

## **RESUME**

**Sourav Poddar [Ph.D.(J.U), CEngg(I.E.I), P.E (I.E.I), P.E. (E.C.I)]**

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**PhD:** - Date of Award of PhD: 24.12.2017, “STUDIES ON PYRO-OIL AND PYRO-GAS DERIVED FROM LIGNOCELLULOSIC WASTES”, JADAVPUR UNIVERSITY.



### **Educational Qualification: -**

Sl. No. (1)	Degree/ Certificate (2)	Subject/ Specialization (3)	Division/ Grade (4)	% of Marks (5)	Year (6)	University/ Board (7)
1.	ICSE	SCIENCE	1 <sup>ST</sup>	69.8	2002	ICSE
2.	WBBHSE	SCIENCE	2 <sup>ND</sup>	53.1	2004	WBBHSE
3.	B. TECH	CHEMICAL ENGINEERING	1 <sup>ST</sup>	65.54	2008	WBUT
4.	M.TECH	CHEMICAL ENGINEERING	1 <sup>ST</sup>	69.35	2010	UNIVERSITY OF CALCUTTA
5.	Ph.D.	CHEMICAL ENGINEERING	Completed		June, 2017	JADAVPUR UNIVERSITY
6.	ONLINE MINI MBA	GENERAL MBA	1 <sup>ST</sup>	60	2014	mybskool.com and MMA and IIM Ranchi
7.	Chartered Engineer and Professional	Chemical Engineering	Completed		2018	IEI

8.	Engineer (PE7001873)				2019	Engineering Council of India
	Professional Engineer (PE/00143/19)	Renewable Energy, Waste Management and Aspen Modelling	Completed		2019	

**Teaching/Research/Industrial Experience:**

Sl. No	Employer	Subject	Post held	Basic Pay	Period of Employment (Month/Year)	
					From	To
1	National Institute of Technology, Tiruchirappalli	Chemical Engineering Subject: <b>Polymer Science and Technology, Bioenergy, Transport Phenomena and Fuel Cell and Batteries</b>	<b>Post-Doctoral Fellow</b>	55000	27.11.2019	CONTINUING
2	Calcutta Institute of Technology, Uluberia	Chemical Engineering	Assistant Professor	26900	17.02.2018	27.11.2019
3	JADAVPUR UNIVERSITY, Dept. of Pharmaceutical Technology	1. Pharmaceutical Engg 2. Industrial Pharmacy	Guest Faculty	500	03.07.2017	30.06.2020
4	JADAVPUR UNIVERSITY Dept. of Printing Engg and	1. Pharmaceutical Engineering 2. Industrial Pharmacy 3. Fluid Mechanics	Guest Faculty	500	21.01.2016	30.06.2017

	<b>Pharmaceutical Technology</b>	4. Environmental Science 5. Process Control				
5	<b>DURGAPUR CHEMICALS LTD</b>		Chemical Engineer	12000	23.11.2015	20.01.2016
6	<b>JADAVPUR UNIVERSITY</b> <b>Dept. of Printing Engg and Pharmaceutical Technology</b>	1. Pharmaceutical Engineering 2. Fluid Mechanics	Guest Faculty	300	06.07.2015	20.11.2015
7	<b>University of Calcutta, Dept. of Chemical Technology</b>	1. Separation Process -II	Guest Faculty	500	31.07.2013	30.06.2015
8	<b>Asutosh College, Dept. of Environmental Science</b>	1. Air Pollution [ MSc. 3 <sup>rd</sup> year]	Guest Faculty	500	01.08.2014	27.11.2019

#### **Awards & Honour:**

1. Order of merit, MTech, 2010.
2. UGC BSR Fellowship, 2013.
3. Chartered Engineer, IEI, 2018.
4. Professional Engineer, IEI, 2019.
5. Professional Engineer, ECI, 2019.
6. Young Scientist Award, VDGGOOD Technology Factory, 2020.
7. Research Excellence Award, InSc, 2020.
8. Young Achiever Award, InSc, 2020
9. Best Researcher Award, VDGGOOD Technology Factory, 2021.
10. Best Faculty Award, VDGGOOD Technology Factory, 2021.
11. Outstanding Young Teacher of the Year, World Education Leaders, 2021.

