
LIST OF PUBLICATIONS

Faculty: Dr Karthik Rajendran

Department of Environmental Sciences

JOURNAL PUBLICATIONS

Dr Karthik Rajendran - "Optimizing aeration efficiency and forecasting dissolved oxygen in brackish water aquaculture: Insights from paddle wheel aerator" in Journal of the Taiwan Institute of Chemical Engineers (Q1 Journal, IF 5.7) DOI: <https://doi.org/10.1016/j.jitec.2024.105353>

Ganeshan P, **Rajendran K** (2022) Dynamic simulation and optimization of anaerobic digestion processes using MATLAB. *Bioresour Technol* 351:126970.(IF:9.642) (IF: 11.88) ([Link](#))

Gowd, S. C., Kumar, D., Lin, R., & **Rajendran, K.** (2022). Bioresource Technology Reports Nutrient recovery from wastewater in India: A perspective from mass and energy balance for a sustainable circular economy. *Bioresource Technology Reports*, 18(April), 101079. ([Link](#))([Link](#))

Kang, X., Lin, R., Wu, B., Li, L., Deng, C., **Rajendran, K.**, Sun, Y., O'Shea, R., & Murphy, J. D. (2022). Towards green whiskey production: Anaerobic digestion of distillery by-products and the effects of pretreatment. *Journal of Cleaner Production*, 357, 131844. (IF: 11.07) ([Link](#))

Duan, Y., Tarafdar, A., Kumar, V., Ganeshan, P., **Rajendran, K.**, Shekhar Giri, B., Gómez-García, R., Li, H., Zhang, Z., Sindhu, R., Binod, P., Pandey, A., Taherzadeh, M. J., Sarsaiya, S., Jain, A., & Kumar Awasthi, M. (2022). Sustainable biorefinery approaches towards circular economy for conversion of biowaste to value added materials and future perspectives. *Fuel*, 325, 124846. (IF: 8.03) ([Link](#))

Kumar, M., Harirchi, S., Sar, T., Vs, V., Hellwig, C., Binod, P., **Rajendran, K.**, Ricardo, G., Sindhu, R., Madhavan, A., Kumar, A. N. A., Kumar, V., Kumar, D., Zhang, Z., & Taherzadeh, M. J. (2022). Bioresource Technology Myco-biorefinery approaches for food waste valorization: Present status and future prospects. *360*(June). (IF: 11.88) ([Link](#))

Zhou, Y., Kumar, V., Harirchi, S., Vigneswaran, V. S., **Rajendran, K.**, Sharma, P., Wah, Y., Binod, P., Sindhu, R., Taherzadeh, J., & Kumar, M. (2022). Recovery of value-added products from biowaste: A review. *Bioresource Technology*, *360*(June), 127565. (IF: 11.88)([Link](#))

Bose, A., O'Shea, R., Lin, R., Long, A., **Rajendran, K.**, Wall, D., De, S., & Murphy, J. D. (2022). The marginal abatement cost of co-producing biomethane, food and biofertiliser in a circular economy system. *Renewable and Sustainable Energy Reviews*, *169*(September), 112946.

Yadav, G., Shanmugam, S., Sivaramakrishnan, R., Kumar, D., Mathimani, T., Brindhadevi, K., ... & **Rajendran, K.** (2021). Mechanism and challenges behind algae as a wastewater treatment choice for bioenergy production and beyond. *Fuel*, *285*, 119093. (IF-8.03)

(Citations: 22)([Link](#))

Kumar, B. R., Mathimani, T., Sudhakar, M. P., **Rajendran, K.**, Nizami, A. S., Brindhadevi, K., & Pugazhendhi, A. (2021). A state of the art review on the cultivation of algae for energy and other valuable products: Application, challenges, and opportunities. *Renewable and Sustainable Energy Reviews*, 138, 110649. (IF-16.79) (Citations: 114) (Citations: 17)([Link](#))

Wu, B., Lin, R., O'Shea, R., Deng, C., **Rajendran, K.**, & Murphy, J. D. (2021). Production of advanced fuels through integration of biological, thermo-chemical and power to gas technologies in a circular cascading bio-based system. *Renewable and Sustainable Energy Reviews*, 135, 110371. (IF-16.79)(Citations: 13)([Link](#))

