

Yukesh Kannah Ravi

Visiting Assistant Professor

Department of Environmental & Sustainable Engineering

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Education

- **Ph.D. Environmental Engineering under the Faculty of Civil Engineering** (Feb 2016 – Nov 2020)
Anna University Chennai, Tamil Nadu, India.
Supervisor: Prof. Dr. J. Rajesh Banu
Thesis title: Effect of cell wall weakening on microalgae (*Chlorella vulgaris*) for energy and cost effective biomethane production.
- **M.E. Environmental Engineering under the Faculty of Civil Engineering** (Sep 2013 – Jun 2015)
Anna University Chennai, Tamil Nadu, India.
Supervisor: Prof. Dr. J. Rajesh Banu
Thesis title: An investigation on the kinetic attributes of sono-thermochemical disintegration for the modelling of waste activated sludge biodegradability.
- **B.E. Civil Engineering under the Faculty of Civil Engineering** (Sep 2009 – Apr 2013)
Anna University Chennai, Tamil Nadu, India.
Supervisor: Prof. A. Mahesh Kumar
Thesis title: Mapping of salt affected area using Remote Sensing and GIS.

Teaching & Research Experience

- **Visiting Assistant Professor** Department of Environmental and Sustainable Engineering, University at Albany, New York- 12206 (Jan 2022 to till now)
- Assistant Professor (Temporary Position) Department of Civil Engineering, National Institute of Technology Tiruchirappalli, Tamilnadu - 620015 (Aug 2021 to Dec 2021)
- Assistant Professor (Temporary Position) Department of Civil Engineering, PET College of Engineering, Tirunelveli, Tamil Nadu – 627117 (Dec 2020 to Aug 2021)
- Assistant Professor & Head i/c- (Temporary Position) Department of Civil Engineering, Sri Jayaram Institute of Engineering and Technology, Gummidipoondi, Tiruvallur, Tamil Nadu – 601201 (June 2015 to Dec 2015)
- Senior Research Fellow - (CSIR – Direct SRF) Department of Civil Engineering, Anna University Regional Campus Tirunelveli, Tamilnadu, India – 627007 (Apr 2019 to Nov 2020)
- Course Handled for UG - (B.E./ B.Tech Civil Engg.) Construction Techniques and Equipments, Surveying, Environmental Engineering.

- Course Handled for PG (M.E./ M.Tech Env. Engg.) - Design of Physiochemical and Biological Treatment System, Environmental Biotechnology, Environmental Microbiology, Resource recovery from waste
- Lab Handled for UG (B.E./ B.Tech Civil Engg.) - Survey, CAD, & Environmental Engineering.
- Lab Handled for PG (M.E./ M.Tech Env. Engg.) - Environmental Microbiology, Unit operation

Research Area

- Bioenergy (Methane and Hydrogen) from various waste biomass (waste activated sludge, anaerobic granular lignocellulosic biomass, food waste, microalgae & macroalgae)
- Biological Wastewater Treatment: Aerobic (Membrane Bioreactor) and Anaerobic (Hybrid upflow anaerobic sludge blanket).
- Bioelectricity generation from wastewater via Microbial Fuel cell.

Journal publications (Listed year wise)

1. Kavitha S, **Yukesh Kannah R**, Yeom IT, Uan DK, Rajesh Banu J. Combined thermo-chemo-sonic disintegration of waste activated sludge for biogas production. [Bioresource Technology](#), December 2015, Volume- 197, Pages: 383-392 (Q1 / SCI / IF- 9.642).
2. **Yukesh Kannah R**, Kavitha S, Rajesh Banu J, Yeom IT, Johnson M. Synergetic effect of combined pretreatment for energy efficient biogas generation. [Bioresource Technology](#), May 2017, Volume 232, Pages 235–246 (Q1 / SCI / IF- 9.642).
3. **Yukesh Kannah R**, Kavitha S, Rajesh Banu J, Obulisamy P K, Sivashanmugham P. Dispersion induced ozone pretreatment of waste activated biosolids : Arriving biomethanation modelling parameters, energetic and cost assessment. [Bioresource Technology](#), November 2017, Part-I, Volume 244, Pages 679-687 (Q1 / SCI / IF- 9.642).
4. Kavitha S, **Yukesh Kannah R**, Rajesh Banu J, Kaliappan S, Johnson M. Biological disintegration of microalgae for biomethane recovery - prediction of biodegradability and computation of energy balance. [Bioresource Technology](#), November 2017, Part 2, Volume 244, Pages 1367-1375. (Q1 / SCI / IF- 9.642).
5. Rajesh Banu J, Sugitha S, **Yukesh Kannah R**, Kavitha S, Yeom IT. *Marsilea Spp.* - a novel source of lignocellulosic biomass: Effect of solubilized lignin on anaerobic biodegradability and cost of energy products. [Bioresource Technology](#), May 2018, Volume 255, Pages: 220-228. (Q1 / SCI / IF- 9.642).
6. Ushani U, Kavitha S, **Yukesh Kannah R**, Gunasekaran M, Kumar G, Dinh Duc Nguyen, Soon Woong Chang, Rajesh Banu J. Sodium thiosulphate induced immobilized bacterial disintegration of sludge: an energy efficient and cost effective platform for sludge management and biomethanation. [Bioresource Technology](#), July 2018, Volume 260, Pages: 273-282 (Q1 / SCI / IF- 9.642).
7. Rajesh Banu J, **Yukesh Kannah R**, Kavitha S, Gunasekaran M, Yeom IT, Kumar G. Disperser induced bacterial disintegration of partially digested anaerobic sludge for efficient biomethane recovery. [Chemical Engineering Journal](#), September 2018, Volume 347, Pages: 165-172. (Q1 / SCI / IF – 13.273).

