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Professor, Department of Chemical Engineering
Professor-in-Charge, Centre of Excellence in Oil, Gas, and Energy
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Academic Employment:

- **Professor** — **Mumbai, India**
  Department of Chemical Engineering, Indian Institute of Technology, Bombay — 04/2022 – to date
- **Associate Professor** — **Mumbai, India**
  Department of Chemical Engineering, Indian Institute of Technology, Bombay — 05/2017 – 04/2022
- **Assistant Professor** — **Mumbai, India**
  Department of Chemical Engineering, Indian Institute of Technology, Bombay — 07/2012 – 05/2017
- **Visiting Research Assistant Professor** — **Urbana-Champaign, IL**
  Energy Biosciences Institute, University of Illinois — 08/2010-06/2012
- **Post-doctoral research associate** — **Urbana-Champaign, IL**
  Energy Biosciences Institute, University of Illinois — 04/2008-07/2010
- **Research Scientist** — **Clarendon Hills, IL**
  Vishwamitra Research Institute — 07/2007-03/2008

Industrial Employment:

- **Tata Honeywell Limited** — **Pune, India**
  Engineer (HI-SPEC Solutions Division) — 07/2000 - 06/2001

Education:

- **University of Illinois at Chicago** — **Chicago, IL**
  Ph.D. in Bioengineering — **2007**
- **Indian Institute of Technology, Bombay**[1] — **Mumbai, India**
  M.Tech. in Systems and Control Engineering — **2003**
- **Laxminarayan Institute of Technology, Nagpur University** — **Nagpur, India**
  B.Tech. in Chemical Engineering — **2000**

Research areas:

- Sustainability and sustainable engineering
- Decarbonization and energy transition
- Food-energy-water nexus
- Life cycle assessment
- Lignocellulosic and microalgal biofuels

[1] The M.Tech. thesis research was conducted at the Institute for Systems Theory in Engineering (IST), University of Stuttgart, as an exchange student through DAAD (German Academic Exchange Service) scholarship.

Awards and Honors:

- Youth Icon (Research and Development) of LIT, Nagpur: 2022
  Awarded by the Laxminarayan Institute of Technology Alumni Association (LITAA)
- Winner of the AIChE Environmental Division graduate student paper competition: 2007
  Paper title: Sustainable mercury waste management using systems theory perspective
- Recipient of the DAAD (German Academic Exchange Service) scholarship: 2002-2003
  Scholarship is awarded to competitively selected M.Tech. candidates from the Indian Institute of Technology to conduct thesis research at a German university (selected for the University of Stuttgart)
- Recipient of the AIChE CAST (Computers and Systems Technology) Division travel award for AIChE annual meeting: 2007
- Certificate in Foundations of Teaching: 2011
  Center for Teaching Excellence, University of Illinois at Urbana-Champaign
- Prairie Project Sustainability Curriculum Program: 2011
  University of Illinois at Urbana-Champaign

Sponsored research grants:

- Title: Early-Stage life cycle assessment (LCA) and techno-economic assessment (TEA) of E-fuel pathways for technology prioritisation and performance targeting
  - Sponsor: Centre of Excellence in Oil, Gas and Energy, IIT Bombay
  - Duration: 2024-2026
- Title: Decarbonization of petrochemical, gas processing, and petroleum refineries: Technology evaluation and life cycle assessment
  - Sponsor: Centre of Excellence in Oil, Gas and Energy, IIT Bombay
  - Duration: 2023-2025
- Title: Development of teaching compendium for incorporating sustainability in undergraduate chemical engineering curriculum
  - Sponsor: Wipro Foundation
  - Duration: 2022-2024
- Title: Sustainability assessment of biofuel technologies for scale-up (DBT Pan IIT Centre - Phase II)
  - Sponsor: Department of Biotechnology, Ministry of Science and Technology
  - Duration: 2021-2026
- Title: Integrated global and regional assessment of food energy and water sustainability
  - Sponsor: Ministry of Human Resource Development (MHRD), Government of India
  - Duration: 2019-2022
- Title: Valorising waste from sugarcane and associated industries via innovations in pre-treatment, biotransformation and process intensification (vWa)
  - Sponsor: Innovate UK, Newton Fund (Indian Agency: Department of Science and Technology)
  - Duration: 2018-2022
- Title: Optimization and control studies for the techno-economic feasibility of integrated biorefinery
  - Sponsor: Department of Biotechnology, Ministry of Science and Technology
  - Duration: 2015-2021
- Title: Stochastic life cycle impact assessment of lignocellulosic biofuels and its application to India
  - Sponsor: Department of Biotechnology, Ministry of Science and Technology
  - Duration: 2015-2021