Shanmugam, S., Hari, A., Kumar, D., **Rajendran, K.**, Mathimani, T., Atabani, A. E., & Pugazhendhi, A. (2021). Recent developments and strategies in genome engineering and integrated fermentation approaches for biobutanol production from microalgae. *Fuel*, 285, 119052. (IF-8.03) (Citations: 14)([Link](#))

P Bhatia, S.K., Jagtap, S.S., Bedekar, A.A., Bhatia, R.K., **Rajendran, K.**, Pugazhendhi, A., Rao, C. V., Atabani, A.E., Kumar, G., Yang, Y.H., (2021). Renewable biohydrogen production from lignocellulosic biomass using fermentation and integration of systems with other energy generation technologies. *Science of the Total Environment*, 765, 144429. (IF-10.75) (Citations: 26)([Link](#))

Alfonso-Cardero, A., Pagés-Díaz, J., Contino, F., **Rajendran, K.**, Lorenzo- LLanes, J., 2021. Process simulation and techno-economic assessment of vinasse-to-biogas in Cuba: Deterministic and uncertainty analysis. *Chem. Eng. Res. Des.* 169, 33–45. (IF-4.11) (Citations: 3)([Link](#))

Awasthi, M.K., Sarsaiya, S., Wainaina, S., **Rajendran, K.**, Awasthi, S.K., Liu, T., Duan, Y., Jain, A., Sindhu, R., Binod, P., Pandey, A., Zhang, Z., Taherzadeh, M.J., 2021. Techno-economics and life-cycle assessment of biological and thermochemical treatment of bio-waste. *Renew. Sustain. Energy Rev.* 144, 110837. (IF-16.79) (Citations: 12)([Link](#))

Khan, M.J., Harish, Ahirwar, A., Schoefs, B., Pugazhendhi, A., Varjani, S., **Rajendran, K.**, Bhatia, S.K., Saratale, G.D., Saratale, R.G., Vinayak, V., 2021. Insights into diatom microalgal farming for treatment of wastewater and pretreatment of algal cells by ultrasonication for value creation. *Environ. Res.* 201, 111550. (IF-8.43) (Citations: 9)([Link](#))

Changlei Xia, Abhijeet Pathy, Balasubramanian Paramasivan, Prabakaran Ganeshan, Kondusamy Dhamodharan, Ankita Juneja, Deepak Kumar, Kathirvel Brandade, Sang-Hyoun Kim, **Karthik Rajendran**. (2021 Comparative study of pyrolysis and hydrothermal liquefaction of microalgal species: Analysis of product yields with reaction temperature. *Fuel*. (IF-8.03).([Link](#))

Khan, M.J., Singh, N., Mishra, S., Ahirwar, A., Bast, F., SunitaVarjani, Schoefs, B., Marchand, J., **Rajendran, K.**, Banu, J.R., Saratale, G.D., Saratale, R.G., Vinayak, V., 2021. Impact of light on microalgal photosynthetic microbial fuel cells and removal of pollutants by nanoabsorbent biopolymers: Updates, challenges and innovations. *Chemosphere* 132589. (IF – 8.94).([Link](#))

Gowd, S.C., Ramakrishna, S., **Rajendran, K.**, 2021. Wastewater in India: An untapped and under-tapped resource for nutrient recovery towards attaining a sustainable circular

economy. *Chemosphere* 132753. (IF: 8.94).([Link](#))

Mourya, M., Jahir, M., Ahirwar, A., Schoefs, B., Marchand, J., Rai, A., Varjani, S., **Rajendran, K.**, Banu, J.R., Vinayak, V., 2021. Latest trends and developments in microalgae as potential source for biofuels : The case of diatoms. *Fuel* 122738. (IF: 8.03)([Link](#))

Rajendran, K., Mahapatra, D., Venkatraman, A. V., Muthuswamy, S., & Pugazhendhi, A. (2020). Advancing anaerobic digestion through two-stage processes: Current developments and future trends. *Renewable and Sustainable Energy Reviews*, 123, 109746. (IF-16.79) (Citations: 41)

Toor, M., Kumar, S. S., Malyan, S. K., Bishnoi, N. R., Mathimani, T., **Rajendran, K.**, & Pugazhendhi, A. (2019). An overview on bioethanol production from lignocellulosic feedstocks. *Chemosphere*, 125080. (IF-8.94) (Citations: 66)

