

Curriculum Vitae

1. **Name in Full:** Dr. Chandan Guria

2. **Category:** General

3. **Marital Status:** Married

4. **physically challenged:** No

5. **Nationality:** Indian



6. **Email:** cguria@iitism.ac.in; Alternate Email: cguria.che@gmail.com

7. **Area of Specialization:** Multi-Objective Optimization Using Genetic Algorithm

8. **Current area of research:** Multi-objective optimization of Petroleum and Chemical Processes, High-pressure and High-temperature Drilling Fluids, Rheology of Drilling Fluids, Biomass and Bioenergy, Membrane Separation for oily Wastewater Treatment, CO₂ sequestration through algal cultivation.

9. Educational Qualification:

Name of the Degree	Branch/ Specialization	Name of Institute/ College	Type of College	Institute/ University	Year	Percentage /Grade	Class/ Division
Secondary	General	Lakshi Avinaba Vidyalaya, Midnapur	Government	West Bengal Board of Secondary Education	1982	71.3%	First
Higher Secondary	Sciences	Nachinda Jiban Krishna High School, Midnapur	Government	West Bengal Council of Higher Secondary Education	1984	69.7%	First
B.Tech.	Chemical Engineering	University of Calcutta, Calcutta	Government	University of Calcutta, Calcutta.	1991	74.83%	First
M.E.	Chemical Engineering	Indian Institute of Science, Bangalore	Government	Indian Institute of Science, Bangalore.	1993	7.01/8.0	First

10. Details of PhD

Institution/ University	Type of Institution/ University	Subject of Ph.D.	Date of Enrolment in Ph.D.	Date of Award of Ph.D. Degree	CPI/ CGPA obtained in Ph.D. course work	CPI/CGP A (Ex: Out of 10/8/5 etc..)
Indian Institute of Technology, Kanpur	Government	Multi-Objective Optimization of Mineral Processing Units Using Adaptations of Genetic Algorithm (GA)	31-12-2001	02-04- 2007	9.0	10

11. Details of Sponsored Projects:

S. N.	Title	Sanctioning authority	Duration	Sanctioned Amount (Lakhs)	Status	Role (PI/ Co-PI)
1	Multi-objective Optimization of Polymerization Reactors	AICTE	3 yrs.: Oct 06-Sep 09	7.2	Completed	PI
2	Enhanced conversion of karanj/sal/mahua oil to biodiesel using ion-exchange resin catalyst	UGC-ISM	1 yr.: Nov 09- Oct 10	0.70	Completed	PI
3	Carbon dioxide sequestration using microalgae (<i>Spirulina Platensis</i>)	UGC-ISM	3 yrs.: Nov 11 - Oct 14	11.60	Completed	PI
4	Functionalization of nano fly ash for drilling fluid application	UGC	3 yrs.: Mar 13 - Feb 16	13.048	Completed	Co-PI
5	Selective catalytic oxidation of karanja oil: An alternative source of petrochemical products	UGC	3 yrs.: Mar 13 - Feb 16	14.55	Completed	PI
6	Carbon dioxide sequestration and simultaneous bio-fuel generation using microalgae in a photobioreactor.	DST	3 yrs.: Jan 13- July 16	14.48	Completed	PI
7	Use of natural extracts as pour point depressants for waxy crude	OIDB	2 yrs.: Jul 2020 - Jul 22	54.155	Ongoing	Co-PI
8.	Selective catalytic conversion of algae-biomass to green-gasoline /diesel through bio-fixation of CO ₂ -rich industrial off-gas	IIT(ISM)	3 Yrs.: Feb 20 to Jan 23	14.93	Ongoing	PI

12. Details of Consultancy Projects:

S. N.	Title	Amount in Rs. (Lakh)	Role	Sanctioning authority	Duration	Status
1	Drilling of Oil & Gas Wells	41.95	Co-CI	Ministry of Mines, Government of Afghanistan	08.06.2013-24.06.2013	Completed
2	Process Design of Oil Removal in Equalization Tank	2.07	Co-CI	Mahima Udyog, Haridwar, Uttarakhand	21.01.2020 – till date	Ongoing

13. Details of Outreach Programmes (Professional Development Programmes/Management Development Programmes/Conferences/Seminars Organized):

S. N.	Title	Amount in Rs. (Lakh)	Role	Sanctioning authority	Duration	Status
1	Competency Development of Reservoir Engineers.	Rs. 112.8	Co-CI	Oil & Natural Gas Corporation (ONGC) Limited	11.02.2019 -03.05.2019	Completed