12. Best Researcher Young Scientist Award, South Indian ASDF Awards, 2021.
13. Best Innovation Award, VDGGOOD Technology Factory, 2021.
14. OUTSTANDING YOUNG TEACHER OF THE YEAR, INTERNATIONAL LEADER AND ACHIEVERS, 2022.

**Area of Expertise:** Renewable Energy and Waste Management, Aspen Modelling, Air Separation modelling, Process Control, Pharmaceutical Technology

**Major Research Achievements:** Participated in PyroAsia 2020 and selected for invited talk. Got consultancy project 3F Industries in Hyderabad

### **PATENT:**

**Poddar Sourav** and Babu J Sarat Chandra, “In-situ Electric power/ Hydrogen production from catalytic steam gasification of pyro-oil of fruit wastes” – Applied, 2021.

### **JOURNAL PAPERS:**

#### **International**

- 1) **Poddar S**, De S, Chowdhury R, “Catalytic pyrolysis of lignocellulosic bio-packaging (jute) waste – kinetics using lumped and DAE (distributed activation energy) models and pyro-oil characterization”, RSC Adv., 2015, 5: 98934 - 98945.
- 2) Chowdhury R, **Poddar S**, De S, “Kinetic Modelling of Non – Catalytic Pyrolysis of Waste Jute in a Fixed Bed Pyrolyzer”, APCBEE Procedia, 2014, 9:18-24.
- 3) **Poddar S**, Biswas R, Chowdhury R, De S, “Product characterization and kinetic study of co- pyrolysis of waste jute sacks and sesame oil cake”, IEEE Xplore, 2014, doi: [10.1109/PESTSE.2014.6805290](https://doi.org/10.1109/PESTSE.2014.6805290).
- 4) Karmakar Shibam, Paul Somnath, Biswas Nripendra Madhab, Khanam Jasmina, Kar Sudip Kumar, Mukherjee Hemanta and **Poddar Sourav**, “A pharmacological audit and advancement on the recent trend of research on Ficus benghalensis L. including its in vitro hepatoprotective activity”, Clinical Phytoscience, 2020, 6(84): 1-13.
- 5) Ghosh Balaram, Mandal Pallab, Chakraborty Soumya, Bera Rakesh, Saha Chiranjit, **Poddar Sourav**, Barma Sujata, Khanam Jasmina, Karmakar Sanmoy, Pal Tapan Kumar, “Determination and quantitation of benzofuran, Indole and piperazine containing selective serotonin reuptake inhibitor vilazodone hydrochloride in human plasma by LC-ESI-MS/MS with an application to pharmacokinetic study under the frame work of bioequivalence study”, Journal of Analytical & Pharmaceutical Research, 2021, 10(1): 1-12.
- 6) **Poddar Sourav** and Babu J Sarat Chandra, “Modelling and optimization of a pyrolysis plant using swine and goat manure as feedstock”, Renewable Energy, 2021, 175, 253-269.

- 7) Pallab Mandal, Soumya Chakraborty, Rakesh Bera, Chiranjit Saha, Balaram Ghosh, **Sourav Poddar**, Sujata Barma, Sanmoy Karmakar, Tapan K Pal, “Bio-analytical Validated Method Development and Bioequivalence Study of Serotonin Receptor 5-HT<sub>4</sub> Agonist Dihydrobenzofurancarboxamide Derivative used for Chronic Constipation Drug Prucalopride by LC-ESI-MS/MS in Indian Human Plasma”, Journal of In Silico & In Vitro Pharmacology, 2021, 7, 5:1, 1-14.
- 8) Yamini K, Sandeep Charan K, **Sourav Poddar**, Sarat Chandra Babu J, “Provisional Investigation of Biomass Pyrolysis in CSTR using Simulink® And Aspen Plus®”, Biomass conversion and Biorefinery, 2022, Doi: <https://doi.org/10.1007/s13399-022-02311-9>.
- 9) **Sourav Poddar** and Jasmina Khanam, “Recovery of l-tryptophan from dilute aqueous feed by extractive solvent sublation and solvent extraction methods and optimization”, Journal of Molecular liquids, 2022, 351, 11862701- 11862712.