Lin, R., Deng, C., **Rajendran, K.**, Bose, A., Kang, X., & Murphy, J. D. (2020). Competing reactions limit production of sugars in hydrothermal hydrolysis of grass silage: an assessment of the effect of temperature on sugar production and parasitic energy demand. *Frontiers in Energy Research*, 8, 255. (IF-3.85)([Link](#))

Bulkan, G., Ferreira, J. A., **Rajendran, K.**, & Taherzadeh, M. J. (2020). Techno- Economic Analysis of Bioethanol Plant By-Product Valorization: Exploring Market Opportunities with Protein-Rich Fungal Biomass Production. *Fermentation*, 6(4),99. (Citations: 2) (IF: 5.12) ([Link](#))

Bose, A., Lin, R., **Rajendran, K.**, O'Shea, R., Xia, A., & Murphy, J. D. (2019). How to optimise photosynthetic biogas upgrading: a perspective on system design and microalgae selection. *Biotechnology Advances*, 107444. (IF-17.68) (Citations: 32)

Dhamodharan, K., Varma, V. S., Veluchamy, C., Pugazhendhi, A., & **Rajendran, K.** (2019). Emission of volatile organic compounds from composting: A review on assessment, treatment and perspectives. *Science of The Total Environment*, 133725. (IF-10.75) (Citations: 36)

Rajendran, K., & Murthy, G. S. (2019). Techno-economic and life cycle assessments of anaerobic digestion–A review. *Biocatalysis and Agricultural Biotechnology*, 101207. ([Link](#)) (Citations: 34)

Awasthi, M. K., Sarsaiya, S., Wainaina, S., **Rajendran, K.**, Kumar, S., Quan, W., ... & Zhang, Z. (2019). A critical review of organic manure biorefinery models toward sustainable circular bioeconomy: Technological challenges, advancements, innovations, and future perspectives. *Renewable and Sustainable Energy Reviews*, 111, 115-131. ([Link](#))

McDonagh, S., Deane, P., **Rajendran, K.**, & Murphy, J. D. (2019). Are electrofuels a sustainable transport fuel? Analysis of the effect of controls on carbon, curtailment, and cost of hydrogen. *Applied Energy*, 247, 716-730. ([Link](#))

Rajendran, K., O'Gallachoir, B., & Murphy, J. D. (2019). The combined role of policy and incentives in promoting cost efficient decarbonisation of energy: A case study for biomethane. *Journal of Cleaner Production*, 219, 278-290. ([Link](#))

Rajendran, K., Browne JD., Murphy JD., (2019). What is the level of incentivisation required for biomethane upgrading technologies with carbon capture and reuse? *Renewable Energy*,

133, 951-963. ([Link](#))

Mathimani, T., Baldinelli, A., **Rajendran, K.**, Prabakar, D., Pugazhendhi, A. (2019). Thermochemical processing of microalgae to biofuels and bioproducts: Knowledge gaps and future prospects. *Journal of Cleaner Production*, 208, 1053-1064. ([Link](#))

Kadhum HJ., **Rajendran, K.**, & Murthy, G.S. (2018). Optimization of Surfactant Addition in Cellulosic Ethanol Process Using Integrated Techno-Economic and Life Cycle Assessment for Bioprocess Design. *ACS Sustainable Chemistry & Engineering*. In Press ([Link](#)).

Vo, T. T., **Rajendran, K.**, & Murphy, J. D. (2018). Can power to methane systems be sustainable and can they improve the carbon intensity of renewable methane when used to upgrade biogas produced from grass and slurry? *Applied Energy*, 228, 1046-1056. ([Link](#))

Prabakar, D., Manimudi, V. T., Sampath, S., Mahapatra, D. M., **Rajendran, K.**, & Pugazhendhi, A. (2018). Advanced biohydrogen production using pretreated industrial waste: Outlook and prospects. *Renewable and Sustainable Energy Reviews*, 96, 306-324. ([Link](#))

Shanmugaprakash, M., Venkatachalam, S., **Rajendran, K.**, & Pugazhendhi, A. (2018). Biosorptive removal of Zn (II) ions by Pongamia oil cake (Pongamia pinnata) in batch and fixed-bed column studies using response surface methodology and artificial neural network. *Journal of Environmental Management*, 227, 216-228. ([Link](#))

AP Saravanan, T Mathimani, G Deviram, **K Rajendran**, A Pugazhendhi. Biofuel policy in India: A review of policy barriers in sustainable marketing of biofuel. *Journal of Cleaner Production* 193, 734-747. ([Link](#))