14. Details of Intellectual Properties (IP) (Patents, Copyrights, etc.): Not Applicable**15. Innovation and Product Development:**

S. N.	Name of Innovation and Product Developed	Present Status
1	Microalgal Growth Using Sintered-Disk Chromatographic Glass Photobioreactor Using > 99.0% CO ₂	Completed
2	Development of High-pressure and High-temperature drilling fluid (Temperature up to 225°C)	Completed

16. Faculty Mobility Programme: Attended drilling and drilling fluid technology courses at Institute of Drilling Technology (IDT), ONGC, Dehradun – Uttarakhand. (Period – 15.02.2010 – 19.02.2010 and 08.03.2010 – 12.03.2010)

17. Details of Ph. D Supervision:

No. of Ph.D. (s) Supervised/Awarded as			No. of Ph.Ds Supervising as		
Sole Guide	Joint Guide		Sole Guide	Joint Guide	
	Principal Guide	Co-Guide		Principal Guide	Co-Guide
0	6	2	3	1	0

18. Past and present employment:

S. N.	Employer	Position held	Date of Joining	Date of Leaving
1	Adarsh Chemicals & Fertilizers Ltd. Udhana, Surat.	R & D Engineer	29-03- 1993	19-01-1996
2	Medicorp Technologies (India) Limited, Secunderabad.	Process Engineer	22-01- 1996	20-11-1996
3	Reliance Industries Limited, Hazira, Surat	Assistant Manager (Technical Service)	25-11- 1996	31-12-1998
4	Birla Institute of Technology, Mesra, Ranchi	Assistant Professor & Lecturer (Selection Grade)	05-01- 1999	02-02-2009
5	Indian School of Mines University, Dhanbad	Assistant Professor	03-02- 2009	28-02-2013
6.	Indian Institute of Technology (Indian School of Mines) Dhanbad	Associate Professor	01-03-2013	09-04-2021
7	Indian Institute of Technology (Indian School of Mines) Dhanbad	Professor	10-04-2013	Till date

19. Special Awards/Honours received if any:

S. N.	Year	Name of Award/Honour	Name of Organisation
1	1982	National Scholarship	West Bengal Board of Secondary Education.
2	1991	GATE (Graduate Aptitude Test in Engineering) Scholarship: Chemical, 97.11 Percentile	Government of India
3	2007	IIME (Indian Institute of Metallurgical Engineers) Paper Award on Beneficiation	Indian Institute of Metallurgical Engineers

20. Membership of Professional Bodies:

S. N.	Name of The Body	Status of Membership: Life/Annual
1	Indian Society for Technical Education (ISTE)	Lifetime
2	Society of Petroleum Engineers (SPE)	Annual
3	Indian Institute of Chemical Engineers (IICChE)	Annual

21. Courses taught:**@ Birla Institute of Technology, Mesra, Ranchi (1999 – 2009)**

1. Polymer Science (UG)
2. Polymer Reaction Engineering (UG)
3. Polymer Rheology (UG)
4. Stoichiometry and Mechanical Operations (UG)
5. Mass Transfer Operations (UG)
6. Chemical Process Industries (UG)
7. Environmental Science and Engineering (UG)
8. Chemical Process Dynamics and Control (UG)

@ Indian Institute of Technology (Indian School of Mines) Dhanbad (2009 – Till date)

1. Numerical Methods for Petroleum Engineers (PG)
2. Fluid Flow Through Porous Media (PG)
3. Oil & Gas Processing System Design (PG)
4. Oil & Gas Property Evaluation, Economics and Risk Analysis (PG)
5. Drilling Fluids and Cement (UG)
6. Reservoir Fluid Thermodynamics (UG)
7. Elements of Reservoir Engineering (UG)

22. Details of Administrative Experience, if any (Hostel Management/Institute Management):

S.N.	Name of Position Hold	Duration		Years of Experience
		From	To	
1	Secretary, Departmental Advisory Committee (DAC)	01-08-1915	Till date	6
2	Hostel Warden (Jasper)	13-01-1914	01-07-1918	6
3	Departmental Post Graduate Committee (DPGC) Convener, PE	01-02-1919	08-06-1920	1
4	Associate Dean (Administration)	30-09-1919	Till date	2
5	Technical Education Quality Improvement Programme (TEQIP), Financial Coordinator	01-07-2014	Till date	7
6	Student Advisor For 5 Years B. Tech. And M. Tech. in Petroleum Engineering	01-07-2011	30-06-2015	4
7	Time Table In-Charge (PE Department)	01-07-2011	30-06-2012	1