## National

- 1) **Poddar S**, Biswas R, Chowdhury R, De S, “Analysis of tar by catalytic pyrolysis of waste jute”, Journal of Advances in Mechanical Engineering and Science, 2015, 1(1): 12-19.
- 2) Raza Md. Shamim, Kumar Nitesh, **Poddar Sourav**, “Combustor characteristics under dynamic condition during fuel – air mixing”, Journal of Advances in Mechanical Engineering and Science, 2015, 1(1): 20 -33.
- 3) Biswas Rima, Saini Animesh, **Poddar Sourav**, “Short Converging Pneumatic Conveyor Used for Conveying of Solids Modeling, Analysis, and Simulation of Manufacturing Processes”, Journal of Advances in Mechanical Engineering and Science, 2015, 1(1): 34 - 45.
- 4) **Poddar S**, “Energy and Environmental Analysis (EEA) of a 100 tpd waste jute pyrolysis plant: Parametric Sensitivity of Energy Return on Energy Investment (EROEI) and CO<sub>2</sub> Avoidance (ACO<sub>2</sub>)”, DJ Journal of Engineering Chemistry and Fuel, 2019, 4(1): 40-53.
- 5) Sutradhar Pranta, Maity Pritam, Kar Sayan, **Poddar Sourav**, “Modelling and Optimization of PSA (Pressure Swing Adsorption) Unit by using Aspen Plus® and Design Expert ®”, IJITEE, 2019, 8(4): 64 – 69.
- 6) Saini Animesh, Ghosh Surajit, Kar Sayan, Sutradhar Pranta, **Poddar Sourav**, “Modeling And Optimization For Nitrogen Liquefaction With Subcooling And Air Separation Unit From Air”, IJEAT, 2019, 8(4): 1770 – 1782.
- 7) **Poddar Sourav**, “Novel Simulation and Optimization for the Production of Green Products I.E., Green Gasoline, Green Diesel and Green Waxes.”, International Journal of Innovative Technology and Exploring Engineering, 2020, 9(6): 1428-1436.
- 8) Pallab Mandal, Pradip Kundu, Soumya Chakraborty, Rakesh Bera, Nilendra Chatterjee, **Sourav Poddar**, D.P. Ghosh, Tapan Kumar Pal, “Analytical Method Development and Validation of Trimethylazanium Containing Anti-leishmanial Phospholipid Drug Miltefosine by Liquid Chromatography Quadruple Tandem Mass Spectrometry (LC-ESI-MS/MS) API-2000”, Research Journal of Pharmacy and Technology, 2022, 15(9), Accepted.
- 9) Pallab Mandal, Soumya Chakraborty, Rakesh Bera, Chiranjit Saha, Balaram Ghosh, **Sourav Poddar**, Tapan K Pal, “A Novel Validated Bio-analytical Method

Development of Azelnidipine (Dihydropyridine) in Indian Human Plasma by Liquid Chromatography Quadruple Tandem Mass Spectrometry (LC-ESI-MS/MS, API-4000) with an application to In-vivo Pharmacokinetic and Bioequivalence Study”, Indian Drugs, 2022, Accepted.

- 10) **Sourav Poddar**, Ullas Krishnan J N and J. Sarat Chandra Babu, “Non-catalytic and catalytic pyrolysis of citrus waste (orange peel)”, Indian Chemical Engineer, 2022, Accepted.