8. Rajesh Banu J, **Yukesh Kannah R**, Kavitha S, Gunasekaran M, Kumar G. Novel insight into scalability of biosurfactant combined microwave disintegration of sludge at alkali pH for achieving profitable bioenergy recovery and net profit. [*Bioresource Technology*](#), November 2018, Volume 267, Pages: 281-290. (Q1 / SCI / IF - 9.642)
9. Rajesh Banu J, **Yukesh Kannah R**, Kumar MD, Gunasekaran M, Sivagurunathan P, Park JH, Kumar G. Recent advances on biogranules formation in dark hydrogen fermentation system: Mechanism of formation and microbial characteristics. [*Bioresource Technology*](#), November 2018, Volume 268, Pages: 787-796. (Q1 / SCI / IF -9.642).
10. **Yukesh Kannah R**, Kavitha S, Sivashanmugham P, Kumar G, Nguyen DD, Chang SW, Rajesh Banu J, Biohydrogen production from rice straw : effect of combinative pretreatment, modelling assessment and energy balance consideration. [*International Journal of Hydrogen Energy*](#), January 2019, Volume 44, Issue 4, Pages 2203-2215 (Q2 / SCI / IF- 5.816)
11. Rajesh Banu J, Eswari AP, Kavitha S, **Yukesh Kannah R**, Kumar G, Jamal TM, Ganesh DS, Nguyen DD, Lee DG, Chang SW. Energetically efficient microwave disintegration of waste activated sludge for biofuel production by zeolite: quantification of energy and biodegradability modelling. [*International Journal of Hydrogen Energy*](#), January 2019, Volume 44, Issue 4, Pages 2274-2288 (Q2 / SCI / IF- 5.816)
12. Rajesh Banu J, Eswari AP, Kavitha S, **Yukesh Kannah R**, Kumar G, Jamal TM, Ganesh DS, Nguyen DD, Lee DG, Chang SW. Energetically efficient microwave disintegration of waste activated sludge for biofuel production by zeolite: quantification of energy and biodegradability modelling. [*International Journal of Hydrogen Energy*](#), January 2019, Volume 44, Issue 4, Pages 2274-2288 (Q2 / SCI / IF- 5.816)
13. Meena AAR, **Yukesh Kannah R**, Sindhu J, Ragavi J, Kumar G, Gunasekaran M, Rajesh Banu J, Trends and resource recovery in biological wastewater treatment system. [*Bioresource Technology Reports*](#), September 2019, Volume 9, Article ID: 100235 (Scopus)
14. Kavitha S, Schikaran M, **Yukesh Kannah R**, Gunasekaran M, Kumar G, Rajesh Banu J, Nanoparticle induced biological disintegration: a new phase separated pretreatment strategy on microalgal biomass for profitable biomethane recovery. [*Bioresource Technology*](#), October 2019, Volume 289, Article ID: 121624 (Q1 / SCI / IF- 9.642).
15. Rajesh Banu J, Kavitha S, **Yukesh Kannah R**, Devi TP, Gunasekaran M, Kim SH, Kumar G. A review on biopolymer production via lignin valorization. [*Bioresource Technology*](#), October 2019, Volume 290, Article ID: 121790 (Q1 / SCI / IF -9.642).
16. Rufus DP, Rajesh Banu J, **Yukesh Kannah R**, Nguyen DD, Kumar G, Chang SW, Raja SA. Effect of dispersion treatment on dairy waste activated sludge to hasten the production of the biogas. [*Frontiers in Energy Research*](#), December 2019, Volume 7, Article ID 136 (Q2 / SCIE / IF – 4.008).
17. **Yukesh Kannah R**, Rajesh Banu J, Marcelin Joe J, Yeom IT, Khac Uac Do. Profitable sludge management via novel combined ozone disperser pretreatment coupled with membrane bioreactor for treating confectionary wastewater. [*Journal of Cleaner Production*](#), December 2019, Volume 239, Article ID: 118102 (Q1 / SCI / IF – 9.297).
18. Kavitha S, **Yukesh Kannah R**, Gunasekaran M, Rajesh Banu J, Kumar G. Rhamnolipid induced deagglomeration of anaerobic granular biosolids for energetically feasible ultrasonic homogenization and profitable biohydrogen. [*International Journal of Hydrogen Energy*](#), February 2020, Volume 45, Issue 10, Pages 5890-5899 (Q2 / SCI / IF- 5.816).
19. **Yukesh Kannah R**, Kavitha S, Gunasekaran M, Kumar G, Rajesh Banu J, Zhen G. Biohydrogen production from seagrass via novel energetically efficient ozone coupled rotor stator homogenization.