- Title: Technology Package development for selected microalgae and post-harvest processing for biodiesel synthesis and dissemination (co-PI)
  - Sponsor: Department of Biotechnology, Ministry of Science and Technology
  - Duration: 2015-2021
- Title: Stochastic modeling and optimization of biochemical processing of lignocellulosic feedstock
  - Sponsor: Department of Science and Technology, Ministry of Science and Technology
  - Duration: 2013-2016
- Title: Concurrent Science, Engineering, and Technology for the Prevention of Postharvest Loss: Optimization Model Development and Analysis
  - Sponsor: University of Illinois at Urbana-Champaign, USA
  - Duration: 2013-2015
- Title: Sustainable bioenergy system design under uncertainty: Development of a novel analysis and decision support framework
  - Sponsor: Industrial Research and Consulting Center (IRCC), IIT Bombay
  - Duration: 2012-2015
- Title: Solid Waste Characterization and its Management in IITB Campus (co-PI)
  - Sponsor: Tata Center for Technology and Design (TCTD)
  - Duration: 2015-2017

Teaching:

- **Department of Chemical Engineering, IIT Bombay** **Mumbai, India**
  - CL665: Sustainable Engineering Principles (PG Elective) Autumn 2015-2023
  - CL407: Process Equipment Design (UG Core) Spring 2019- 2024
  - CL405: Process Equipment Selection (UG Core) Autumn 2013
  - CL603: Optimization (PG Elective) Spring 2013-2016
  - CL455: Design Lab I (UG Laboratory) Autumn 2012-2021
  - CL452: Design Project (UG Laboratory) Spring 2017-2019
  - CL233: Chemical Engineering Lab (UG Laboratory) Spring 2014-2015
- **University of Illinois** **Chicago, IL**
  - Teaching Assistant: Introduction to Applied Optimization Fall 2007
  - Advisor: Undergraduate Research Spring 2008
- **University of Illinois** **Urbana-Champaign, IL**
  - Guest speaker: Sustainable Biosystems Engineering Fall 2009/2010

Conference and symposia organized:

- Sixth Industrial Green Chemistry Workshop and Ecosystem, 2019. Organizing committee representative from IIT Bombay
- One day symposium on **"**Towards Circularity of Plastic Economy", 2018. Event jointly organized with Techstain Technologies and The Ohio State University – Participation as lead organizer from IIT Bombay
- One day symposium on "Science and Engineering of Sustainable Development: Sustainability of Earth and Water Resources from Ecological Perspective", 2017. Event jointly organized with Techstain Technologies and The Ohio State University – Participation as lead organizer from IIT Bombay

Editorial board membership:

- Member of the Early Career Board (ECB) of the American Chemical Society (ACS) journal *ACS Sustainable Chemistry & Engineering:* 2020 – 2022.
- Editorial Board of Sustainable Chemical Process Design as Review Editor for Frontiers in Sustainable Production: 2020 – to date.

