CURRICULUM VITAE

Dr. Yennam Rajesh

D.No:2-81, Nethapalem, Podili (Post and Mandal), Prakasam (District),

Ongole, Andhra Pradesh-523240. E- mail: rajeshiitg09@gmail.com Mobile:+91-7981866382 Date of Birth:06-07-1986

IIChE Professional Membership:LM-72898



PROFILE___

Analytical and energetic doctoral researcher equipped with a solid chemical engineering background and an abundance of laboratory and computational experience. Exhibits an underlying commitment to achieve targeted objectives. Adept in supporting projects both as a leader and team player.

EDU	CATION				
Period		Qualification	College	Awarded in	
2	2009 – 2014	Ph.D. (Chemical Engineering)	Indian Institute of Technology, Guwahati	05-03-2015	
2	2007 – 2009	M.Tech (Chemical Engineering)	Andhra University, Vizag	23-12-2009	
_	2003 – 2007 2001- 2003	B.Tech (Chemical Engineering) Intermediate	MVGRCE (JNTU Hyderabad) Sai junior college	18-05-2007 11-05-2003	
2	2000- 2001	SSC	Raghavendra high school	30-04-2001	

CORE COMPETENCIES

RE CONTRETENCIES						
	Research Interests and Experiences	<u>Soft Skills</u>				
•	Development of novel low cost activated carbon adsorbents Both batch and continuous adsorption research Removal and recovery noble metals & gases Characterization of Materials (Belsorb, RGA, SEM, Micrometrics, BET, FTIR, Bulk Density, Crushing strength and Attrition loss) High selectivity adsorbents and MOF's synthesis CO2 capture applications Gas Separation from Petroleum Refinery off-gases Atomic absorption spectroscopy Analysis Drag reduction through different channels. Polymeric Resin preparation and characterization	 Mat Lab UNIESM (Basics) HYSIS (Basics) 				

WORK EXPERIENCE

Designation	Institution	Tenure	
Assistant Professor	KK Wagh Educational Society and Research, Nashik, Maharashtra	19-04-2021 to Till Date	
Fixed Term Research Associate	HP Green Research and Development Centre, Bangalore	03-07-2017 to 16-04-2021	
Assistant Professor (on Adhoc Position)	National Institute of Technology Karnataka, Surathkal	29-12- 2017 to 12-05-2017	
Assistant Professor (on Adhoc Position)	National Institute of Technology CALICUT, Kerala	11-08- 2014 to 07-12-2016	
Research Scholar	Indian Institute of Technology Guwahati	29-12- 2009 to 05-03- 2015	
Junior research fellow	NSTL(DRDO), Vizag	04-05-2009 to 22-12-2009	

RESEARCH HIGHLIGHTS

PUBLICATIONS (12 INTERNATIONAL JOURNALS and 2 INDIAN JOURNALS)

- [1.] **Yennam Rajesh**, Pujari Murali, Uppaluri Ramgopal. "Equilibrium and Kinetic studies of Ni (II) adsorption using Pineapple and Bamboo Stem based adsorbents" Separation Science and Technology, (**2014**) 49(4) 533-544. (I.F=2.79)
- [2.] Yennam Rajesh, Gummalla Namrata and Uppaluri Ramgopal. "Ni(II) adsorption characteristics of commercial activated carbon from synthetic electroless plating solutions" Desalination and water treatment, (2015), 57(29) 13807-13817. (I.F=1.273)
- [3.] Yennam Rajesh, Uppaluri Ramgopal. "Effect of surfactant and sonication on Pd (II) adsorption using commercial activated charcoal from synthetic electroless plating solutions" Desalination and water treatment, (2016), 57 (54)26073-26088. (I.F=1.273)
- [4.] **Yennam Rajesh,** Srinu Nagireddi, Gummalla Namrata and Ramgopal Uppaluri. "Preparation, characterization and Pd(II) adsorption characteristics of chitosan–AC composites from electroless plating solutions" Desalination and water treatment, (2017), 84,279-291]. (I.F=1.273)
- [5.] **Yennam Rajesh** and Lakshmana Rao Jeeru. "Synthesis and Characterization of Low- Cost Wood based Biosorbent" Materials Today: Proceedings **(2022)**, 57 (1), 34-37. **(Impact Score=1.273)**
- [6.] Yennam Rajesh*, Nabeel M. Khan, Abdul R.M. Danish, Venkat S. Mane, Gaurav Daware, Ganesh Dabhade. "Investigation of Geranium Oil Extraction Performance by using Soxhlet Extraction" Materials Today: Proceedings, (2022) 72, 2610-2617. (Impact Score=1.273)
- [7.] **Yennam Rajesh*** and Lakshmana Rao Jeeru. "Development of Mathematical Model for Efflux Time in Conical Tank by using Polyethylene Oxide as Drag Reducing Agent" Modeling Earth Systems and Environment, **(2023)** 9,