[International Journal of Hydrogen Energy](#), February 2020, Volume 45, Issue 10, Pages 5881-5889 (**Q2 / SCI / IF- 5.816**).

20. Meena AAR, Rajesh Banu J, **Yukesh Kannah R**, Yogalakshmi KN, Kumar G. Biohythane production from food processing wastes - challenges and perspectives. [Bioresource Technology](#), February 2020, Volume 298, Article ID: 122449 (**Q1 / SCI / IF -9.642**).
21. Rajesh Banu J, Kavitha S, **Yukesh Kannah R**, Bhosale RR, Kumar G. Industrial Wastewater to Biohydrogen: Possibilities towards successful biorefinery route. [Bioresource Technology](#), February 2020, Volume 298, Article ID: 122378 (**Q1 / SCI / IF -9.642**).
22. Rajesh Banu J, Kavitha S, **Yukesh Kannah R**, Kumar MD, Preethi, Atabani AE, Kumar G. Biorefinery of spent coffee grounds waste: Viable pathway towards circular bioeconomy. [Bioresource Technology](#), April 2020, Volume 302, Article ID: 122821 (**Q1 / SCI / IF -9.642**).
23. Kumar MD, **Yukesh Kannah R**, Kumar G, Sivashanmugham P, Rajesh Banu J, A novel energetically efficient combinative microwave pretreatment for achieving profitable hydrogen production from marine macro algae (*Ulva Reticulate*). [Bioresource Technology](#), April 2020, Volume 301, Article ID: 122759 (**Q1 / SCI / IF - 9.642**).
24. Rajesh Banu J, Kavitha S, **Yukesh Kannah R**, Usman TMM, Kumar G. Application of chemo thermal coupled sonic homogenization of marine macroalgal biomass for energy efficient volatile fatty acid recovery. [Bioresource Technology](#), May 2020, Volume 303, Article ID: 122951 (**Q1 / SCI / IF -9.642**).
25. Rajesh Banu J, **Yukesh Kannah R**, Kavitha S, Vivek AA, Bhosale RR, Kumar G. Cost effective biomethanation via surfactant coupled ultrasonic liquefaction of mixed microalgal biomass harvested from open raceway pond. [Bioresource Technology](#), May 2020, Volume 304, Article ID: 123021 (**Q1 / SCI / IF -9.642**).
26. Rajesh Banu J, Merrylin J, Usman TMM, **Yukesh Kannah R**, Gunasekaran M, Kim SH, Kumar G. Impact of pretreatment on food waste for biohydrogen production: A review. [International Journal of Hydrogen Energy](#), July 2020, Volume 45, Issue 36, Pages 18211-18225 (**Q2 / SCI / IF- 5.816**).
27. **Yukesh Kannah R**, Merrylin J, Devi TP, Kavitha S, Sivashanmugham P, Kumar G, Rajesh Banu J. Food waste valorization: Biofuels and value added product recovery. [Bioresource Technology Reports](#) September 2020, Volume 11, Article ID – 100524. (**Scopus**)
28. Kavitha S, **Yukesh Kannah R**, Kasthuri S, Gunasekaran M, Arulazhagan P, Eldon R. Rene, Kumar G., Rajesh Banu J. Profitable biomethane production from delignified rice straw biomass: Effect of lignin, energy and economic analysis. [Green Chemistry](#), October 2020, Volume 22, Pages 8024-8035 (**Q1 / SCI / IF – 10.182**).
29. Kumar G., Pravathy Eswari A, Kavitha S, Dinesh Kumar M, **Yukesh Kannah R**, Chyi How Lay, Gobi M, Rajesh Banu J. Thermochemical conversion routes of hydrogen production from organic biomass: Processes, challenges and limitations. [Biomass Conversion and Biorefinery](#), November 2020. Pages 1-26 (**Q1 / SCI / IF –4.987**).
30. **Yukesh Kannah R**, Kavitha S, Preethi, Karthikeyan OP, Kumar G, Dai-Viet NV, Rajesh Banu J. Techno-economic assessment of various hydrogen production methods- A review. [Bioresource Technology](#), January 2021, Volume 319, Article ID: 124175 (**Q1 / SCI / IF -9.642**).
31. Rajesh Banu J, Ginni G, Kavitha S, **Yukesh Kannah R**, Adish Kumar S, Shashi Kant Bhatia, Gopalakrishnan Kumar. Integrated biorefinery routes of biohydrogen: Possible utilization of acidogenic fermentative effluent. [Bioresource Technology](#), January 2021, Volume 319, Article ID: 124241 (**Q1 / SCI / IF - 9.642**).