Rajendran, K., Drielak, E., Varma, V. S., Muthusamy, S., & Kumar, G. Updates on the pretreatment of lignocellulosic feedstocks for bioenergy production—a review. *Biomass Conversion and Biorefinery*, 8 (2), 471–483. ([Link](#))

Sivamani, S., Selvakumar, S., **Rajendran, K.**, Muthusamy, S. Artificial neural network-genetic algorithm-based optimization of biodiesel production from *Simarouba glauca*. *Biofuels*, In Press. ([Link](#))

Truc, T.Q.V., Wall, D.M., Ring, D., **Rajendran, K.**, Murphy, J. Techno-economic analysis of biogas upgrading via amine scrubber, carbon capture and ex-situ methanation. *Applied Energy*, 212, 1191-1202. ([Link](#))

Rajendran, K. Effect of Moisture Content on Lignocellulosic Power Generation: Energy, Economic and Environmental Impacts. *Processes*, 5(4), 78. ([Link](#))

Rajendran, K., & Murthy, G. S. How does technology pathway choice influence economic viability and environmental impacts of lignocellulosic biorefineries? *Biotechnology for biofuels*, 10(1), 268. ([Link](#))

Kadhum, H. J., **Rajendran, K.**, & Murthy, G. S. (2017). Effect of solids loading on ethanol production: Experimental, economic and environmental analysis. *Bioresource Technology*, 244, 108-116. ([Link](#))

Sawatdeenarunat, C., Nguyen, D., Surendra, K. C., Shrestha, S., **Rajendran, K.**, Oechsner, H.,

... & Khanal, S. K. (2016). Anaerobic biorefinery: current status, challenges, and opportunities. *Bioresource technology*, 215, 304-313. ([Link](#))

Senthil, M., Visagavel, K., Saravanan, C. G., & **Rajendran, K.** (2016). Investigations of red mud as a catalyst in Mahua oil biodiesel production and its engine performance. *Fuel Processing Technology*, 149, 7-14. ([Link](#))

Rajendran, K., Rajoli, S., & Taherzadeh, M. J. (2016). Techno-economic analysis of integrating first and second-generation ethanol production using filamentous fungi: an industrial case study. *Energies*, 9(5), 359. ([Link](#))

Rajendran, K., Rajoli, S., Teichert, O., & Taherzadeh, M. J. (2015). Impacts of retrofitting analysis on first generation ethanol production: process design and techno-economics. *Bioprocess and biosystems engineering*, 38(2), 389-397. ([Link](#))

Kabir, M. M., **Rajendran, K.**, Taherzadeh, M. J., & Horváth, I. S. (2015). Experimental and economical evaluation of bioconversion of forest residues to biogas using organosolv pretreatment. *Bioresource technology*, 178, 201-208. ([Link](#))

Aslanzadeh, S., **Rajendran, K.**, & Taherzadeh, M. J. (2014). A comparative study between single-and two-stage anaerobic digestion processes: Effects of organic loading rate and hydraulic retention time. *International Biodeterioration & Biodegradation*, 95, 181-188. ([Link](#))

Rajendran, K., Kankanala, H. R., Martinsson, R., & Taherzadeh, M. J. (2014). Uncertainty over techno-economic potentials of biogas from municipal solid waste (MSW): a case study on an industrial process. *Applied Energy*, 125, 84-92. ([Link](#))

Rajendran, K., Kankanala, H. R., Lundin, M., & Taherzadeh, M. J. (2014). A novel process simulation model (PSM) for anaerobic digestion using Aspen Plus. *Bioresource technology*, 168, 7-13. ([Link](#))

Rajendran, K., Aslanzadeh, S., Johansson, F., & Taherzadeh, M. J. (2013). Experimental and economical evaluation of a novel biogas digester. *Energy conversion and management*, 74, 183-191. ([Link](#))

Aslanzadeh, S., **Rajendran, K.**, Jeihanipour, A., & Taherzadeh, M. J. (2013). The effect of effluent recirculation in a semi-continuous two-stage anaerobic digestion system. *Energies*, 6(6), 2966-2981. ([Link](#))

Jeihanipour, A., Aslanzadeh, S., **Rajendran, K.**, Balasubramanian, G., & Taherzadeh, M. J. (2013). High-rate biogas production from waste textiles using a two-stage process. *Renewable energy*, 52, 128-135. ([Link](#))