- 957-966. (Impact Score=3.90)
- [8.] Ganesh Dabhade, Gaurav Daware, Yennam Rajesh, and Lakshmana Rao Jeeru "An Efficient Removal of Indigo Carmine Dye (IC) From Aqueous Medium Using Environmental Friendly Synthesized ZnAl2O4" (Published in Materials Today: Proceedings, https://doi.org/10.1016/j.matpr.2022.08.455, (2022). (Impact Score=1.273)
- [9.] Ganesh Dabhade, Gaurav Daware, **Yennam Rajesh**, Lakshmana Rao Jeeru. "Ecofriendly Synthesis of Pure and Modified CuMnO3 it's Application as Gas Sensor" (**Published** in Materials Today: Proceedings, https://doi.org/10.1016/j.matpr.2022.08.453, **(2022).** (**Impact Score=1.273**)
- [10.] Gurav B. Daware; Bhausaheb L. Pangarkar; Umesh P. Kayande; Priyanka R. Shinde; M.J. Kolhe; Ganesh B. Dabhade, **Yennam Rajesh**, Piyush P. Joshi. "Intensified removal of 4-Methylpyridine by ultrasonication in presence of advanced oxidants" Journal of Indian Chemical Society, **(2023)** 100(1) 1-10. **(IF=0.243)**.
- [11.] Santhi Raju Pilli, Wahid Ali, Sowjanya Motana, **Yennam Rajesh**, Mohammad Ehtisham Khan, Anwar Ulla Khan, Abdullateef H. Bashiri, Waleed Zakri. "Novel-Supported Ionic Liquid Membranes for an Effective Removal of Pentachlorophenol from Wastewater" (2023) 380, 121629-121639 (IF=6.63).
- [12.] Venkat S. Mane, **Yennam Rajesh**, Gaurav Daware. "A Native Study On Geranium Plantation And Production Of Geranium Oil Extraction By Using Steam Distillation" (IJCRT, 10, ISSN: 2320-2882, **(2022)**.
- [13.] S Jain, R Kathepuri, R Kashti, V Mawal, **Yennam Rajesh.** "Membrane Fabrication and Application for Removal of Pollutant from Wastewater" (IJCRT, 10, ISSN: 2320-2882, (2022).
- [14.] **Yennam Rajesh***, Lakshmana Rao Jeeru, Ganesh Dabhade. Gaurav Daware. "Role of Cationic Surfactants in Palladium Adsorption of commercial ion exchange resins using Electroless plating solutions" (**Accepted in IWA AQUA**) (2022) (IF=3.007).
- [15.] **Yennam Rajesh**, Uppaluri Ramgopal. "Development of activated charcoal adsorbent from bamboo (Bambuseae) waste for the removal of Pd (II) from synthetic electroless plating solutions" [Under Review in Biophysical Chemistry].
- [16.] **Yennam Rajesh**, Uppaluri Ramgopal. "Pd (II) Adsorption on commercial activated charcoal from industrial waste streams: Prediction of breakthrough curves" [To be submit in Environmental Pollution Science and Research].

PUBLICATIONS (INTERNATIONAL CONFERENCE) (3)

- [1] **Yennam Rajesh**, Uppaluri Ramgopal*. "Preparation and Characterization of Natural Wood based Biosorbents from North-Eastern India". Third International Conference on Natural polymers, Bio- Polymers, Bio-Materials, their Composites, Blends, IPNs, Poly electrolytes and gels: Macro to Nano Scales organized by Center for Nano science and Nanotechnology held in Mahatma Gandhi University, Kottayam, Kerala, 26th to 28th, October,2012.
- [2] Yerragunta Manasa, Nadupuru Ankitha, Ponnala Swathi and Yennam Rajesh*. "An Integrated review on Chitosan based Biosorbent and its Applications towards water treatment". International Conference on Natural Resource Restoration Technologies (ICNRT-2015), Department of Biotechnology at PSG College of Technology, Coimbatore, Tamilnadu, 18th to 19th, April2015.