23. Research publication: (best three research publications) :

S. N.	Publication Details (Author's Name, Title of the Paper, Journal Name, Volume No., Year of Publication, Page No., DOI)	Indexed in (SCI/SCIE/SSCI/AHCI/SCOPUS)	Whether paid publication or not	Author Type
1	Chandan Guria , Akhilendra K Pathak, An Improved Generalized Three-Parameter Cubic Equation of State for Pure Fluids, Journal of Petroleum Science & Engineering, 96-97, 2012, 79-92. https://doi.org/10.1016/j.petrol.2012.06.034	SCI	No	Corresponding
2	Mithilesh Kumar, Chandan Guria , The Elitist Non-Dominated Sorting Genetic Algorithm with Inheritance (i-NSGA-II) And Its Jumping Gene Adaptations for Multi-Objective Optimization, Information Sciences, 382-383, 2017, 15-37. https://doi.org/10.1016/j.ins.2016.12.003	SCI	No	Corresponding
3	Sidharth Gautam, Chandan Guria , An Accurate Determination of The Shear Rate for High- Yield-Stress Drilling Fluids Using Concentric Cylinder Fann 35 Viscometer Data, SPE Journal, 25, 2020, 2984-3001, https://doi.org/10.2118/201238-PA	SCI	No	Corresponding

24. Quality of research publication (According to Web of Science):

No. of Q1 publications	No. of Q2 publications	No. of Q3 publications	No. of Q4 publications	Total number of publications
39	08	06	01	54

25. Quality of research publication (According to Web of Science) as a First Author:

No. of Q1 publications as the First Author	No. of Q2 publications as the First Author
6	2

26. Quality of research publication (According to Web of Science) as a Corresponding Author:

No. of Q1 publications as Corresponding Author	No. of Q2 publications as Corresponding Author
33	6

27. List of Publications (54):

Q1 category publications (39)

2005

1. C. Guria, P. K. Bhattacharya & S. K. Gupta*. Multi-objective Optimization of Reverse Osmosis Desalination Units Using Different Adaptations of Non-dominated Sorting Genetic Algorithm. *Computers & Chemical Engineering*, 29, 1977-1995, **2005**.
(IF-4.0: Q1: Engineering Chemical - 33/143, Elsevier)
2. C. Guria, M. Verma, S. P. Mehrotra, & S. K. Gupta*. Simultaneous Optimization of the Performance of Flotation Circuits and their Simplification Using Jumping Gene Adaptation of Genetic Algorithm, *International Journal of Mineral Processing*, 27, 165-185, **2005**.
(IF-2.688: Q1: Mining & Mineral Processing - 4/19, Elsevier)
This paper also selected for the best IIME (Indian Institute of Metallurgical Engineers) paper on beneficiation in 2007.

2006

3. C. Guria, M. Verma, S. P. Mehrotra & S. K. Gupta*. Simultaneous optimization of the performance of flotation circuits and their simplification using the jumping gene adaptations of genetic algorithm-II: More complex problems, *International Journal of Mineral Processing*, 79, 149-166, **2006**.
(IF-2.688: Q1: Mining & Mineral Processing - 4/19, Elsevier)

2007

4. K. B. Rahul & C. Guria*. Thermal degradation of polystyrene in the presence of hydrogen by catalyst in solution, *Polymer Degradation & Stability*, 92, 1583 – 1591, **2007**.
(IF-4.032: Q1: Polymer Science - 13/89, Elsevier)

2012

5. C. Guria* & A. K. Pathak. An improved generalized three-parameter cubic equation of state for pure fluids. *Journal of Petroleum Science & Engineering*, 96-97, 79-92, **2012**.
(IF-3.706: Q1: Engineering Petroleum - 1/19, Elsevier)