## **CONFERENCE PAPERS:**

### **International**

- 1) **Poddar S**, Biswas R, Chowdhury R, De S, “Kinetic Modelling of Pyrolysis of Yellow Lime Waste of Fruit juice outlets”, International Conference on Renewable Energy and Sustainable Development, 2014.
- 2) Biswas R, **Poddar Sourav**, Chowdhury R, De S, “Kinetic study and characterization of product yield of Co-pyrolysis and secondary tar cracking of jute and sesame oil cake”, Innovative Approaches for Food Security and Health Care for a Better Tomorrow, Chemcon 2013.
- 3) **Poddar Sourav**, Biswas R, Mondal B, Chowdhury R, De S, “Primary and Secondary Semi-Batch Pyrolysis of Yellow Lime Waste of Fruit juice outlets – Experiments and Thermo – Kinetics Modelling”, Innovative Approaches for Food Security and Health Care for a Better Tomorrow, Chemcon 2013.
- 4) Biswas R, **Poddar Sourav**, Chowdhury R, De S, “Catalytic Pyrolysis of Waste Jute – Experiments & Kinetic Modelling”, Innovative Approaches for Food Security and Health Care for a Better Tomorrow, Chemcon 2013.
- 5) **Poddar S**, Dey A, Chowdhury R, De S, “Transient Behaviour of a Semi – Batch pyrolyzer based on the Jute Wastes – Experiments and Modelling”, International Conference on Sustainable Technologies for Energy and Environment in Process Industries and Indo-US joint International Conference on Energy and Environment, Chemcon, 2012.
- 6) Sarkar A, Fatehpuria V, Dey S, **Poddar Sourav**, Dey S and Chowdhury R, “Optimization of the production of diesel fuel, LPG and essence from dry reforming of methane using Aspen Plus ®” Chemcon, 2015.
- 7) Kar S, Sutradhar P, Maity P, **Poddar Sourav**, Caetano N, “Comparative study of the production of synthetic gasoline and diesel fuel from natural gas, biogas and LPG using Aspen Plus®” Chemcon 2018, NIT JALANDHAR.
- 8) Bag S, Mandal P, Das S, Bhattacharya U, Chakraborty S, Tikader R, **Poddar Sourav**, Khanam J, “Biomarker’s application for detecting breast cancer”, 6th International Conference on BIO-SENSING TECHNOLOGY, 16-19 June, 2019.
- 9) **Poddar S**, “Production of green products i.e.: gasoline, diesel and waxes from co-pyrolysis of poultry manure and Fischer Tropsch process”, India International Science Festival, 2019.
- 10) **Poddar S** and Mohanty K, “Application of pyrolysis and Fischer Tropsch process for the production of green products i.e.: gasoline, diesel and waxes”, 1<sup>st</sup> International Symposium on Analytical and Applied Pyrolysis in the Asian Region, 2019.
- 11) **Poddar S** and Babu Dr. J. Sarat Chandra, “Production of pyro-products from empty oil palm fruit bunch (EOPFB) using RStoic and RYield reactor of Aspen Plus®”, PYRO ASIA 2020.
- 12) **Poddar S** and Mohanty K, “Upgrading of a lab-scale to a pilot plant scale pyrolyzer using Aspen Plus ®”, PYRO ASIA 2020.
- 13) **Poddar S**, Krishnan J N Ullas and Babu Dr. J. Sarat Chandra, “Non-catalytic and catalytic pyrolysis of waste orange peel (OP)”, International Conference on RECENT TECHNOLOGIES AND ADVANCED MATERIALS FOR GREEN ENERGY AND SUSTAINABLE ENVIRONMENT, 2021.
- 14) **Poddar S** and Babu Dr. J. Sarat Chandra, “Non-catalytic and catalytic co-pyrolysis of lignocellulosic-lignocellulosic waste”, 2nd International Conference on Chemical, Bio & Environmental Engineering (CHEMBIOEN-2021), 2021.

## **National**

B. Mondal, Sarkar A, **Poddar Sourav**, Chowdhury R, “Primary and Secondary Pyrolysis of Sesame oil cake – Experiments and kinetic Modeling”, National Seminar on Chemical Industry: In quest for clean technology & sustainable development, IICHE, 2013.

## **Conference Proceedings**

- 1) Kar S, Maity P, Tripathy S, Sutradhar P, **Poddar Dr. Sourav**, “The Production of green diesel from poultry manure via pyrolysis and FT process: A modeling study”, 2019, ICETSD.
- 2) Maity P, Tripathy S, Sutradhar P, Kar S, Ghosh D, Ghosh R, **Poddar Sourav**, Ghosh TK, “Transformation of wastes into beneficial products using vermicomposting”, 2019, ICETSD.

## **Training Course Attended**

1. Attended GIAN courses: **Renewable Energy: Law and Policy Perspectives**- MAY 7<sup>TH</sup> – 18<sup>TH</sup>, 2018.
2. Attended NITTTR training on **Unit Processes in Drinking Water Treatment**, 25<sup>th</sup> June to 6<sup>th</sup> July, 2018.
3. Attended GIAN courses: **Cost Effective and Sustainable Solutions for Management of Hazardous Wastes**- December 11<sup>th</sup> – 15<sup>TH</sup>, 2018.
4. Participated in Green Revolution Global Certification Program by “**International Center for Culture and Education to Educate, Inspire and Act Against Climate Change**”.
5. Attended SPARC sponsored Two weeks Workshop on “**Recent Technologies on Waste to Energy Conversion**” by NIT, Tiruchirappalli, Tamil Nadu, 2019.
6. Attended One-week TEQIP-III STC “**Interpretation of Data resulted from Materials Characterization**” from 26<sup>th</sup> to 30<sup>th</sup> October, 2020 by MNIT Jaipur.

