)	1st July 2023
8	Ms. Sreemonti Dutta	Formulation and Characterization of atta, aizong rice, pumpkin, raw papaya based ready to eat chips	Prof. Pankaj Kalita (Co guide)	1st Aug 2023
9	Mr. Simons Dhara	Studies on elephant grass biomass based production of bio-ethanol and lignin	Prof. Mihir K. Purkait (Main guide)	1st Nov 2023
10	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

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. Geetanjali Bhati	Studies on amine functionalized zeolites for CO_2 separation	Prof. Bishnupada Mandal (Main guide)	-
3	Mr. Tapas Das	Studies on Heat, Microwave and Ultrasound based extraction of Bioactives from Lakadong Tumeric into Milk	-	-
4	Mr. Nuruzzaman Choudhury	Design and performance of solar pump for field application in north-east India	Prof. Sudip Mitra (Co guide)	-
5	Mrs. Paushali Mukherjee	Formulation and Characterization of Unripe Papaya based Cookies	-	-
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	-	-

Degree Awarded

S. No.	Name	Thesis title	Co-supervisor	Year of Award
1	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
2	Dr. S. Senthil	Real-time monitoring and optimization of the oil and gas well drilling process	Prof. S. Senthilmurugan (Main Guide)	2022
3	Dr. Aritra Das	Studies on PVA composite films for wound dressing applications	Prof. Chandan Das	2021
4	Dr. Imdadul H. Mondal	Formulation and characterization of leafy and non-leafy vegetables based mix soup products	Prof. Latha Rangan	2021
5	Dr. Sushma Chakraborthy	Studies on ceramic membrane, sonication and hybrid processes for the clarification of Vegetable Juices and Extracts	Prof. Chandan Das	2021
6	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
7	Dr. Bandi Chandrasekhar	Optimal design of MSF, RO and hybrid MSF-RO processes using Differential Evolution algorithm	Prof. Amit Kumar	2016
8	Dr. China Malakondaiah	Fabrication of low cost silver membranes for bacteriostatic and drinking water treatment applications	-	2015
9	Dr. Murali Pujari	Fabrication of low cost dense palladium composite membranes for hydrogen energy applications	Prof. Anil Verma	2015
10	Dr. Rajesh Yennam	Adsorption characteristics of Activated carbon adsorbents for the recovery and reuse of Pd from synthetic electroless plating solutions	-	2015
11	Dr. Sri Harsha Emani	Microfiltration studies using low cost ceramic membranes	Prof. Mihir K. Purkait	2015
12	Dr. Amrita Agarwal	Optimality of electroless plating processes for dense metal-ceramic composite membrane fabrication	Prof. Anil Verma	2015
13	Dr. D. Vasanth	Preparation, characterization and application of kaolin based low cost ceramic membranes	Prof. G. Pugazhenthi (Main Guide)	2014
14	Dr. Vijaya Kr. Bulasara	Performance characteristics of electroless nickel baths for nickel-ceramic composite membrane fabrication	-	2011
15	Dr. Sanjay Chattopadhyay	Development of natural fiber reinforced polypropylene composites and their biodegradability studies	Prof. Aloke K. Ghoshal (Main guide)	2010
16	Dr. Ranjan Das	Retrieval of parameters in heat transfer problems involving thermal radiation	Prof. Subhash C. Mishra (Main guide)	2010
17	Dr. Barun K. Nandi	Preparation and characterization of low cost	Prof. Mihir K. Purkait	2009

		ceramic membranes for ultrafiltration and microfiltration applications		

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 parameters for metal composite membrane fabrication (PI)	CSIR, New-Delhi	Prof. Mihir K. Purkait (Co-PI)	2008-2011
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 furace 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.**, (2022). Screening and scoping of precursors associated to the production of Jeevamrutha bio-fertilizer, Materials Today: Proceedings, 68(4), 679-685.

B) Low Cost Ceramic Membranes and Their Applications

2. Sushma C., Das C., and **Uppaluri R.**, (2020). Effect of Pore Former (Saw Dust) Characteristics on the Properties of sub-micron range Low Cost Ceramic membranes, **International Journal of Ceramic Engineering & Science,** 2 (5), 243 – 253.