Training courses/workshop organized for industry and academia:

1. Life cycle assessment for refineries. Two-day CEP (continuing education program) conducted for employees of oil and gas companies at IIT Bombay, October 2023, Course co-ordinator and instructor.
2. Optimization of uncertain systems: Theory and Practice. Six-day GIAN course conducted at IIT Bombay, January 2023, Course co-ordinator and instructor.
3. Food-Energy-Water nexus: Challenges and Recent Developments. Online workshop organized through SPARC (Ministry of Education) sponsored project. December 2020, Course co-ordinator and speaker.
4. Sustainable Engineering to Address Food-Energy-Water Nexus: Five-day QIP course conducted at IIT Bombay, December 2019, Course co-ordinator and co-instructor.
5. Energy from Waste: Sustainable Approaches. Six-day QIP course conducted at IIT Bombay, December 2018, Course co-ordinator and instructor.
6. Energy from Waste: Sustainable Approaches. Six-day GIAN course conducted at IIT Bombay, December 2018, Course co-ordinator and instructor.
7. Sustainable Engineering: Theory and Practice. Five-day QIP course conducted at IIT Bombay, December 2018, Course co-ordinator and instructor.
8. Sustainable Engineering: Theory and Practice. Five-day QIP course conducted at IIT Bombay, December 2017, Course co-ordinator and instructor.
9. Optimization in Design and Engineering. Three-day course under TEQUIP at the Government College of Engineering, Aurangabad, February 2017, instructor.
10. Optimization in Design and Engineering. Three-day course under TEQUIP at the R.V. College of Engineering, Bengaluru, March 2017, instructor.
11. Systems Approaches in Green Engineering. Five-day course under TEQUIP at the Shivaji University, Kolhapur, March 2017, instructor.
12. Sustainable Engineering: From Concepts to Design Solutions. Three-day CEP course conducted at IIT Bombay, August 2016, Course co-ordinator and instructor.
13. Sustainable Engineering: From Concepts to Design Solutions. Five-day QIP course conducted at IIT Bombay, August 2016, Course co-ordinator and instructor.
14. Optimization based improved decision making for business. Three-day CEP course conducted at IIT Bombay, February 2016, instructor.
15. Optimization in Design and Engineering. Five-day course under TEQUIP conducted at IIT Bombay, November 2015, instructor.

Continuing Education Lectures:

1. Biomass Supply Chain and Logistics – Role in Bioenergy System Design. At TEQIP course on "What to do with residual biomass?" at IIT Roorkee. December 2020.
2. Pyrolysis of mixed municipal solid waste: Scale-up challenges and sustainability assessment. 5-day e-Faculty Development Program (FDP) cum Workshop (e-FDP-TWER) on '*Technologies for Waste to Energy & Resources*''. December 2020.

3. Life cycle assessment for Decision Making: Case Studies. At Online Faculty Development Programme (FDP) under AICTE Training and Learning Academies (ATAL) on "Green Technology towards Sustainable Future", SVNIT, Surat. October 2020.
4. Life cycle assessment: Concept and Methodology. At Online Faculty Development Programme (FDP) under AICTE Training and Learning Academies (ATAL) on "Green Technology towards Sustainable Future", SVNIT, Surat. October 2020.
5. Life cycle assessment. At Short term QIP Course on "Green Concepts in Engineering and Chemistry", SVNIT, Surat. December 14, 2016.
6. Optimization methods. At the *Refresher course on Mathematics and Statistics with theme "*Recent trends in Computational Mathematics & Statistics", UGC Human Resource Development Centre, University of Mumbai, conducted at the Department of Statistics, University of Mumbai, November 2016.
7. Optimization methods. At the *Refresher course on Computational Methods in Basic Sciences*, UGC Human Resource Development Centre, University of Mumbai, conducted at the Department of Physics, University of Mumbai, November 2015
8. Heuristics optimization techniques. At the *Refresher course in Applied Mathematics and Statistic,* UGC Academic Staff College, University of Mumbai. Conducted at the Department of Mathematics, ICT Mumbai, December 2013.

Invited conference talks:

1. Global water sustainability in times of climate change: A multi-scale approach based on systems analysis. At *TARDIS 2022: Trans-Atlantic Research and Development Interchange on Sustainability 2006, A scientific workshop*, University of Miskolc, Hungary, September 2022.
2. Process systems engineering for techno-economic feasibility of microalgal biofuels. Keynote talk at *PSE Asia 2016, 7th International Symposium on Design, Operation and Control of Chemical Processes*, Tokyo (Japan), July 2016.
3. Effect of uncertainty and complexity on modeling in sustainability. At *TARDIS 2006: Trans-Atlantic Research and Development Interchange on Sustainability 2006, A scientific workshop,* YMCA of the Rockies, Estes Park, (USA), September 2006.