[3] **Yennam Rajesh*** and Lakshmana Rao Jeeru. "Synthesis and Characterization of Low- Cost Wood – based Biosorbent". International Symposium on Materials of the Millennium: Emerging Trends and Future Prospects (MMETFP-2021), Pandit Deendayal Energy University, Gujarat, India November 19-21, 2021.

PUBLICATIONS (NATIONAL CONFERENCE) (8)

- [1] **Yennam Rajesh**, P. Madhavi and Subbarao.Ch. v"Drag reduction by addition of polymer in cylindrical Tank". ChemViz-2007 held at Department of Chemical Engineering, M.V.G.R.C.E, Vizianagram, Andhra Pradesh, 26th to 28th, October, 2007.
- [2] **Yennam Rajesh**, M.Bhargavi Devi, P.King. "Coupled Conduction-Radiation Heat Transfer Analysis in Participating Media Using Discrete Ordinates Method". CHEMO SPHERE-2K8 held at Department of Chemical Engineering, S.V.U.C.E, Andhra Pradesh, 27-29th, October, 2008.
- [3] **Yennam Rajesh**, P.King and V.S.R.K. Prasad. "Drag reduction by addition of polymer in conical Tank". Indian Chemical Engineering Congress, CHEMCON-2009 held at Department of Chemical Engineering, A.U.C.E, Visakhapatnam, Andhra Pradesh, 27th to 30th, December, 2009.
- [4] **Yennam Rajesh**, Uppaluri Ramgopal. "Removal of Ni (II) from aqueous solution using Banana pith as biosorbent". Reflux-I held at Department of Chemical Engineering, Indian Institute of Technology Guwahati, Guwahati, 6th to 7th, April, 2013.
- [5] **Yennam Rajesh**, Uppaluri Ramgopal. "Removal of Ni (II) from aqueous solution using Pine apple stem as biosorbent". Reflux-I held at Department of Chemical Engineering, Indian Institute of Technology Guwahati, Guwahati, 6th to 7th, April, 2013.
- [6] **Yennam Rajesh**, Uppaluri Ramgopal. "Fixed bed adsorption characteristics of Pd (II) on activated charcoal beads using synthetic electroless plating solutions". Reflux-II held at Department of Chemical Engineering, Indian Institute of Technology Guwahati, Guwahati, 28th to 29th, March, 2014.
- [7] **Yennam Rajesh**, Uppaluri Ramgopal. "Development of novel adsorbent from bamboo stem plant wastes for the application of wastewater treatment using adsorption process". Recycle-I held at Department of Civil Engineering, Indian Institute of Technology Guwahati, Guwahati, 6th, April, 2014.
- [8] **Yennam Rajesh**, Uppaluri Ramgopal. "Adsorption characteristics of Pd (II) on activated charcoal beads in Fixed bed column by using synthetic palladium solutions". Sustainable development of environmental systems held at Center for the Environment, Indian Institute of Technology Guwahati, Guwahati, 20th to 21st, June, 2014.

RESEARCH PROJECTS (5)

B. Tech Project Guidance: 4 Batch students

- 1. Development of high selectivity activated carbon adsorbents.
- 2. Extraction of Geranium Oil Using Soxhelt Extraction.
- 3. Drag Reduction by Addition of Polymer in the Cylindrical Tank.
- 4. Synthesis of Carbon Dots for the application towards industrial effluents separation.

Fixed Term Research Associate term handling Projects at HPGRDC:

Project #1: Development of Activated Carbon Adsorbents for CO2 capture in H2 PSA applications.

Description: Identification of suitable types of adsorbents for CO2 capture in H2 PSA applications. Synthesis and characterization of adsorbents. Adsorption studies of synthesized adsorbents and short listing of best materials. Modeling of adsorption isotherms to obtain isotherm fit parameters, selectivity, adsorption enthalpy etc.