32. **Yukesh Kannah R**, Kavitha S, Sivashanmugam P, Kumar G., Rajesh Banu J. Ultrasonic induced mechanoacoustic effect on delignification of rice straw for cost effective biopretreatment and biomethane recovery. [Sustainable Energy & Fuels](#), February 2021, Volume 5, Pages 1832-1844 (**Q1 / SCI / IF – 6.367**).
33. Rajesh Banu J, Merrylin J, Kavitha S, **Yukesh Kannah R**, Selvakumar P, Gopikumar S, Sivashanmugham P, Khac Uan Do, Gopalakrishnan Kumar. Trends in biological nutrient removal for the treatment of low strength organic wastewaters. [Current Pollution Reports](#) March 2021 Volume 7, Pages 1-30 (**Q1 / SCI / IF – 6.373**).
34. Rajesh Banu J, Mohamed Usman TM, Kavitha S, **Yukesh Kannah R**, Yogalakshmi KN, Sivashanmugam P, Amit Bhatnagar, Gopalakrishnan Kumar. A critical review on limitations and enhancement strategies associated with biohydrogen production. [International Journal of Hydrogen Energy](#) May 2021, Volume 9, Pages: 16565-16590 (**Q2 / SCI / IF- 5.816**)
35. Rajesh Banu J, Poornima Devi T, **Yukesh Kannah R**, Kavitha S, Sang Hyon Kim, Raul Munoz, Gopalakrishnan Kumar. A review on phase separated pretreatment on biosolids. [Water Research](#), June 2021, Volume 198, Article ID: 117169 (**Q1 / SCI / IF- 11.236**).
36. **Yukesh Kannah R**, Kavitha S, Karthikeyan OP, Elden RR, Kumar G, Rajesh Banu J. A review on anaerobic digestion of energy and cost effective microalgae pretreatment for biogas production. [Bioresource Technology](#), July 2021, Volume 332, Article ID: 125055 (**Q1 / SCI / IF- 9.642**).
37. Ginni G, Kavitha S, **Yukesh Kannah R**, Bhatia SK, Kumar SA, Rajkumar M, Kumar G, Pugazhendhi A, Chi NTL, Rajesh Banu J. Valorization of agricultural residues: Different biorefinery routes. [Journal of Environmental Chemical Engineering](#), August 2021, Volume 9, Article ID: 105435 (**Q1 / SCIE / IF- 5.909**).
38. Kavitha S, **Yukesh Kannah R**, Guangyin Zhen, Kumar G, Rajesh Banu J. Effect of solubilization on acidification, anaerobic biodegradability and economic feasibility via ultrasonic-zerovalent iron – acidic pH pretreatment of sludge. [ACS Energy and Fuels](#), October 2021, Volume 35, Issue 20, Pages 16617-16628 (**Q1/ SCI/ IF -3.605**).
39. **Yukesh Kannah R**, Kavitha S, Rajesh Banu J, Gunasekaran M, Sivashanmugam P, Kumar G. A mini review on biochemical conversion of algal biorefinery. [ACS Energy and Fuels](#), October 2021, Volume 35, Issue 21, Pages 16995-17007 (**Q1/ SCI/ IF -3.605**).
40. Rajesh Banu J., Sugitha S., Kavitha S., **Yukesh Kannah R.**, Merrylin J., Gopalakrishnan Kumar. Lignocellulosic Biomass Pretreatment for Enhanced Bioenergy Recovery: Effect of Lignocelluloses Recalcitrance and Enhancement Strategies. [Frontiers in Energy Research](#), November 2021, Volume 9, Article ID 646057 (**Q2 / SCIE / IF – 4.008**).
41. **Yukesh Kannah R.**, Bhava Rohini K., Gunasekaran M., Gokulakrishnan K., Kumar G., Rajesh Banu J. Prediction of effective substrate concentration and its impact on biogas production using Artificial Neural Networks in Hybrid Upflow anaerobic Sludge Blanket reactor for treating landfill leachate. [Fuel](#), November 2021, Article ID: 122697 (**Q1/ SCI/ IF -6.609**).
42. Rajesh Banu J, **Yukesh Kannah R**, Dinesh Kumar M, Preethi, Kavitha S, Gunasekaran M, Zhen G, Mukesh, Kumar G. Spent coffee grounds based circular bioeconomy: Techno economic and commercialization aspects. [Renewable and Sustainable Energy Reviews](#). December 2021, Volume 152, Article ID 111721 (**Q1 / SCI / IF – 14.982**).
43. Rajesh Banu J, Ginni G, Kavitha S, **Yukesh Kannah R**, Kumar V, Kumar SA, Gunasekaran M, Tyagi VK, Kumar G. Polyhydroxyalkanoates synthesis using acidogenic fermentative effluents. [International Journal of Biological Macromolecules](#), December 2021, Volume 193, Pages .2079-2092 (**Q1 / SCI / IF –**