Invited talks:

1. Sustainability: A primer. At Thakur Institute of Management Studies, Career Development and Research, Mumbai, June 2022.
2. Sustainable Valorization of Sugar Industry Waste: Green Chemistry to Sustainable Engineering. At the 58th Annual Convention of Chemists (ACC), Indian Chemical Society (ICS), Environmental Chemistry Section (RTCS-ENV 2021), December 2021.
3. Sustainable Valorization of Sugar Industry Waste. At World Waste-to-Wealth Summit 2021. November 2021.
4. Municipal solid waste management: Technology development to sustainability assessment. At Atal FDP organized by LTCE, Koparkhairanae, for faculty members in Mumbai University. November 2021.
5. Sustainable Valorization of Sugar Industry Waste using Green Engineering and Industrial Ecology Approaches. At BASF Innovation Campus Lecture Series. September 2021.
6. Systems Engineering Based Solutions to Address Bioenergy System Design Problems. At International Conference on Green Technologies for Sustainable Development 2021, Dharmsind Desai University, Nadiad, Gujarat. February 2021.
7. Biofuels Scale-up and Impact on Food-Energy-Water Nexus. At India-Canada bilateral Virtual Conference on "Waste to Wealth"-(W2W-2021), SASTRA University. February 2021.
8. Opportunities and Challenges in Achieving Clean Energy. At One-week Workshop on Cleaner Technologies for Sustainable Environment. IIT Hyderabad, December 2020.
9. Food-Energy-Water: Can we have it all? Biofuels Perspective. At Sustainable and Renewable Energy: Challenges and Opportunities (ICSARE-2020) Priyadarshini Institute of Engineering & Technology, Nagpur, December 2020.

10. Design for sustainability. At School of Design Thinking, Rajiv Gandhi Institute of Technology, Mumbai, November 2019.
11. Sustainability: A primer. At Thakur Institute of Management Studies, Career Development and Research, Mumbai, June 2019.
12. Sustainable engineering. At Shri Vile Parle Kelavani Mandal (SVKM) Narsee Monjee Institute of Management Studies (NMIMS), Mukesh Patel School of Technology Management and Engineering, Mumbai, February 2019.
13. Environment and sustainability. At Priyadarshani Institute of Engineering and Technology, Nagpur, December 2017.
14. Sustainable engineering: The way ahead. At College of Military Engineering, Pune, August 2017.
15. Sustainability assessment methods and their application to biofuel sector. At National Seminar on 'Sustainable Technologies for Specialty and Fine Chemicals' AISSMS College of Engineering, Pune, 2016.
16. Sustainable engineering: Concepts, challenges and design solutions. At *Department of Chemical Engineering, Visvesvaraya National Institute of Technology*, Nagpur (India), December 2015.
17. Techno-economic feasibility analysis of sustainable bioenergy feedstock production using optimization and simulation models. At *National Chemical Laboratory*, Pune (India), February 2011.
18. Systems approaches to biofuel sustainability. At *Department of Chemical Engineering, Visvesvaraya National Institute of Technology*, Nagpur (India), January 2011.
19. Is sustainability achievable? Exploring the limits of sustainability using model systems. At *Department of Bioengineering, University of Illinois at Chicago*, Chicago (USA), February 2008.
20. Sustainable mercury waste management: Industrial and ecological perspective. At *NEERI – National Environmental Engineering Research Institute*, Nagpur (India), July 2006.

Patents:

1. Catalytic conversion of microalgae into hydrogen rich syngas using reactive flash volatilization. Indian Application No.: 201721042668, Filing date: 28/11/2018.
2. Catalytic conversion of microalgae into methane rich syngas using reactive flash volatilization. Indian Application No.: 201721042668, Filing date: 28/11/2018.