## **Training Course Organized**

- Green Revolution Global Certification Program by “**International Center for Culture and Education to Educate, Inspire and Act Against Climate Change**”.
- “**Energy from Biomass**”, in association with “**Engineering Council of India**” for 5 days.

## **Workshop Attended**

1. Tutorial, International Conference 2014 Power and Energy Systems: Towards Sustainable Energy, PESTSE 13<sup>TH</sup> to 15<sup>TH</sup> March, 2014.
2. TEQIP-II Sponsored Lectures on Research Methodology, 1<sup>st</sup> September, 2016.
3. TEQIP-II Sponsored One Day National Workshop on Revisiting Intellectual Property Rights in the context of recent development in Science and Technology, 20<sup>th</sup> October, 2016.
4. Participated in “Application and Advantages of VRV Systems” by ISHRAE Kolkata Chapter, 20<sup>th</sup> July, 2019.

5. One day workshop on “Analytical and Applied Pyrolysis”, 1st International Symposium on Analytical and Applied Pyrolysis in the Asian Region, 2019.
6. One day workshop on “Nanomaterials for application in Agriculture, Energy and Environment”, 2020.

### **Session Chairperson**

1. Session Chairperson at **National Conference on Air Conditioning, Heat Transfer and Energy Conservation 2018 (NCACHTEC 2018)**, 17<sup>TH</sup> AUGUST – 18<sup>TH</sup> AUGUST, 2018 organized by “Sreyas Institute of Engineering & Technology”.

### **Reviewer**

1. *Agricultural Science Research Journal* from May, 2015.
2. *Journal of the Energy Institute* from January, 2016.
3. *Journal of the Environmental Progress and Sustainable Energy* from May, 2017.
4. *International Journal of Modern Trends in Engineering and Research (IJMTER)* from February, 2018.
5. *Journal of Emerging Technologies and Innovative Research* from September, 2018.
6. *Journal of International Science & Engineering Development Research* from November, 2018.
7. *Current World Environment* journal from July, 2019.
8. *ICEECCOT-2018* organized by GSSS Institute of Engineering and Technology for Women, Mysuru.

### **Editorial Member**

1. *Journal of Contemporary Scientific Research*, August, 2018.
2. *United International Journal for Research & Technology*, August 2019.

### **Membership**

1. **Asia – Pacific Chemical, Biological & Environmental Engineering Society (APCBEEES)** MEMBERSHIP NO: 201075.
2. **INTERNATIONAL ASSOCIATION OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY (IACSIT)** MEMBERSHIP NO: 80349359.
3. Life Member of IICHE [ **Indian Institute of Chemical Engineers**] – LM64074.
4. MIE – 1623340 of IEI [**The Institution of Engineers**]
5. Life Member of ISC [**Indian Science Congress**], L-36231
6. Member of ISHRAE [**The Indian Society of Heating, Refrigerating and Air Conditioning Engineers**] – M-43920.
7. Associate Member of **Institution of Valuers** [A-29738]
8. Life Member of **International Association of Engineers** (270853)

### **Participated**

1. DST & TEXAS INSTRUMENTS INDIA INNOVATION CHALLENGE DESIGN CONTEST, 2018
2. DST & TEXAS INSTRUMENTS INDIA INNOVATION CHALLENGE DESIGN CONTEST, 2019
3. National Testing Agency Representative for NEET UG 2019.
4. Selected for Chhatra Vishwakarma Awards 2019, AICTE, Qualified Regional level.



**DECLARATION:** I hereby declare that the above-mentioned information is true to the best of my knowledge and belief.

A handwritten signature in blue ink, appearing to read 'S. Poddar', with a horizontal line underneath.

Place – TIRUCHIRAPPALLI

(Sourav Poddar)