Project #2: Identification and Synthesis of Metal Organic Frameworks (MOF) for CO2 capture application.

Description: Based on the detailed literature survey, MOFs can be considered as promising candidates for the separation of CO2 and hydrogen storage purpose. Identification and synthesis of suitable MOF materials having desired properties like higher adsorption uptake/selectivity, easier regeneration, and good stability.

<u>Ph.D. Project:</u> "Adsorption Characteristics of Activated Carbon Adsorbents for the recovery of Ni (II) and Pd (II) from Synthetic Electroless Plating Solutions"

Description: The Ph.D. thesis addressed the adsorption characteristics of Pd (II) on various types of activated adsorbents from synthetic electroless plating solutions. Various studied adsorbents include commercial and laboratory scale activated carbon and activated carbon-chitosan composite adsorbents. Data corresponds to comparative assessment of Pd (II) adsorption characteristics from synthetic electroless plating solutions with those obtained from aqueous solutions in the literature. Continuous Pd (II) adsorption characteristics were also investigated for activated carbon adsorbent beads. All in all, the thesis provided significant amount of data for Ni (II) adsorption and Pd(II) adsorption from synthetic electroless plating solutions. Fitness of relevant equilibrium and kinetic adsorption models was investigated for batch adsorption data. For continuous Pd (II) adsorption, standard models such as BDST, Yoon and Nelson model etc., were investigated. The obtained data demonstrated that the Pd (II) adsorption characteristics of synthetic electroless plating solutions are distinctly different from those obtained for aqueous solutions. The obtained data is regarded to serve as a standard reference for furthering research in the field of adsorption based recovery and reuse of Pd (II) from electroless plating solutions.

M. Tech. Project: "Drag Reduction by Addition of Polymer in the Conical Tank".

Description: In the present study the polymer used is low molecular weight polyethylene oxide (PEO); it is water soluble and resists shear degradation. A mathematical equation for efflux time for gravity draining of a Newtonian liquid from a conical tank through an exit pipe located at the bottom of tank when the flow in the pipe line is turbulent is developed based on macroscopic balances. The equation is fine-tuned with the experimental data and an empirical equation for friction factor is developed. The efflux time equation so developed will be of use in arriving at the minimum time required for draining the tank.

<u>B.Tech. Project:</u> "Replace the high pressure steam instead of hot oil in Peda Fractionation" at NACL, Srikakulam, Andhra Pradesh.

Description: NACL is presently using thermic fluid in the re-boiler one of the distillation columns. They are contemplating use of steam in place of thermic fluid. Hence, the present study is aimed at exploring the above possibility. Energy balances and mass balances are carried out across the re-boiler to arrive at steam pressures and quantity requirements. Cost benefit analysis is also carried out. Safety aspects of using steam in place of oil are

Achievements/Awards

- Received First Prize in ORAL Paper Presentations in International Conference, PRANATHI-2K23 from 16-17, February 2023, organized by Dept. Pharmacy, BVRIT Hyderabad, and Telangana.
- Received Best Library User Award in KK Wagh Educational Society, Nashik, and M.H.
- Received First Prize in Technical Quiz competition conducted by HPGRDC on National Science Day.
- Received the "Best Research Associate" Award from HPCL Green R&D Center, Bangalore (on 26th January, 2020).
- Participated in work shop on Battery Technologies and Electric Mobility conducted by HPCL Green R&D Center, Bangalore (8th -9th March, 2018).
- Participated in (CATSYMP-23) National Symposium conducted by Overall catalysis groups of India, Bangalore (17th -19th February, 2018.
- Given a guest lecture on **Novel approaches in Adsorption process** in FDP (NST-2015) conducted at Chemical Engineering Department in NIT Calicut.
- Research proposal (Adsorption of platinum metals on polymer resin from Electroless plating solution, application of catalyst synthesis) accepted in CSIR, total funding cost is 25lakhs.
- Institute (MHRD) research fellowship (IIT Guwahati) during the period 2009-2013.
- UGC fellowship during M. Tech in2007-2009.
- Achieved all India 2644th rank in GATE-2007.
- Bagged the second prize in Technical Quiz in CHEA-2006 and ChemVIZ-2007 held in Department of chemical Engineering, M.V.G.R.C.E, Vizianagram, and Andhra Pradesh.
- One-month industrial training at Coromondel Fertilizers Limited in Gajuwaka, Visakhapatnam, Andhra Pradesh
- Achieved the NCC-B Certificate.
- Achieved as School Topper (2001), Raghavendra High School, Podili, Prakasam, Andhra Pradesh.