Publications:

Journal Articles:

1. Subhojit Bhowmick, Yogendra Shastri, Anurag Garg. Hydrothermal pretreatment of press mud: Characterization and potential application of hydrochar and process water. *Waste Management*. Accepted, 2024.
2. Neeraj Hanumante, Yogendra Shastri, Apoorva Nisal, Urmila Diwekar, Heriberto Cabezas. Water stress-based price for global sustainability: A study using generalized global sustainability model (GGSM). *Clean Technologies and Environmental Policy*. Accepted, 2024.
3. Reshma Shinde, Shivansh, Yogendra Shastri, Anand Rao, and Arpita Mondal. Quantification of climate change driven water stress on thermal power plants in India. *Computers & Chemical Engineering*, 179, 108454, 2023 (https://doi.org/10.1016/j.compchemeng.2023.108454).
4. Munagala Meghana and Y. Shastri. Integrated Sugar Industry Complex in India: Comparison of Different Potential Configurations. *Industrial & Engineering Chemistry Research*, 2023 (https://doi.org/10.1021/acs.iecr.2c04593).
5. Anand Parashar, Narendra Shah, Milind Rane, and Yogendra Shastri. Biogas assisted growth of Chlorella vulgaris in open raceway pond: Proof of concept and economic assessment. *Chemical Engineering & Technology*, Accepted (DOI**:** 10.1002/ceat.202200206)
6. Yogendra Shastri and K.C. Ting. System of Systems for Smart Agriculture. In: Zhang, Q. (eds) Encyclopedia of Smart Agriculture Technologies. Springer, Cham. 2023 (https://doi.org/10.1007/978-3-030-89123-7_157-1).