2013

6. C. Guria*, K. Rajesh & P. Mishra. Rheological analysis of drilling fluid using Marsh Funnel, *Journal of Petroleum Science & Engineering* 105, 62-69, **2013**.
(IF-3.706: Q1: Engineering Petroleum - 1/19, Elsevier)
7. K. Vineet & C. Guria*. An improved shear rate estimation using rotating coaxial cylinder Fann Viscometer, *Journal of Petroleum Science & Engineering*, 110, 162-168, **2013**.
(IF-3.706: Q1: Engineering Petroleum - 1/19, Elsevier)
- 8.R. V. Martis, R. Singh, K. Ankita, A. K. Pathak & C. Guria*. Solubility of carbon dioxide using aqueous NPK 10:26:26 complex fertilizer culture medium and *Spirulina platensis* suspension, *Journal of Environmental Chemical Engineering* 1, 1245-1251, **2013**.
(IF-4.3: Q1: Engineering Chemical - 29/143, Elsevier)

2014

9. A Kumari, V Sharma, A. K. Pathak & C. Guria*, Cultivation of *Spirulina platensis* using NPK-10:26:26 complex fertilizer and simulated flue gas in sintered disk chromatographic glass bubble column, *Journal of Environmental Chemical Engineering*, 2, 1859-1869, **2014**.
(IF-4.3: Q1: Engineering Chemical - 29/143, Elsevier)

10. K. Rajesh, K. Vineet, D. K. Rajak & C. Guria*. An improved estimation of shear rate using rotating coaxial-cylinder Fann viscometer: A rheological study of bentonite and fly ash suspensions, *International Journal of Mineral Processing*, 126, 18-29, 2014.
(IF-2.688: Q1: Mining & Mineral Processing - 4/19, Elsevier)
 11. C. Guria*, K. K. Goli & A. K. Pathak. Multi-objective Optimization of Oil Well Drilling Using Elitist Non-dominated Sorting Genetic Algorithm, *Petroleum Science*, 11, 98-111, 2014.
(IF-2.096: Q1 Engineering Petroleum - 4/19, Springer)
 12. A. Kumari, A. Kumar, A. K. Pathak & C. Guria*. Carbon dioxide assisted *Spirulina platensis* cultivation using NPK-10:26:26 complex fertilizer in sintered disk chromatographic glass bubble column, *Journal of CO₂ Utilization*, 8, 49-59, 2014.
(IF-5.993: Q1: Engineering Chemical - 14/143, Elsevier)
- 2015
13. M. S. Sisodia, D. K. Rajak, A. K. Pathak & C. Guria*. An improved estimation of shear rate for yield stress fluid using rotating coaxial cylinder Fann Viscometer, *Journal of Petroleum Science & Engineering*, 125, 247-255, 2015.
(IF-3.706: Q1: Engineering Petroleum - 1/19, Elsevier)
 14. S. Kumar, C. Guria and A. Mandal*. Synthesis, characterization and performance studies of polysulfone/bentonite nanoparticles mixed-matrix ultra-filtration membranes using oil field produced water. *Separation & Purification Technology*, 150, 145-158, 2015.
(IF-5.774: Q1: Engineering Chemical - 16/143, Elsevier)
 15. A. Kumar, A. K. Pathak & C. Guria*. NPK-10:26:26 complex fertilizer assisted optimal cultivation of *Dunaliella tertiolecta* using response surface methodology and genetic algorithm. *Bioresource Technology*, 194, 117-129, 2015.
(IF-7.539: Q1: Energy & Fuels-13/112, Elsevier)
 16. B. Hazra, N. Sultana, A. K. Pathak & C. Guria*. Response surface method and genetic algorithm assisted optimal synthesis of biodiesel from high free fatty acid sal oil (*Shorea robusta*) using ion-exchange resin at high temperature. *Journal of Environmental Chemical Engineering*, 3, 2378-2392, 2015.
(IF-4.3: Q1: Engineering Chemical - 29/143, Elsevier)
- 2016
17. B. Hazra, M. Kumar, A. K. Pathak & C. Guria*. Surface tension and rheological behavior of sal oil methyl ester biodiesel and its blend with petrodiesel. *Fuel*, 166, 130-142, 2016.
(IF-5.578: Q1: Engineering Chemical - 18/143, Elsevier)
 18. S. Kumar, A. Mandal & C. Guria*. Synthesis, characterization and performance studies of polysulfone and polysulfone/polymer-grafted bentonite based ultrafiltration membranes for the efficient separation of oil field oily wastewater. *Process Safety Environ Protection*, 102, 214-228, 2016.
(IF-4.966: Q1: Engineering Chemical - 23/143, Elsevier)
 19. A. Kumar, C. Guria*, G. Chitres, A. Chakraborty & A. K Pathak. Modelling of microalgal growth and lipid production in *Dunaliella tertiolecta* using nitrogen-phosphorus-potassium fertilizer medium in sintered disk chromatographic glass bubble column. *Bioresource Technology*, 218, 1021-1036, 2016.
(IF-7.539: Q1: Energy & Fuels - 13/112, Elsevier)