Reviewer of the Peer-Reviewed International Journals

- Desalination and Water Treatment (Desalination)
- Separation Science and Technology (Desalination)
- International Journal of Biological Macromolecules (Elsevier)
- International Journal of Cheminformatics and Chemical Engineering (Elsevier)
- Journal of Water Process Engineering (Elsevier)
- Materials Today: Processing's (Elsevier)

PROFESSIONAL TRAINING

- Attend the FDP and Training Program on" **Ansys Fluent**" organized by Dept. Chemical Engg., KKWIEER, Nashik, M.H., India.
- Attended the FDP and Training Program on "MSFDA VU Sensitization on Innovation and cutting edge technology" Jointly organized by MSFDA, Vishwakarma University, Pune from 14/11/22 to 29/11/22.
- Attended the FDP on "Recent Trends in Chemical and Petrochemical Industries" organized by Department of Petrochemical Engineering, JCT College of Engineering and Technology, Coimbatore from 21/11/22 to 25/11/22.
- Attended the International Webinar on "Recycling –Solid Waste Management" organized by Department of Chemical Engineering, A.U.C.E, Visakhapatnam, and Andhra Pradesh on 16th September 2021.
- Attended the FDP on "Novel Applications of Chemical Engineering (NACE)" from 15th July 2021 to 19th
 July 2021 Organized by the Dept. of Chemical Engg. Remotely at MVGR College of Engg. (A) Affiliated by
 JNTU Kakinada, A.P.
- Attended One Week Online National Level FDP on "Advances in Fluid, Heat and Mass Transfer"
 Organized by Chemical Engg. & Mechanical Departments from 05-07-2021 to 09-07-2021 remotely at

- SVIT, Nashik.
- Attended the **Faculty Development Program** on "**Green Technology for Enhancing Livelihoods"** conducted by Centurion University, Odisha, from 31-05-2021 to 04-06-2021.
- Attended the Faculty Development Program on "Advances in Chemical Engineering" at Chemical Engineering Department, Jawaharlal Nehru Engineering College, MGM University, Aurangabad from 24-05-2021 to 26-05-2021
- Participated in DST SERB sponsored Five Days Online Short Term Training Programme (STTP) on Electrochemical Technology for Environmental Treatment and Clean Energy Conversion - ECTCEC 2020 Organized by Department of Chemical Engineering, National Institute of Technology Calicut during 16th – 20th November 2020.
- One-day training on" Swagelok training on Tube Fitting Installation Essentials" conducted at HPCL Green R&D Center Bangalore.
- Participated in TEQIP-II sponsored workshop on **Modeling and Scale up of Bioreactors**-2017 conducted at Chemical Engineering Department, NIT Karnataka, Surathkal (24-03-17 to25-03-17).
- Participated in Global Initiative of Academic Networks (GIAN) course on Multidimensional Engineering
 Approaches for Resolving Complex Environmental Issues-2016 conducted at Chemical Engineering
 Department in NIT Calicut (19-12-16 to23-12-16).
- Participated in **Faculty Development Programme on Novel Separation Techniques-2015** conducted at Chemical Engineering Department in NIT Calicut (14-06-15 to 19-06-15).
- Participated in TEQIP-II sponsored workshop on **Pedagogical Aspects of Engineering Education** organized by the National Institute of Technology Calicut on 8th and 9th of August2015.