7. Dibyarup Majumdar, Manish Gupta, Yogendra Shastri and Sanjay Mahajani. Environmental and economic assessment of gas production from gas hydrate reserves in Krishna-Godavari basin in the Indian offshore. *Sustainable Energy Technologies and Assessment*, 56, 103050, 2023.
8. Nandita Saraf and Yogendra Shastri. System dynamics based assessment of novel transport option adoption in India. *Clean Technologies & Environmental Policy*, 2022 (https://doi.org/10.1007/s10098-022-02398-8).
9. Munagala Meghana, Yogendra Shastri, Sanjay Nagarajan, Vivek Ranade. Production of Bio-CNG from sugarcane bagasse: Commercialization potential assessment in Indian context. *Industrial Crops & Products*, 2022 (https://doi.org/10.1016/j.indcrop.2022.115590).
10. Urmila Diwekar, Apoorva Nisal, Neeraj Hanumante, Yogendra Shastri, Heriberto Cabezas, Vicente Rico-Ramirez, and Pablo Gonzales. Evaluation of global techno-socio-economic policies for the FEW nexus with an optimal control based approach. *Frontiers in Sustainability (Sustainable Chemical Process Design)*, 2022 (doi: 10.3389/frsus.2022.948443).
11. Varun Punnathanam and Yogendra Shastri. Impact of change in cropping pattern on bioenergy system design: Analysis and stochastic optimization. *Computers & Chemical Engineering*, 165, 107940, 2022.
12. Arun Shaji, Yogendra Shastri, Vinod Kumar, Vivek Ranade, Neil Hindle. Sugarcane Bagasse Valorization to Xylitol: Techno-economic and Life Cycle Assessment. *Biofuel, Bioproducts & Biorefining*, 16(5), 1214-1226, 2022.
13. Apoorva Nisal, Urmila Diwekar, Neeraj Hanumante, Yogendra Shastri, Heriberto Cabezas. Integrated model for food-energy-water (FEW) nexus to study global sustainability: The main generalized global sustainability model (GGSM). *PLoS One*, 17(5), e0267403, 2022 (https://doi.org/10.1371/journal.pone.0267403).
14. Neeraj Hanumante, Yogendra Shastri, Apoorva Nisal, Urmila Diwekar, Heriberto Cabezas. Integrated model for food-energy-water (FEW) nexus to study global sustainability: The water compartment and water stress analysis. *PLoS One*, 17(5), e0267403, 2022 (https://doi.org/10.1371/journal.pone.0266554).
15. Shivali Banerjee, Munagala Meghana, Yogendra Shastri, R. Vijayaraghavan, Antonio Patti, and Amit Arora. Process design and techno-economic feasibility analysis of an integrated pineapple processing waste biorefinery. *ACS Engineering Au*, 2(3), 208-218, 2022.
16. Neeraj Hanumante, Andrew Hoadley, and Yogendra Shastri. Sustainability in a global circular economy: Insights on consumer price sensitivity. *Journal of Industrial Ecology*, 26(3), 1-14, 1094-1107, 2022.
17. Cresha Gracy Nadar, Amit Arora, and Yogendra Shastri. Sustainability Challenges and Opportunities in Pectin Extraction from Fruit Waste. *ACS Engineering Au*, 2(2), 61-74, 2022.
18. Varun Punnathanam and Yogendra Shastri. Optimization-based design for lignocellulosic ethanol production: a case study of the state of Maharashtra, India. *Clean Technologies and Environmental Policy*, 24, 863-886, 2022.
19. Govind Murali and Y. Shastri. Life cycle assessment-based comparison of different lignocellulosic ethanol production routes. *Biofuels*, 13(2): 237-247, 2022.
20. Arun Shaji, Yogendra Shastri, Vinod Kumar, Vivek Ranade, Neil Hindle. Economic and Environmental Assessment of Succinic Acid Production from Sugarcane Bagasse. *ACS Sustainable Chemistry & Engineering*, 9(38), 12738-12748, 2021.
21. Prabhpreet Kaur, Neha Sharma, Munagala Meghana, Rangam Rajkhowa, Ben Aallardyce, Yogendra Shastri, Ruchi Agarwal. Nanocellulose: Resources, Physio-Chemical Properties, Current Uses and Future Applications. *Frontiers in Nanotechnology*, 3, 82, 2021.
22. Sumit Kumar Verma and Yogendra Shastri. Deterministic and stochastic optimization of dilute acid pretreatment of sugarcane bagasse. *Biofuels*. 12 (8), 987-998, 2021.
23. Arun Sreekumar, Varun Punnathanam and Yogendra Shastri. Sustainability driven design of lignocellulosic ethanol system highlighting importance of water footprint. *Biomass and Bioenergy*. 151, 106174, 2021.
24. Pratibha Baral, Munagala Meghana, Yogendra Shastri, Vinod Kumar, Deepti Agrawal. Cost reduction approaches for fermentable sugar production from sugarcane bagasse and its impact on techno-economics and environment. *Cellulose*. 28, 6305-6322, 2021.
25. Munagala Meghana, Y. Shastri, K. Nalawade, K. Konde, and S.V. Patil. Life cycle and economic assessment of sugarcane bagasse valorization to lactic acid. *Waste Management*. 126, 52-64, 2021.