20. D. K. Rajak, C. Guria*, R. Ghosh, S. Agarwal & A. K. Pathak. Alkali assisted dissolution of fly ash: A shrinking core model under finite solution volume condition. *International Journal of Mineral Processing*, 155, 106-117, 2016.
(IF-2.688: Q1: Mining & Mineral Processing - 4/19, Elsevier)
 21. A. Banerjee, C. Guria*, S. K. Maiti. Fertilizer assisted optimal cultivation of microalgae using response surface method and genetic algorithm for biofuel feedstock. *Energy*, 115, 1272-1290, 2016.
(IF-6.082: Q1: Energy & Fuels - 20/112, Elsevier)
- 2017
22. M. Kumar & C. Guria*. The elitist non-dominated sorting genetic algorithm with inheritance (*i*-NSGA-II) and its jumping gene adaptations for multi-objective optimization. *Information Sciences*, 382-383, 15-37, 2017.
(IF-5.91: Q1: Computer Science, Information Systems - 9/156, Elsevier)
 23. S. K. Sinha, M. Kumar, C. Guria*, A. Kumar & C. Banerjee, Biokinetic model-based multi-objective optimization of *Dunaliella tertiolecta* cultivation using elitist non-dominated sorting genetic algorithm with inheritance. *Bioresour Technol*, 242, 206-217, 2017.
(IF-7.539: Q1: Energy & Fuels - 13/112, Elsevier)
 24. A. Kumar, C. Guria* & A. K. Pathak. Potential CO₂ fixation and optimal *Dunaliella tertiolecta* cultivation: Influence of fertilizer, wavelength of light-emitting diodes, salinity and carbon supply strategy. *Journal of CO₂ Utilization*, 22, 164-177, 2017.
(IF-5.993: Q1: Engineering Chemical - 14/143, Elsevier)
- 2018
25. A. Kumar, C. Guria* & A. K. Pathak. Optimal cultivation towards enhanced algae-biomass and lipid production using *Dunaliella tertiolecta* for biofuel application and potential CO₂ bio-fixation: Effect of nitrogen deficient fertilizer, light intensity, salinity and carbon supply strategy. *Energy* 148, 1069-1086. 2018.
(IF-6.082: Q1: Energy & Fuels - 20/112, Elsevier)
 26. S. Gautam, C. Guria*, D. K. Rajak & A. K. Pathak. Functionalization of Fly Ash for the Substitution of Bentonite in Drilling Fluid. *J Petrol Sci Eng*, 166, 63-72, 2018.
(IF-3.706: Q1: Engineering Petroleum - 1/19, Elsevier)
 27. T. Ahmad, C. Guria* & A. Mandal. Synthesis, characterization and performance studies of mixed-matrix poly (vinyl chloride)-bentonite ultrafiltration membrane for the treatment of saline oily wastewater. *Process Safety Environ Protection*, 116, 703-717, 2018.
(IF-4.966: Q1: Engineering Chemical - 23/143, Elsevier)
 28. S. Jagadevan, A. Banerjee, C. Banerjee, C. Guria, R. Tiwari, M. Baweja, P. Shukla*. Recent developments in synthetic biology and metabolic engineering in microalgae towards biofuel production. *Biotechnology for biofuels*, 11, 1-21, 2018.
(IF-4.815: Q1: Biotechnology & Applied Microbiology - 2/156, BioMed Central)
 29. T. Ahmad, C. Guria* & A. Mandal. Optimal synthesis and operation of low-cost polyvinyl chloride/bentonite ultrafiltration membranes for the purification of oilfield produced water. *Journal of Membrane Science*, 564, 859-877, 2018.
(IF-7.183: Q1: Polymer Science - 3/89, Elsevier)

2019

30. A. Banerjee, C. Guria, S. K.Maiti, C. Banerjee, P. Shukla.* Carbon bio-fixation, effect of physicochemical factors and carbon supply strategies by Nannochloropsis sp. using flue gas and fertilizer. *Biomass and Bioenergy*, 125, 95-104, 2019.
(IF-3.551: Q1: Agricultural Engineering – 3/13, Elsevier)