6.953).

44. Gondi R., Kavitha S., **Yukesh Kannah R.**, Karthikeyan O.P., Kumar G., Kumar Tyagi V., Rajesh Banu J. Algal-based system for removal of emerging pollutants from wastewater: A review [*Bioresource Technology*](#), January 2022, Volume 344, Article ID: 126245 (**Q1 / SCI / IF- 9.642**).
45. Rajesh Banu J., Sharmila V.G, **Yukesh Kannah R.**, Kanimozhi R., Elfasakhany A., Gunasekaran M., Adish Kumar S., Kumar G., Impact of novel deflocculant ZnO/Chitosan nanocomposite film in disperser pretreatment enhancing energy efficient anaerobic digestion: Parameter assessment and cost exploration. [*Chemosphere*](#), January 2022, Volume 286, Article ID: 131835 (**Q1 / SCI / IF -7.086**).
46. Yogalakshmi KN, Devi TP, Sivashanmugam P, Kavitha S, **Yukesh Kannah R**, Varjani S, Kumar SA, Kumar G, Rajesh Banu J. Lignocellulosic biomass-based pyrolysis: A comprehensive review. [*Chemosphere*](#), January 2022, Volume 286, Article ID: 131824 (**Q1 / SCI / IF -7.086**).

Reviewer

- Bioresource Technology
- Fuel
- Frontiers in Energy Research
- International Journal of Hydrogen Energy
- Journal of Environmental Management
- Journal of Water Process Engineering
- Process Biochemistry
- Sustainable Cities and Society
- Scientific African and
- Waste Management etc.

Book chapters (Listed year wise)

1. **Yukesh Kannah R**, Chinnathambi Velu, Rajesh Banu J, Kirsten Heimann, Obulisamy Parthiba Karthickeyan. "[Food waste volarization by microalgae](#)". Waste to Wealth. Edited by Reeta Rani Singhanian, Avinash Agrawal, Rajeev K Sukumaran, Praveen Kumar R. Springer - December 2017, Page. 319-342 (ISBN: 978-981-10-7431-8)
2. Rajesh Banu J, Ushani U, **Yukesh Kannah R**. "[Activated sludge Process and Energy](#)". Optimization and Applicability Bioprocesses. Edited by Hemant J. Purohit, Atul Vaidya, Anshuman Khardenavis, Springer, Singapore - January 2018, Page. 187-210 (ISBN: 978-981-10-6862-1)
3. Yeom IT, Sharmila VG, Rajesh Banu J, **Yukesh Kannah R**, Sivashanmugham P. "[Municipal waste management](#)". In municipal and industrial waste: source, management practices and future challenges. Editors: Brenda Bryant and Betty Hall, Nova Science Publisher - April 2018. (ISBN: 978-1-53613-441-4)
4. **Yukesh Kannah R**, Gunasekaran M, Kumar G, Ushani U, Uan DK, Rajesh Banu J. "[Recent Developments In Biological Nutrient Removal](#)". Recent Advances in Water and Wastewater Treatment Technologies. Editors: Bui Xuan Thanh, Chart Chiemchaisri, Takahiro Fujioka & Sunita Varjani, Springer, Singapore November 2018. (ISBN :978-981-13-3259-3)
5. Yogalakshmi KN, Devi TP, Tamilarasan K, Logakanthi S, **Yukesh Kannah R**, Gunasekaran M, Rajesh Banu J. "[Microbial Fuel cells: The waste to energy approach](#)". Waste to Energy. Editors: Eduardo Jacob- Lopes, Nova Science Publisher, USA. December 2018. (ISBN: 978-1-53614-431-4)