Rajendran, K., Björk, H., & Taherzadeh, M. J. (2013). Borås, a zero-waste city in Sweden. *Journal of Development Management*, 1(1), 3-8. ([Link](#))

Rajendran, K., Aslanzadeh, S., & Taherzadeh, M. J. (2012). Household biogas digesters—A review. *Energies*, 5(8), 2911-2942. ([Link](#))

Vijayaraghavan, K., **Karthik, R.**, & Nalini, S. K. (2010). Hydrogen generation from algae: a review. *Journal of Plant Sciences*, 5(1), 1-19. ([Link](#))

Vijayaraghavan, K., & **Karthik, R.** (2010). Photohydrogen production by Consortium of Fresh Water Algal Biomass. *eNREE*, 7(1), 2-9.

Vijayaraghavan, K., **Karthik, R.**, & Nalini, S. K. (2009). Hydrogen production by *Chlamydomonas reinhardtii* under light driven sulfur deprived condition. *International Journal of Hydrogen Energy*, 34(19), 7964-7970. ([Link](#))

PATENTS

Prabakaran Ganeshan, Karthik Rajendran. "A System and A Method for Predicting Biomethane Production With Time Series" Application No. 202241056787 A, 2022. (Published) ([Link](#))

Prabakaran Ganeshan, Karthik Rajendran. "A System and A Method For The Prediction of the Biogas Production and Methane Composition" Application No. 202241057894 A, 2022 (Published) ([Link](#))

Nalluri Rishi Chaitanya Sri Prasad, Rohith Sai Rayapati, Idupulapati Revanth, Koushik Maddi, Prabakaran Ganeshan, **Karthik Rajendran**. "A System and A Method for Prediction of Bio-oil Production via A Hydrothermal Liquefaction Process" Application No. 202241056535 A, 2022 (Published) ([Link](#))

Goutham Nischay Chinnam, "Machine Learning Based Optimization of Biomass Supply Chain" Application No. 202241048102, 2022 (Published) ([Link](#))

Muthusamy, S., **Rajendran, K.**, Manivel, R., Satyamoorthy, G.L. Gas Flow Measurement Tube. Indian patent (Granted), 2017.

BOOK CHAPTERS

Gowd, S. C., Kumar, D., Rajendran, K. 2021. A case study on integrated systems analysis for biomethane use. *Green-Economy: Systems Analysis for Sustainability*, 2022, 231-242 (Elsevier).([Link](#))

Veluchamy, C., Loganath, R., Sharma, D., Gowd, S.C., Rajendran, K., Varma, V.S., 2021. Recovery of value-added materials from wastewater. *Curr. Dev. Biotechnol. Bioeng.* 175–196.([Link](#))

Kondusamy, D., Kaushal, M., Ahlawat, S., Rajendran, K., 2021. The role of techno-economic implications and governmental policies in accelerating the promotion of biomethane technologies. *Emerg. Technol. Biol. Syst. Biogas Upgrad.* 447–466.([Link](#))

Dhamodharan K., Ahlawat S., Kaushal M., **Rajendran K.** (2019). Economics and cost-analysis of waste biorefineries. In: Ramanujam P, Gnansounou E, Jegannathan KR, Gurunathan B. (eds). Refining Biomass Residues for Sustainable Energy and Bioproducts. Elsevier (In Press).

Rajendran K., Lin R., Wall D., Murphy JD. Influential aspects in waste management practices. In: Taherzadeh MJ, Bolton K, Wong J, Pandey A. (eds). *Sustainable Resource Recovery and Zero Wastes approaches*. Elsevier (In Press).

Rajendran K., Sudharsan Varma V., Mahapatra D.M., Kondusamy D. Economics of Solid Waste Management. In: Singhania R., Agarwal R., Kumar R., Sukumaran R. (eds) Waste to Wealth. Energy, Environment, and Sustainability. Springer, Singapore, 259-275. ([Link](#))

Rajendran, K., Surendra, K. C., Tomberlin, J. K., Khanal, S. K. Insect-based biorefinery for bioenergy and biobased products, In: Pandey A, Bhaskar T, Lee DJ, Khanal S, Mohan V (eds) *Waste Biorefinery: Potential and Perspectives*. Elsevier, 657 – 669 ([Link](#)).