Extra curricula activities

- Student's representative in Raghavendra High School, Podili, Prakasam (Dist.), Andhra Pradesh.
- Actively participated in different NSS activities in Sai junior college, Podili, Prakasam (Dist.), Andhra Pradesh.
- Served as a volunteer in ChemViz-2007 held in Department of Chemical Engineering, M.V.G.R.C.E,
 Vizianagram, and Andhra Pradesh.
- Served as a volunteer in International workshop on "Advanced methods for data processing and parametric estimation in chemical processes" organized by Department of Chemical Engineering, A.U.C.E, Visakhapatnam, and Andhra Pradesh.
- Participated as active member in 95th Indian science congress held at A.U.C.E., Visakhapatnam, and Andhra Pradesh.
- Participated in the three-day work shop on" Engineering problem solving using MATLAB" held during 27th
 -29th February, 2008 at G.V.P.C.E., Visakhapatnam, A.P.
- Participated and represented as department in PG Boys "Inter Department Badminton Tournament" in Advaya –I held at IIT Guwahati during April2012.
- One day visited to IOCL Guwahati Refinery on the occupation of Reflux-I held in IITG.
- More actively Participated in Blood Donor Camps held in Indian Institute of Technology Guwahati conducted every year Techniche and Alcheringa, during 2009-2013.
- Actively participated in workshop on Battery Technologies and Electronic Mobility", held during 8th-9th march2018 at HPCL Green R&D Center, Bangalore.
- Bus coordinator for RA/PA at HP green R&D Center during 2017-2021.
- Attended the M.P. CHARY MEMORIAL LECTURE on "Engineering our way to superior surface for Industrial benefit" on 31st July 2021 Organized by (IICHE) Hyderabad Regional, University college of Technology, Osmania University (UCT-OU).
- Attended the Technical Webinar on "Involved Air Separation Processes in Mitigating Oxygen" on 23rd July 2021 Organized by the West Bengal State Centre of The Institution of Engineers (India).
- Attended the National Level Online Webinar on "Creativity and Innovation" at K.K.Wagh Institute of

Conducted Expert Lectures

- A talk on "Role of green solvents for sustainable separation processes" by Dr. Santhi Raju Pilli, Assistant Professor from Dept. of Chemical Engg. & Technology, JAZAN University.UAE.
- A talk on "Overview of Petrochemical Cracker" by Mr. Andra Vijaya Sai, General Manager from Technical Services, Reliance Industries.
- A talk on "Self-organized Instability of liquid crystal Ultra-Thin Films" by Dr. Bolleddu Ravi, from Dept. of Chemical Engg. & Technology, IIT Guwahati, Assam.
- A talk on "Thermodynamics Overview" by Dr. Peetala Ravi Kumar, from Dept. of Mechanical Engg., VNIT Nagpur, Maharashtra.
- A talk on "Conversion of CO2 from Value added Chemicals" by Dr. Sathyam Naidu Vasireddy, from CEPD Division, CSIR-NCL, PUNE, Maharashtra.
- A talk on "Cost-effective and Ecofriendly Ceramic Membrane for wastewater treatment" by Dr. Kanchapogu Suresh, Assistant Professor, Dept. of Chemical Engg., MANIT Bhopal.
- A talk on "How To Prepare GATE?" by Prof. Dr. Chandra Sekhar, Professor, Dept. of Chemical Engg., Pondicherry College of Engineering.
- A talk on "Utilization of carbon dioxide for fuel generation: Problems and Prospects" by Dr. Leela Manohar, Assistant Professor, Dept. of Chemical Engg., NIT Srinagar.

Funding Projects

- **Project Title**: Investigation of Competitive Methodology for Geranium Oil Extraction
 - Funding Agency: SERB
 Project Value: 40,00,000/ Project Status: Submitted
 Role: Co-Investigator
- Project Title: Process Development of Capturing Co2 from Flue Gases
 - Funding Agency: SERB
 Project Value :38,00,000/ Project Status: Submitted
 Role: Co-Investigator

REFEREES

- Dr. Ramgopal VS Uppaluri, Professor, Chemical Engineering Department, IIT Guwahati. Email Id: (ramgopalu@iitg.ac.in)
- Dr. Mihir Kumar Purkait, Professor, Chemical Engineering Department, IIT Guwahati.
 Email Id: (mihir@iitg.ac.in)
- Dr. B Rama Chandra Rao, General Manager of HPCL Green Research and Development Center, Bangalore, Email Id: (ram@hpcl.in)
- TA Rajiv Kumar, Chief Manager of HPCL Green Research and Development Center, Bangalore, Email Id: (tarajivkumar@hpcl.in)

DECLARATION

I hereby declare that the above information provided by me is true to the best of my knowledge and subject to my verification by the authorities.

Date: 8 April 2023

Place: Nashik, Maharashtra Sd/(Dr. Yennam Rajesh)