6. **Yukesh Kannah R**, Merrylin J, Preethi, Sivashanmugam P, Gunasekaran M, Kumar G, Rajesh Banu J. "[Valorization of nutrient rich urinal wastewater by microalgae for biofuel production](#)". Application of Microalgae in wastewater treatment. Editor: Gupta, Sanjay Kumar, Bux and Faizal Springer. May 2019. (ISBN : 978-3-030-13909-4)
7. Kavitha S, Devi TP, **Yukesh Kannah R**, Kaliappan S, Rajesh Banu J. "[Post treatment method for organic solid waste](#)". Post treatment of anaerobically treated effluent. Editor: Tyagi V.K, Khan A.A, Khursheed A, Kazmi A.A, Jern N.G. IWA Singapore. June 2019 (ISBN: 9781780409733)
8. **Yukesh Kannah R**, Kumar MD, Usman TMM, Kaliappan S, Rajesh Banu J. "[Fundamentals of Anaerobic treatment](#)". Post treatment of anaerobically treated effluent. Editor: Tyagi V.K, Khan A.A, Khursheed A, Kazmi A.A, Jern N.G. IWA Singapore. June 2019 (ISBN: 9781780409733)
9. Rajesh Banu J, **Yukesh Kannah R**. "[Introductory Chapter: An Overview of biogas](#)". Anaerobic digestion, Editor. Rajesh Banu J. Intech Open Publisher - September 2019. (ISBN : 978-1-83881-850-0)
10. Eswari AP, Meena RAA, **Yukesh Kannah R**, Sakthinathan G, Karthikeyan OP, Rajesh Banu J. "[Bioconversion of marine waste biomass for biofuel and value-added products recovery](#)". Refining Biomass Residues for Sustainable Energy and Bioproducts Technology, Advances, Life Cycle Assessment, and Economics. Editors : R. Praveen Kumar, Gnansounou E, Raman JK, Baskar G. Academic Press Elsevier, November 2019. (ISBN: 9780128189979)
11. Rajesh Banu J, **Yukesh Kannah R**, Kavitha S, Usman TMM, Gunasekaran M, Kumar G, Kim SH, "[Biohydrogen: Resource recovery from industrial wastewater](#)". Current Developments in Biotechnology and Bioengineering, Resource Recovery from Wastes. Editors: Sunita Varjani, Ashok Pandey, Edgard Gnansounou, Samir Kumar Khanal, Sindhu Raveendran Elsevier, USA January 2020. (ISBN: 978-0-444-64321-6)
12. Kavitha S, **Yukesh Kannah R**, Gunasekaran M, Kumar G, Rajesh Banu J. "[Introduction: Sources and characterization of food waste and food industry wastes](#)". Food Waste to Valuable Resources 1st Edition Applications and Management. Editors: Rajesh Banu J, Kumar G, Gunasekaran M, Kavitha S. Academic Press Elsevier, May 2020. (ISBN : 9780128183533)
13. **Yukesh Kannah R**, Kavitha S, Sivashanmugam P, Rajesh Banu J. "[Valorization of food waste for bioethanol and biobutanol production](#)". Food Waste to Valuable Resources 1st Edition Applications and Management. Editors: Rajesh Banu J, Kumar G, Gunasekaran M, Kavitha S. Academic Press Elsevier, May 2020. (ISBN: 9780128183533).
14. Merrylin J, **Yukesh Kannah R**, Rajesh Banu J, Yeom IT. "[Production of organic acids and enzymes/biocatalysts from food waste](#)". Food Waste to Valuable Resources 1st Edition Applications and Management. Editors: Rajesh Banu J, Kumar G, Gunasekaran M, Kavitha S. Academic Press Elsevier, May 2020. (ISBN : 9780128183533)
15. Devi TP, Kavitha S, **Yukesh Kannah R**, Rajesh Banu J. "[Speciality chemicals and Nutraceuticals production from food industry wastes](#)". Food Waste to Valuable Resources 1st Edition Applications and Management. Editors: Rajesh Banu J, Kumar G, Gunasekaran M, Kavitha S. Academic Press Elsevier, May 2020. (ISBN : 9780128183533)
16. Gopikumar S, Tharanyalakshmi R , **Yukesh Kannah R**, Selvam A, Rajesh Banu J. "[Aerobic biodegradation of food wastes](#)". Food Waste to Valuable Resources 1st Edition Applications and Management. Editors: Rajesh Banu J, Kumar G, Gunasekaran M, Kavitha S. Academic Press Elsevier,