Varma V.S., Muthusamy S., **Rajendran K.** Organic Waste and Pollutants Reduction through Composting. In: Varjani S., Gnansounou E., Gurunathan B., Pant D., Zakaria Z. (eds) Waste Bioremediation. *Energy, Environment, and Sustainability*. Springer, Singapore, 141-164. ([Link](#))

Muthusamy S., Govindaraj D., **Rajendran K.** Phytoremediation of Textile Dye Effluents. In: Varjani S., Agarwal A., Gnansounou E., Gurunathan B. (eds) Bioremediation: Applications for Environmental Protection and Management. *Energy, Environment, and Sustainability*. Springer, Singapore, 359-373. ([Link](#))

Mahapatra D.M., Varma V.S., Muthusamy S., **Rajendran K.** Wastewater Algae to Value-Added Products. In: Singhania R., Agarwal R., Kumar R., Sukumaran R. (eds) Waste to Wealth. *Energy, Environment, and Sustainability*. Springer, Singapore, 365-393. ([Link](#))

Rajendran, K., Forgacs G. Biogas from Extremophiles. In: Sani R.K., Rathinam N.K. (eds) Extremophilic Microbial Processing of Lignocellulosic Feedstocks to Biofuels, Value-Added Products, and Usable Power. *Springer*, (Link).

Muthusamy S., Prabhakaran H., **Rajendran K.** Recent Trends in Biochar Production and Environmental Applications. In: Ibrahim EK., (eds) *Advances in Chemistry and Chemical Engineering*. Research India Publications, India, 211-221.

Taherzadeh M. J., **Rajendran, K.** Factors affecting development of waste management - experiences from different cultures. In: Ekström, K.M. (eds) Waste Management and Sustainable Consumption: The Problem of Post-Consumer Waste. Routledge, UK, 67-87. ([Link](#))

Rajendran, K., Björk, H., Taherzadeh, M. J. Waste Recovery International Partnership: A Model to Transfer Technology and Create Local Development. In: Design, Waste & Dignity . CNPq, Olhares, Brazil, 295-305. ([Link](#))

Rajendran, K., Taherzadeh, M. J. Pretreatment of Lignocellulosic Materials. In: Bisaria VS, Kondo A (eds) *Bioprocessing of Renewable Resources to Commodity Bioproducts*. Wiley, USA, 43-75. ([Link](#))

Aslanzadeh, S., **Rajendran, K.**, Taherzadeh, M. J. Pretreatment of lignocelluloses for biogas and ethanol processes. In: Pandey A, Larroche C, Singh (eds) *Advances in Industrial Biotechnology*. IK International Publishing House, India, 125-150. ([Link](#))

BOOKS/MONOGRAPHS

Rajendran, K. Book of Abstracts. MaREI Annual Symposium 2018. ISBN: 9781999624002. Cork, Ireland ([Link](#))

Rajendran, K. Industrial Bioprocess Developments for Biogas and Ethanol Production. ISBN: 978918525711. University of Boras, Sweden. ([Link](#))

Rajendran, K., Balasubramanian, G. Waste Textiles to Biogas. ISBN: 9783659699672. LAP Lambert Academic Publishing, Germany. ([Link](#))

NEWSPAPER ARTICLES

Rajendran, K. Why should electric cars have all the fun? In: RTE Brainstorm, Ireland ([Link](#))

CONFERENCES

Sarath C. Gowd, **Karthik Rajendran**. Comparative life cycle assessment of hydrogen production: From conventional to emerging technologies. International Conference on

Biotechnology for Sustainable Bioresources and Bioeconomy (BSBB-2022). 0.7 – 11 Dec. 2022, IIT Guwahati, Assam, India.

Rishi Chaitanya N S P, Prabakaran Ganeshan, **Karthik Rajendran**. Machine learning for hydrothermal liquefaction: Prediction of bio-oil production. International Conference on Biotechnology for Sustainable Bioresources and Bioeconomy (BSBB-2022). 0.7 – 11 Dec. 2022, IIT Guwahati, Assam, India.

Karthikeyan M, Gopa Nandikes, **Karthik Rajendran**, Lakhveer Singh. Machine- Learning Assisted optimization of process parameters for effective Catalyst Synthesis International Conference on Biotechnology for Sustainable Bioresources and Bioeconomy (BSBB-2022). 0.7 – 11 Dec. 2022, IIT Guwahati, Assam, India.