26. Rashi Dhanraj, Varun Punnathanam, and Y. Shastri. Multi-objective optimization of ethanol production based on regional resource availability. *Sustainable Production and Consumption*. 27, 1124-1137, 2021.
27. Ashish Soren and Y. Shastri. Resiliency considerations in designing commercial scale lignocellulosic ethanol production system. *Computers & Chemical Engineering*. 147, 107239, 2021.
28. Vibhuti Chhabra, Anand Parashar, Y. Shastri, and S. Bhattacharya. Techno-economic and life cycle assessment of pyrolysis of unsegregated urban municipal solid waste in India. *Industrial & Engineering Chemistry Research*. 60(3): 1473-1482, 2021.
29. Vibhuti Chhabra, Y. Shastri, and S. Bhattacharya. Laboratory-scale performance of pyrolysis of unsegregated municipal solid waste. *Industrial & Engineering Chemistry Research*. 59(52): 22656-22666, 2020.
30. Neeraj Hanumante, Y. Shastri, and A. Hoadley. Sustainability in a global circular economy: An integrated modeling perspective. *Frontiers in Chemical Engineering*, 2: 597474, 2020.
31. Pratik Gholkar, Y. Shastri, and Akshat Tanksale. Renewable hydrogen and methane production from microalgae: A techno-economic and life cycle assessment study. *Journal of Cleaner Production*. 279, 123726, 2020.
32. Riju De, Sharad Bhartiya and Y. Shastri. Constrained iterative learning control of batch transesterification process under uncertainty. *Control Engineering Practice*. 103, 104580, 2020.
33. Vinod Vijay Kumar, Andrew Hoadley, and Y. Shastri. A consequence analysis study of natural gas consumption in a developing country: Case of India. *Energy Policy*. 145, 111675, 2020.
34. Varun Punnathanam and Y. Shastri. Efficient optimization of a large-scale biorefinery system using a novel decomposition-based approach. *Chemical Engineering Research and Design*. 160: 175-189, 2020.
35. Vinod Vijay Kumar, Andrew Hoadley, and Y. Shastri. An outlook for dynamic impact assessment of resource depletion at the global level: Learnings from regional case studies. *Clean Technologies and Environmental Policy*. 22(4): 745-755, 2020
36. Riju De, Y. Shastri and Sharad Bhartiya. Parameter estimation and optimal control of a batch transesterification reactor: An experimental study. *Chemical Engineering Research and Design.*157: 1-12, 2020.
37. Sumit Kumar Verma and Y. Shastri. Economic optimization of acid pretreatment: Structural changes and impact on enzymatic hydrolysis. *Industrial Crops & Products*. 147: 112236, 2020.
38. Fenila F. and Y. Shastri. Stochastic Optimization of enzymatic hydrolysis of lignocellulosic biomass. *Computers & Chemical Engineering*. 135: 106776, 2020.
39. Munagala Meghana and Y. Shastri. Sustainable Valorization of Sugar Industry Waste: Status, Opportunities, and Challenges. *Bioresource Technology*. 303: 122929, 2020.
40. Vibhuti Chhabra, K. Bambery, S. Bhattacharya & Y. Shastri. Thermal and in situ infrared analysis to characterise the slow pyrolysis of mixed municipal solid waste (MSW) and its components. *Renewable Energy*. 148: 388-401, 2020.
41. Arun Sreekumar, Y. Shastri, P. Wadekar, M. Patil, and A. Lali. Life Cycle Assessment of Ethanol Production in a Rice Straw Based Biorefinery in India. *Clean Technology and Environmental Policy*. 22: 409-422. 2020.
42. Ashish Soren and Y. Shastri. Resilient design of biomass to energy system considering uncertainty in biomass supply. *Computers & Chemical Engineering*. 131, 2019.
43. N. Hanumante, Y. Shastri, and A. Hoadley. Assessment of circular economy for global sustainability using an integrated model. *Resources, Conservation, & Recycling*. 151: 104460, 2019.
44. Tao Lin, Wei-Ting Liao, Luis F Rodriguez, Yogendra Shastri, Yangfeng Ouyang, M.E. Tumbleson, & K.C. Ting. Optimization modeling analysis of grain harvesting management. *Transactions of the ASABE*. 62(6): 1489-1508, 2019.
45. Fenila F. and Yogendra Shastri. Optimization of cellulose hydrolysis in a non-ideally mixed batch reactor. *Computers & Chemical Engineering*. 128: 340-351, 2019.
46. Prasad Mandade and Yogendra Shastri. Multi-objective optimization of lignocellulosic feedstock selection for ethanol production in India. *Journal of Cleaner Production*. 231: 1226-1234, 2019.
47. Pratik Gholkar, Yogendra Shastri, and Akshat Tanksale. Catalytic reactive flash volatilization of microalgae to produce hydrogen or methane-rich syngas. *Applied Catalysis B: Environmental*. 251: 326-334, 2019.