May 2020. (ISBN : 9780128183533)

17. Subha C, Kumar MD, Kavitha S, **Yukesh Kannah R**, Rajesh Banu J. "[Bioenergy recovery from food processing wastewater- Microbial fuel cell](#)". Food Waste to Valuable Resources 1st Edition Applications and Management. Editors: Rajesh Banu J, Kumar G, Gunasekaran M, Kavitha S. Academic Press Elsevier, May 2020. (ISBN : 9780128183533)
18. Logakanthi S, **Yukesh Kannah R**, Rajesh Banu J. "[Analysis and regulation policies of food waste based on circular bioeconomies](#)". Food Waste to Valuable Resources 1st Edition Applications and Management. Editors: Rajesh Banu J, Kumar G, Gunasekaran M, Kavitha S. Academic Press Elsevier, May 2020. (ISBN : 9780128183533)
19. Selvam A, Ilamathi KPM, Udayakumar M, Murugesan K, Rajesh Banu J, **Yukesh Kannah R**, Wong JWC. "[Food waste Properties](#)". Current Developments in Biotechnology and Bioengineering Editors: Wong JWC Elsevier, January 2021. (ISBN: 978-0-12-819148-4)
20. Nagendranath Reddy C, Sanjeet Mehariya, Kavitha S, **Yukesh Kannah R**, Jayaprakash, Rajasri Yadavalli, Rajesh Banu J, Obulisamy Parthiba Karthikeyan. Chapter 16 "[Electro-Fermentation of Biomass for High-Value Organic Acids](#)". Biorefineries: A Step Towards Renewable and Clean Energy. January 2021 (ISBN 978-981-15-9593-6).

Edited Book

1. [Anaerobic Digestion](#), Edited by: Rajesh Banu J, Co-Editor / Assistant to Editor: **Yukesh Kannah R**, Intech open 2019. (ISBN : 978-1-83881-850-0)

Conference Proceedings (Listed year wise)

1. **Yukesh Kannah R**, Judes J, Kumar SA, Rajesh Banu J. Biofuel production from microalgae biomass through anaerobic process. Proceedings of TEQIP II sponsored International conference on Advances in Biological Chemical & Physical Sciences, BIT campus, Tiruchirappalli, India. Pp. 200-206. March 13th - 15th 2017 (ISBN: 978-93-80622-24-8)
2. **Yukesh Kannah R**, Gunasekaran M, Rajesh Banu J, 2016, Enhancement of biogas production by combinative pretreatment of sludge biomass. Proceedings of International Conference on recent trends in structural and environmental engineering, University College of Engineering, Dindigul, Tamil Nadu, India, May 23rd, 2016. Pp. 43-44. (ISBN: 978-93-85477-86-7)
3. Sugitha S, **Yukesh Kannah R**, Rajesh Banu J, 2016, Achieving cost effective pretreatment of a macrophyte for biogas production and predicting its anaerobic bio degradability by ADM 1. Proceedings of International Conference on recent trends in structural and environmental engineering, University College of Engineering, Dindigul, Tamil Nadu, India, May 23rd , 2016. Pp. 43-44. (ISBN: 978-93-85477- 86-7)

National Journal (Listed year wise)

1. Vignesh B, Rajesh Banu J, **Yukesh Kannah R**, Kumar SA. Effect of Size reduction on parameters affecting anaerobic biodegradability in high organic biomass. International Journal of Science Engineering and Management, April 2018, Volume 3, Issue 4, Page 463-467 (ISSN: 2456-1304)

2. **Yukesh Kannah R**, Kavitha S, Rajesh Banu J. BMP A Tool for Assessing Energy Efficient Biogas Production. *Advances in Biotechnology & Microbiology*, August 2017 Volume 5, Issue 2, AIBM.MS.ID.555663 (ISSN: 2474-7637)
3. **Yukesh Kannah R**, Kavitha S, Rajesh Banu J. Enhancement of biomethane production from microalgae by biological disintegration. *Seaweed Research and Utilization* July – December 2016 Volume 38, Issue 2, Page 83 – 86 (ISSN: 0971–7560)