2020

31. T Ahmad, C Guria*, A Mandal. Enhanced performance of salt-induced Pluronic F127 and bentonite blended polyvinyl chloride ultrafiltration membrane for the processing of oilfield produced water, *Journal of Water Process Engineering*, 34, xxx-xxx, 2020.
(IF-3.465: Q1: Water Resource – 17/91, Elsevier)
32. S Gautam, C Guria*. Optimal synthesis, characterization and performance evaluation of high-pressure high-temperature polymer-based drilling fluid: The effect of viscoelasticity on cutting transport, filtration loss and lubricity, *SPE Journal*. 25, 1333–1350, 2020.
(IF-7.183: Q1: Engineering Petroleum – 2/19, SPE)
33. S Gautam, C Guria*. An accurate determination of the shear rate for high yield stress drilling fluids using concentric cylinder Fann viscometer data, *SPE Journal*. 25, 2984–3001, 2020.
(IF-7.183: Q1: Engineering Petroleum – 2/19, SPE)
34. T Ahmad*, C Guria*, A Mandal. A review of oily wastewater treatment using ultrafiltration membrane: A parametric study to enhance the membrane performance, *Journal of Water Process Engineering*, xx, xxx-xxx, 2020.
(IF-3.465: Q1: Water Resource – 17/91, Elsevier)
35. T Ahmad, C Guria*, A Mandal. Kinetic modeling and simulation of non-solvent induced phase separation: Immersion precipitation of PVC-based casting solution in a finite salt coagulation bath, *Polymer*, xxx, xxx-xxx, 2020.
(IF-4.231: Q1: Polymer Science – 11/89, Elsevier)
36. D Tikadar, A M Gujarathi, C Guria*. Multi-objective optimization of industrial gas-sweetening operations using economic and environmental criteria. *Process Safety and Environmental Protection*, 140, 283–298, 2020.
(IF-4.966: Q1: Engineering Chemical-23/143, Elsevier)
37. T Ahmad*, C Guria*, A Mandal. Optimal synthesis, characterization and antifouling performance of Pluronic F127/bentonite-based super-hydrophilic polyvinyl chloride ultrafiltration membrane for enhanced oilfield produced water treatment, *Journal of Industrial and Engineering Chemistry*, 90, 58-75, 2020.
(IF-5.278: Q1: Engineering Chemical – 21/143, Elsevier).

2021

38. T Ahmad, C Guria*, A Mandal. Optimal synthesis of high fouling-resistant PVC-based ultrafiltration membranes with tunable surface pore size distribution and ultralow water contact angle for the treatment of oily wastewater, *Separation and Purification Technology*, 257, xxx-xxx, 2021.
(IF-5.774: Q1: Engineering Chemical – 16/143, Elsevier).

39. S Gautam, C Guria*, L Gope. Prediction of High Pressure High Temperature Rheological Properties of Drilling Fluids from the Viscosity data Measured on Coaxial Cylinder Viscometer, *SPE Journal*. Accepted for publication.
(IF-7.183: Q1: Engineering Petroleum – 2/19, SPE)

Q2 Category publications (08)

1994

40. C. Guria & M. Chanda*. Shell Core Models for Ion-Exchanger Loading on Finite Bath: Sorption of Aqueous Sulfur dioxide on Poly(4 vinyl Pyridine). *Chemical Engineering Research and Design*, 27, 503-512, 1994.

(IF-3.35: Q1: Engineering Chemical - 51/143, Elsevier)

2005

41. C. Guria, M. Verma, S. P. Mehrotra, & S. K. Gupta*. Multi-objective Optimal Synthesis and Design of Froth Flotation Circuits Using the Jumping Gene Adaptation of Genetic Algorithm. *Industrial & Engineering Chemistry Research*, 44, 2621-2633, 2005.

(IF-3.573: Q2: Engineering Chemical - 44/143, ACS Publication)

2009

42. J. Iqbal & C. Guria*. Optimization of an operating domestic wastewater treatment plant using elitist non-dominated sorting genetic algorithm, *Chemical Engineering Research and Design*, 87, 1481-1496, 2009.

(IF-3.35: Q1: Engineering Chemical - 51/143, Elsevier)

2010

43. P. Tiwary & C. Guria*. Effect of metal oxide catalysts on degradation of waste polystyrene in hydrogen at elevated temperature and pressure in benzene solution. *Journal of Polymers and the Environment*, 18, 298-307, 2010.