3. Sushma C., Das C., and **Uppaluri R.**, (2018). Optimal fabrication of carbonate free low cost ceramic membranes using mixture model response surface methodology, **Applied Clay Science**, 162, 101-112.

4. Vasanth D., Pugazhenthi G., and **Uppaluri R.**, (2017). Preparation, Characterization and Performance Evaluation of LTA Zeolite-Ceramic Composite Membrane by Separation of BSA from Aqueous Solution, **Separation Science and Technology**, 52(4), 767-777.

5. Suresh K., Pugazhenthi G., and **Uppaluri R**., (2017). Preparation and Characterization of hydrothermally Engineering TiO_2-Fly ash Composite Membranes, **Frontiers of Chemical Science and Engineering**, 11 (2), 266-279.

6. Suresh K., Pugazhenthi G., and **Uppaluri R**., (2016). Fly ash based ceramic microfiltration membranes for oil-water emulsion treatment: Parametric optimization using response surface methodology, **Journal of Water Process Engineering**, 13, 27-43.

7. Kaniganti C. M., Sriharsha E., Thorat P. and **Uppaluri R**., (2014). Microfiltration of synthetic bacteria solution using low cost ceramic membranes, **Separation Science and Technology**, 50(1), 121-135.

8. Sriharsha E., **Uppaluri R**., and Purkait M. K. (2014). Crossflow microfiltration of oil-water emulsions using kaolin based low cost ceramic membranes, **Desalination**, 341, 61-71.

9. Sriharsha E., **Uppaluri R.**, and Purkait M. K. (2014). Microfiltration of oil-water emulsions using low cost ceramic membranes prepared with uniaxial dry compaction method, **Ceramics International**, 40 (1), Part A, 1155 – 1164.

10. Sriharsha E., **Uppaluri R.**, and Purkait M. K. (2013). Preparation and Characterization of Low Cost Ceramic Membranes for Mosambi Juice Clarification, **Desalination**, 317, 32-40.

11. Vasanth D., Pugazhenthi G., and **Uppaluri R.**, (2013). Cross-flow Microfiltration of Oil-in-Water Emulsion using Low Cost Ceramic Membranes, **Desalination**, 320, 86-95.

12. D. Vasanth, G. Pugazhenthi and **Uppaluri R.** (2012). Performance of low cost ceramic microfiltration membranes for the treatment of oil-in-water emulsions, **Separation Science and Technology**, 48, 1-10.

13. D. Vasanth, G. Pugazhenthi and **Uppaluri R.** (2012). Biomass assisted microfiltration of chromium (VI) using backer's yeast by ceramic membrane prepared from low cost raw materials, **Desalination**, 285, 239 – 244.

14. Nandi B. K., Das B. and **Uppaluri R.** (2012).Clarification of Orange Juice using Ceramic Membrane and Evaluation of Fouling Mechanism, **Journal of Food Process Engineering**, 35 (3), 403-423.

15. Nandi B. K., **Uppaluri R.** and Purkait M. K. (2011). Identification of optimal membrane morphological parameters during microfiltration of mosambi juice using low cost ceramic membranes, **LWT-Food science and Technology**, 44(1), 214-223.

16. Vasanth D., Pugazhenthi G. and **Uppaluri R.**, (2011). Fabrication and properties of low cost ceramic microfiltration membranes for separation of oil and bacteria from its solution, **Journal of Membrane Science**, 379 (1-2), 154-163.

17. Vasanth D., Pugazhenthi G. and **Uppaluri R.**, (2011). Influence of sintering temperature on the properties of porous ceramic support prepared by uniaxial dry compaction method using low cost raw materials for membrane applications, **Separation Science Technology**, 46(8), 1241-1249.

18. Nandi B. K., **Uppaluri R.**, Purkait M. K. (2010). Microfiltration of stable oil-in-water emulsions using Kaolin based ceramic membrane and evaluation of fouling mechanism, **Desalination and Water Treatment**, 22(1-3), 133-145.

19. Nandi B. K., Ajith M., **Uppaluri R.** and Purkait M. K. (2010). Treatment of Oily Wastewater Using Low Cost Ceramic Membrane: Comparative Assessment of Pore Blocking and Artificial Neural Network Models, **Chemical Engineering Research & Design**, 88(7), 881-892.