Sarath C. Gowd., **Karthik Rajendran**. Material Balance of Sewage Treatment Plant Incorporated with Nutrient Recovery. International Conference on Biotechnology for Resource Efficiency, Energy, Environment, Chemicals and Health (BRE3CH 2021), 01-04 Dec. 2021, Dehradun, India.

Prabakaran Ganeshan., **Karthik Rajendran**. Machine learning based prediction of anaerobic digestion process. International Conference on Biotechnology for Resource Efficiency, Energy, Environment, Chemicals and Health (BRE3CH 2021), 01-04 Dec. 2021, Dehradun, India.

Prabakaran Ganeshan., **Karthik Rajendran**. Dynamic simulation and optimization of anaerobic digestion process using MATLAB International Conference on Biotechnology for Sustainable Agriculture, Environment and Health (BSAEH-2021), April 04-08, 2021, Jaipur, Rajasthan.

Prabakaran Ganeshan, **Karthik Rajendran**. Dynamic simulation and optimization of anaerobic digestion process using MATLAB 5th International Conference on Bioenergy, Environment and Sustainable Technologies (BEST2021) 29&30 January 2021, Tiruvannamalai, Tamil Nadu.

Sarath C. Gowd, **Karthik Rajendran**. Which nutrient recovery system is efficient from a material and energy balance point of view? BSAEH-2021, Jaipur, Rajasthan.

Sarath C. Gowd, **Karthik Rajendran**. Which nutrient recovery system is efficient from a material and energy balance point of view? BEST-2021, Tiruvannamalai, Tamil Nadu.

Rajendran, K., Murphy JD. Is two-stage AD commercially viable? BioSD-2018, Hyderabad, India.

Rajendran, K., Murphy JD. How different energy vectors affect the profitability and sustainability of biomethane systems? 2nd International conference Bioresource Technology for bioenergy, bioproducts and environmental sustainability. Sitges, Spain.

Rajendran, K., Murphy JD. Incentivizing Biomethane in Ireland: Economics & Avoided Emissions. Energy in Agriculture, Tipperary, Ireland.

Kadhum, H. J., **Rajendran, K.**, Murthy, G. S. Effect of Polyethylene glycol (PEG) on adsorption with lignin for enhanced conversion of lignocelluloses to ethanol. ASABE Annual Conference, Spokane, WA, USA.

Rajendran, K., Murthy, G. S. Advanced biofuels and biochemicals from lignocelluloses: a systems analysis perspective. ASABE Annual Conference, Spokane, WA, USA.

Rajendran, K. Techno-economic potentials of biogas from municipal and forest waste. S-1041 Science and Engineering for a Biobased Industry and Economy Symposium, Albany, CA, USA.

Kabir, M. M., **Rajendran, K.**, Taherzadeh, M. J., Horváth, I.S. Experimental and economical evaluation of bioconversion of forest residues to biogas using organosolv pretreatment, Annual SGC conference, Sweden.

Rajendran, K., Taherzadeh, M. J. Process simulation model for biogas production. Progress in Biogas III – Biogas production from agricultural biomass and organic residues, Germany.

Rajendran, K., Taherzadeh, M. J. Techno-Economic Evaluation of an Industrial Biogas Plant. Green Gas Research Outlook, Sweden.

Aslanzadeh, S., **Rajendran, K.**, Taherzadeh, M. J. A comparative study between conventional and two stage anaerobic process: Effect of organic loading rate and hydraulic retention time. The Sixth Annual Conference on the Challenges in Environmental Science and Engineering, S. Korea.

Rajendran, K., Kankanala, H. R., Lundin, M., Taherzadeh, M. J. Process simulation model for biogas production. IPLA Global Forum 2013, Sweden.

Aslanzadeh, S., **Rajendran, K.**, Jeihanipour, A., Taherzadeh, M. J. Waste textile processing into biogas using two-stage reactors. 13th World congress on anaerobic digestion, Spain.

Rajendran, K., Kankanala, H. R., Lundin, M., Taherzadeh, M. J. A new model for anaerobic digestion. International Conference on Solid Waste Management, Hong Kong.

Rajendran, K., Jeihanipour, A., Aslanzadeh, S., Balasubramanian, G., Taherzadeh, M. J. Could it be Possible to Convert Waste-Textiles to Biogas? Yes! International Conference on Industrial Biotechnology, India.