(IF-2.572, Q2: Polymer Science - 31/89; Springer)

2012

44. J. Sreenadhan & C. Guria*. Rapid monitoring of bisphenol Adiglycidyl ether formation through byproduct estimation: A study by Fourier transform infrared spectroscopy. *Journal of Applied Polymer Science*, 123, 2894-2905, 2012.

(IF-2.52, Q2: Polymer Science - 32/89; Wiley)

2016

45. N. Sultana, B. Hajra, V. K. Saxena & C. Guria*. Optimal synthesis of sal (*Shorea robusta*) oil biodiesel using recycled bentonite nanoclay at high temperature. *Energy & Fuels*, 30, 386-397, 2016.

(IF-3.421: Q2: Engineering Chemical - 50/143, ACS Publication)

2017

46. N. Sultana, A. Das, C. Guria*, B. Hajra, G. Chitres, V. K. Saxena & A. K. Pathak. Kinetics of bentonite nanoclay-catalyzed sal oil (*Shorearobusta*) transesterification with methanol, *Chemical Engineering Research and Design*, 119, 263-285, 2017.

(IF-3.35: Q2: Engineering Chemical - 51/143, Elsevier)

2020

47. N. Sultana, C. Guria* & V. K. Saxena. Selective conversion of stearic acid into high-added value octadecanedioic acid using air and transition metal acetate bromide catalyst:

Kinetics, pathway and process optimization. *Arabian Journal of Chemistry*, 13, 2368-2383, 2020.

(IF-4.762; Q2: Chemistry, Multidisciplinary - 45/177, Elsevier)

Q3 Category publications (06)

2005

48. S. Kumar & C. Guria*. Alkaline Hydrolysis of Waste Poly(ethylene terephthalate): A Modified Shrinking Core Model. *Journal of Macromolecular Science-Pure and Applied Chemistry, Part A*, 42, 237-251, 2005.

(IF-1.349; Q3: Polymer Science 59/89; Taylor & Francis)

49. R. Kachhap & C. Guria*. Multi-objective Optimization of Copoly(ethylene polyoxyethylene terephthalate) Batch Reactor Using Adaptations of Genetic Algorithm. *Macromolecular Theory and Simulations*, 14, 358-373, 2005.

(IF-1.636; Q3: Polymer Science - 56/89; Wiley)

2009

50. C. Guria, M. Verma, S. K. Gupta & S.P. Mehrotra*. Optimal synthesis of an industrial fluorspar beneficiation plant using a jumping gene adaptation of genetic algorithm, *Minerals & Metallurgical Processing*, 26, 187-202, 2009.

(IF-1.02; Q3: Metallurgy & Metallurgical Engineering - 54/79; Springer)

2015

51. A. Kumari, A. K. Pathak & C. Guria*. Effect of light emitting diodes on the cultivation of *Spirulina platensis* using NPK-10:26:26 complex fertilizer, *Phycological Research*, 63, 274-283, 2015.

(IF-1.147; Q3: Marine and Freshwater Biology - 69/106; Wiley)

2017

52. A. Banerjee, S. K. Maiti, C. Guria & C. Banerjee*. Metabolic pathways for lipid synthesis under nitrogen stress in *Chlamydomonas* and *Nannochloropsis*. *Biotechnology Letters* 39, 1-11, 2017.

(IF-1.977; Q3: Biotechnology & Applied microbiology - 107/156; Springer)

53. B. Hajra, N. Sultana, C. Guria*, A. K. Pathak & V. K. Saxena. Liquid phase selective catalytic oxidation of oleic acid to azelaic acid using air by transition metal acetate bromide complex. *Journal of the American Oil Chemists Society*. 94, 1463-1480, 2017.

(IF-1.659; Q3: Chemistry Applied - 36/71; Wiley)

Q4 Category publication (01)

2017

54. S. Kumar, B. K. Nandi, C. Guria & A. Mandal*. Oil Removal from Produced Water by Ultrafiltration using Polysulfone Membrane. *Brazilian Journal of Chemical Engineering*, 34, 583-596, 2017.

(IF-1.027; Q4: Engineering Chemical - 112/143; Brazilian Chemical Society)

* Corresponding author

(IF: Impact Factor as of 2019 and Q: Quartile in Category as per Web of Science, 2019)

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