20. Nandi B.**,** B. Das, **R. Uppaluri**, M. K. Purkait, (2010). Preparation and characterization of inexpensive submicron range inorganic microfiltration membranes, **Membrane Water Treatment,** 1, 121-137.

21. Nandi, B.., Das, B., **Uppaluri, R.,** Purkait, M.K., (2009). Microfiltration of Mosambi Juice using Low Cost Ceramic Membrane, **Journal of Food Engineering**, 95 (4),597 – 605.

22. Nandi B., **Uppaluri R.** and Purkait M. K., (2009). Treatment of oily waste water using low cost ceramic membrane: Flux decline mechanism and economic feasibility, **Separation Science and Technology**, 44 (12), 2840 – 2869.

23. Nandi B., **Uppaluri R.** and Purkait M. K. (2009). Effects of dip coating parameters on the morphology and transport properties of cellulose acetate ceramic composite membranes, **Journal of Membrane Science**, 330(1-2), 246 – 258.

24. Nandi B. K., **Uppaluri R.** and Purkait M.K., (2008). Preparation and Characterization of Low Cost Ceramic Membranes for Microfiltration Applications, **Applied Clay Science**, 42(1-2), 102-110.

C) Electroless Fabrication and Characterization of Metal Composite Membranes

25. Pujari M., Amrita A., **Uppaluri R.**, and Verma A. (2020). Role of surfactant induced chromia barriers on performance characteristics of Pd composite membranes, **Chemical Engineering Communications**, 207(2), 253-262.

26. Kaniganti C. M., Charan Sai Bugadala and **Uppaluri R**., (2017). Identification of Optimal Rate Enhanced Silver ELP process for silver-ceramic composite membrane fabrication, **Materials and Manufacturing Processes**, 32 (4), 450-457.

27. Kaniganti C. M., and **Uppaluri R**., (2016). Efficacy of Reducing agent contacting pattern in Ag-SOEP electroless plating baths, **Surface Engineering**, 33(5), 383-388.

28. Amrita A., Pujari M., **Uppaluri R.**, and Verma A. (2016). Efficacy of Palladium solution concentration on electroless fabrication of dense metal ceramic composite membranes coupled with surfactant and sonication, **Materials and Manufacturing Processes**, 31(1), 18-23

29. Pujari M., Amrita A., **Uppaluri R.**, and Verma A. (2016). Combinatorial electroless plating characteristics for dense Pd-PSS composite membrane fabrication, **Materials and Manufacturing Processes**, 31 (1), 6-11.

30. Pujari M., Amrita A., **Uppaluri R.**, and Verma A. (2016). Efficacy of novel electroless plating processes for dense Pd/Cr2O3/PSS membrane fabrication, **Materials and Manufacturing Processes**, 31 (1), 1-5.

31. Amrita A., Pujari M., **Uppaluri R.**, and Verma A. (2015). Rate enhanced electroless fabrication of nickel-ceramic composite membranes, **Surface Engineering**, 31(3), 221-225.

32. Pujari M., Amrita A., **Uppaluri R.**, and Verma A. (2015). Effect of Pd concentration on electroless dense Pd-PSS membrane fabrication, **Surface Engineering**, 31 (3), 209-213.

33. Amrita A., Pujari M., **Uppaluri R.**, and Verma A. (2014). A novel method of reducing agent contacting pattern for the fabrication of metal ceramic composite membranes using surfactant induced electroless plating, **Applied Surface Science**, 320, 52-59.

34. Pujari M., Agarwal A., **Uppaluri R.,** and Verma A., (2014). Role of electroless nickel diffusion barrier on the combinatorial plating characteristics of dense Pd/Ni/PSS composite membranes, **Applied Surface Science**, 305, 658-664.

35. Pujari M., Agarwal A., **Uppaluri R.,** and Verma A., (2014). Effect of surfactant concentration and loading ratio on the electroless plating characteristics of dense Pd composite membranes, **Industrial and Engineering Chemistry Research**, 53 (8), 3105-3115, 2014.

36. Amrita A., Pujari M., **Uppaluri R.**, and Verma A. (2014). Efficacy of reducing agent and surfactant contacting pattern on the performance characteristics of nickel electroless plating baths coupled with and without ultrasound, **Ultrasonics Sonochemistry**, 21(4), 1382-91.