48. Vibhuti Chhabra, Sankar Bhattacharya, and Y. Shastri. Pyrolysis of mixed municipal solid waste: characterisation, interaction effect and kinetic modelling using the thermogravimetric approach. *Waste Management*. 90: 152-167, 2019.
49. Riju De, Sharad Bhartiya, and Y. Shastri. Multi-objective optimization of integrated biodiesel production and separation system. *Fuel*. 243: 519-532, 2019.
50. Vinod Vijay Kumar, Andrew Hoadley, and Y. Shastri. Dynamic impact assessment of resource depletion: A case study of natural gas in New Zealand. *Sustainable Production and Consumption*. 18: 165-178, 2019.
51. Deepanker Varshney, Prasad Mandade and Y. Shastri. Multi-objective optimization of sugarcane bagasse utilization in an Indian sugar mill. *Sustainable Production and Consumption*. 18: 96-114, 2019.
52. Payala Venkat Vikash and Y. Shastri. Conceptual design of a lignocellulosic biorefinery and its supply chain for ethanol production in India. *Computers & Chemical Engineering*. 121: 696-721, 2019.
53. Vinod Vijay Kumar, Andrew Hoadley, and Y. Shastri. Dynamic evaluation of the economic and environmental impact of resource depletion for a new chemical project. *Chemical Engineering Transactions*. 70: 1177, 2018.
54. S. Khan, P. Gholkar, Y. Shastri, N.G. Shah, and S. Bhartiya. Hydrothermal liquefaction of *Chlorella sp.* for biocrude oil production: Comparison of experimental and modeling results. *International Agricultural Engineering Journal*. 27(3): 2, 2018.
55. Y. Mehta, B. Joseph, and Y. Shastri**.** Economic Analysis and Life Cycle Impact Assessment of Municipal Solid Waste (MSW) Disposal: A Case Study of Mumbai, India**.** *Waste Management & Research*. 36(12): 1177-1189, 2018.
56. Payala Venkat Vikash, Prasand Mandade, and Y. Shastri. Assessment of bagasse and trash utilization for ethanol production: A case study in India. *Environmental Progress & Sustainable Energy*. 37(6): 2165-2174, 2018.
57. Sumit Kumar Verma, Fenila F., A. Soren, and Y. Shastri. Impact of uncertainties on the biomass to biofuel systems. *CAB Reviews*, 12(22), 2017.
58. S. Sen Gupta, Y. Shastri and S. Bhartiya. Integrated microalgae biorefinery: Impact of product demand profile and prospect of carbon capture. *Biofuels, Bioproducts & Biorefining*. 11(6): 1065-1076, 2017.
59. S. Sen Gupta, Y. Shastri and S. Bhartiya. Optimization of integrated microalgal biorefinery producing fuel and value added products. *Biofuels, Bioproducts & Biorefining*. 11(6): 1030-1050, 2017.
60. Y. Shastri. Renewable energy, Bioenergy. *Current Opinion in Chemical Engineering*. 17: 42-47, 2017.
61. Suryanarayana Vegi and Y. Shastri. Optimal control of dilute acid pretreatment and enzymatic hydrolysis for processing lignocellulosic feedstock. *Journal of Process Control*. 35: 100-111, 2017.
62. Sumit Kumar Verma, Fenila F., and Y. Shastri. Sensitivity analysis and stochastic modelling of lignocellulosic feedstock pretreatment and hydrolysis. *Computers & Chemical Engineering.* 106: 23-39, 2017.
63. P. Maheshwari, S. Singla and Y. Shastri. Resiliency optimization of biomass to biofuel supply chain incorporating regional biomass pre-processing depots. *Biomass and Bioenergy*. 97: 116-131, 2017.
64. Fenila F. and Y. Shastri. Optimal control of enzymatic hydrolysis of lignocellulosic biomass. *Resource-Efficient Technologies*. 2(1): S96-S104, 2016.
65. V. Chhabra, Y. Shastri and S. Bhattacharya. Kinetics of pyrolysis of mixed municipal solid waste. *Procedia Environmental Sciences*. 35: 513-527, 2016.
66. S. Sen Gupta, Y. Shastri and S. Bhartiya. Model-based optimization of biodiesel production from microalgae. *Computers & Chemical Engineering*, 89: 222-249, 2016.
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