37. Amrita A., Pujari M., **Uppaluri R.**, and Verma A., (2013). Optimal Electroless plating rate enhancement techniques for the fabrication of low cost dense nickel/ceramic composite membranes, **Ceramics International**, 40 (1), Part A, 691-697, 2014.

38. Amrita A., Pujari M., **Uppaluri R.**, and Verma A. (2013). Preparation, Optimization and Characterization of Low Cost Ceramics for the Fabrication of Dense Nickel Composite Membranes, **Ceramics International**, 39(7), 7709 - 7716.

39. Bulasara V. K., **Uppaluri R.**, and Purkait M. K. (2013). Surface Engineering Characteristics of Ultrasound assisted Hypophosphite Electroless Plating baths, **Surface Engineering**, 29(7), 489 - 494.

40. Bulasara V. K., Abhimanyu M.S., Pranav T., **Uppaluri R.**, Purkait M. K. (2012). Performance characteristics of nickel-ceramic composite membranes fabricated with hydrothermal mass transfer coupled electroless plating baths**. Desalination**, 284, 77-85.

41. Bulasara V. K., Mahesh Babu Ch. S. N., **Uppaluri R.** (2012). Effect of surfactants on performance of electroless plating baths for nickel-ceramic composite membrane fabrication, **Surface Engineering**, 28 (1), 44-48.

42. Bulasara V. K., **Uppaluri R.** and Purkait M. K. (2012). Effect of Ultrasound on the performance of nickel hydrazine electroless plating baths, **Materials and Manufacturing Processes**, 27, 201-206.

43. Bulasara V. K., Chandrasekhar O., **Uppaluri R.** (2011). Effect of surface roughness and mass transfer enhancement on the performance characteristics of nickel-hypophosphite electroless plating baths for metal-ceramic composite membrane fabrication, **Chemical Engineering Research and Design**, 89 (11), 2485 – 2494.

44. Bulasara V. K., **Uppaluri R.**, Thakuria H. and Purkait M. K. (2011). Combinatorial performance characteristics of agitated nickel hypophosphite electroless plating baths, **Journal of Material Process Technology**, 211(9), 1488-1499.

45. Bulasara V. K., **Uppaluri R.**, Thakuria H. and Purkait M. K. (2011). Nickel-ceramic composite membranes: Optimization of hydrazine based electroless plating process parameters, **Desalination**, 275(1-3), 243-251.

46. Bulasara V. K., **Uppaluri R.** and Purkait M. K. (2011). Manufacture of nickel-ceramic composite membranes in agitated electroless plating baths, **Materials and Manufacturing Processes**, 26(6), 862-869.

47. Bulasara V. K., Thakuria H., **Uppaluri R.** and Purkait M. K. (2011). Effect of process parameters on electroless plating and nickel-ceramic composite membrane characteristics, **Desalination**, 268 (1-3), 195-203.

D) Evolutionary Engineering Optimization

48. Chandrasekhar B., Amit Kumar and **Uppaluri R**., (2017). Global optimality of RO seawater desalination networks with permeate reprocessing and recycle, **Separation Science and Technology**, 52(7), 1225-1239.

49. Chandrasekhar B., Amit Kumar and **Uppaluri R**., (2016). Global optimality of hybrid MSF-RO desalination processes, **Desalination**, 400, 47-59.

50. Chandrasekhar B., Amit Kumar and **Uppaluri R.**, (2016). Global optimization of MSF desalination processes, **Desalination**, 394, 30-43.

51. Chopade R., Mohan V., Mayank R., **Uppaluri R**., Mishra S. C., (2012). Simultaneous retrieval of parameters in a transient conduction-radiation problem using differential evolution algorithm, **Numerical Heat Transfer Part A**, 63(5), 373 – 395.

52. Chopade R. P., Agnihotri E., Singh A. K., Kumar A., **Uppaluri R**., Mishra S. C. and Mahanta P. (2011). Application of particle swarm algorithm for parameter retrieval in a transient conduction radiation problem, **Numerical Heat Transfer Part A**, 59(9), 672-692.

53. Ajith M., Das R., **Uppaluri R**., Mishra S. C. (2010). Boundary heat fluxes in a square enclosure with an embedded design element, **Journal of Thermo physics and Heat Transfer**, 24(4), 845-849.

54. Das R., Pavan Kumar T. B., Mishra S. C. and **Uppaluri R.** (2010). An inverse analysis for parameter estimation applied to a non-fourier conduction-radiation problem. **Heat Transfer Engineering**, 32(6), 455-466.

55. Moparthi A., Das R., **Uppaluri R.** and Mishra S. C. (2009). Optimization of heat fluxes on the heater and the design surfaces of a radiating-conducting medium, **Numerical Heat Transfer Part A**, 56 (10), 846 – 860.

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O) Advanced Catalysis

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Q) Machine learning

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R) Nanotechnology

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Patents

1) Aritra D. **Uppaluri R.,** Chandan D., Muktashree S., Manish Kumar G., Rangan L., Cost Effective Composition of Wound Dressing Compatible Polymer Hydrogel Composite Films, Indian Patent filed (App No. 202131059065, dated 17th Dec 2021).

2) Hanumanth Reddy P., Nageswara Rao P., **Uppaluri R.** and Ramureddi R., Conversion of Glycerol to Lactic Acid, Indian patent filed (App No. 202131057709, dated 11th Dec 2021).

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6) Prem Kumar B., **Ramagopal V. S. Uppaluri**, De D. S., Purkait M. K., (2011). Surfactant Composition and Method for Enhanced Oil Recovery Using Aqueous Surfactant Composition, Indian Patent No. 245703 (Application No. 597/KOL/2007).

Books and Conference Proceedings

1. **Uppaluri R.**, and Rangan L., (2023). Conservation of Bio-diversity in North-eastern states: Proceedings of North-east Research Conclave (NERC) 2022, Springer Nature.
2. **Uppaluri R.**, Goud V. V., Das C., and Anandalakshmi L., (2023). Agro and Food Processing Technologies: Proceedings of North-east Research Conclave (NERC) 2022, Springer Nature.
3. Rahul S., Tiwari R., and **Uppaluri R.**, (2021). Chemical Nanofluids in Enhanced Oil Recovery: Fundamentals and Applications, CRC Press.

Book Chapters

1. Bhattacharjee U. and **Uppaluri R.** (2023). "Utility of cow excreta-based bio-enhancer: Boon substrate for the growth study in Phaseolus vulgaris & its variability in the modified Jeevamrutha bio-formulation", Conservation of Bio-diversity in North-eastern states: Proceedings of NERC 2022, Accepted.

2. Patel, P., Pandey, L. and **Uppaluri R.** (2023). Multi-Metal Adsorption and Cyclic Desorption Characteristics of Zn+2 and Cu+2 Constituting multi-component synthetic wastewater system Using Commercial Resins, Environmental Science: Proceedings of NERC 2022, Accepted.

3. Das, A., **Uppaluri R.** and Das, C. (2023). "Influence of Various Organic Acids towards the Physical and Qualitative Properties of Wound Dressing Applicable Film", Health Science and Technology: Proceedings of NERC 2022, Accepted.

4. Mukherjee, P., Kudave, R. and **Uppaluri R.** (2023). Formulation and Characterization of Squash Enriched Cookies, Agro-Food Technologies: Proceedings of NERC 2022, Accepted.

5. P. Talukdar, I. H. Mondal and **Uppaluri R.** (2023). Techno-economic efficacy of refractance window dried Curcuma Longa, Agro-Food Technologies: Proceedings of NERC 2022, Accepted.

6. Dutta, S., **Uppaluri R.** and Kalita P. (2023). Formulation and Characterization of Atta/Multigrain atta-Aizong rice *Sechium edule* flour mix baked chips, Agro-Food Technologies: Proceedings of NERC 2022, Accepted.

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8. Akasapu, K. and **Uppaluri, R.** (2023). Nutritional efficacy-based vegetables selection for the development of ready to cook soup mix formulations development, Agro-Food Technologies: Proceedings of NERC 2022, Accepted.

9. Mondal I. H., Rangan R. and **Uppaluri R**. (2023). A novel approach towards mixed non-leafy vegetable based soup formulation, Conservation of Bio-diversity in North-eastern states of India: Proceedings of NERC 2022, Accepted.

10. Singh, T. and **Uppaluri, R.** (2023). Prediction and forecasting municipal solid waste generation of Northeastern cities by retrofitting ML models of Guwahati, India, Artificial Intelligence and Data Science based R&D interventions: Proceedings of NERC 2022. Accepted.

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)