International / National Conferences (Listed year wise)

1. **Yukesh Kannah R**, Kavitha S, Kumar G, Rajesh Banu J. Biofuels and value added products recovery from organic food waste. 1st International Conference on Pollution Prevention and Clean Technologies" held on 6th & 7th of December, 2021, New Delhi, India.
2. Kavitha S, **Yukesh Kannah R**, Kumar G, Rajesh Banu J. Integrated Algal Bio-refinery: Biofuels and value added products recovery. 1st International Conference on Pollution Prevention and Clean Technologies" held on 6th & 7th of December, 2021, New Delhi, India.
3. Rajesh Banu J, Kavitha S, **Yukesh Kannah R**, Kumar G. Surfactant mediated cell wall weakening of macroalgal biomass for cost effective biological disintegrations and biomethane recovery. 4th International Conference on Alternative Fuels, Energy and Environment Future and Challenges (ICAFEE 2019) held on 18th – 21st October 2019, Taichung, Taiwan.
4. Rajesh Banu J, **Yukesh Kannah R**, Kavitha S, Vivek AA, Bhosale RR, Kumar G. Cost effective biomethanation via surfactant coupled ultrasonic liquefaction of mixed microalgal biomass harvested from open raceway pond. 4th International Conference on Alternative Fuels, Energy and Environment Future and Challenges (ICAFEE 2019) held on 18th – 21st October 2019, Taichung, Taiwan.
5. Rajesh Banu J, Kavitha S, **Yukesh Kannah R**, Usman TMM, Kumar G. Recovery of volatile fatty acid from marine macroalgae hydrolysate using energy efficient thermo-acidic coupled ultrasonic homogenization. 8th Global Conference on Global Warming April on 22nd – 25th April 2019, Doha, Qatar.
6. Rajesh Banu J, Preethi, Kavitha S, **Yukesh Kannah R**, Gunasekaran M, Kumar G Hydrogen peroxide mediated biological liquefaction of dairy waste activated sludge for profitable biomethane production. 8th Global Conference on Global Warming on 22nd – 25th April 2019, Doha, Qatar.
7. Kumar MD, **Yukesh Kannah R**, Kumar G, Sivashanmugham P, Rajesh Banu J. A novel energetically efficient combinative microwave pretreatment for achieving profitable hydrogen production from marine macro algae (*Ulva reticulata*). 8th Global Conference on Global Warming on 22nd – 25th April 2019, Doha, Qatar.
8. Kavitha S, **Yukesh Kannah R**, Gunasekaran M, Nguyen DD, Al-Muhtaseb AH, Park JH, Rajesh Banu J, Effect of low intensity sonic mediated fragmentation of anaerobic granules on biosurfactant secreting bacterial pretreatment : Energy and mass balance analysis. 3rd International Conference on Alternative Fuels, Energy and Environment Future and Challenges (ICAFEE 2018) 28th - 31st October 2018 China, Nanjing.
9. Kavitha S, **Yukesh Kannah R**, Gunasekaran M, Rajesh Banu J, Kumar G. Rhamnolipid induced deagglomeration of anaerobic granular biosolids for energetically feasible ultrasonic

homogenization and profitable biohydrogen. 3rd International Conference on Alternative Fuels, Energy and Environment Future and Challenges (ICAFEE 2018) 28th - 31st October 2018 China, Nanjing.

10. **Yukesh Kannah R**, Kavitha S, Gunasekaran M, Kumar G, Rajesh Banu J. Generating net positive energy through surfactant mediated ultrasonic disintegration of microalage harvest from raceway pond. 3rd International Conference on Alternative Fuels, Energy and Environment Future and Challenges (ICAFEE 2018) 28th - 31st October 2018 China, Nanjing.
11. **Yukesh Kannah R**, Kavitha S, Gunasekaran M, Kumar G, Rajesh Banu J. Biohydrogen production from seagrass via novel energetically efficient ozone coupled rotor stator homogenization . 3rd International Conference on Alternative Fuels, Energy and Environment Future and Challenges (ICAFEE 2018) 28th - 31st October 2018 China, Nanjing.
12. **Yukesh Kannah R**, Bhavarohini K, Gokulakrishnan K, Rajesh Banu J, Kumar G. Prediction of effective substrate concentration and its impact on biogas production using Artificial Neural Networks in hybrid upflow anaerobic sludge blanket reactor for treating landfill leachate. 3rd International Conference on Alternative Fuels, Energy and Environment Future and Challenges (ICAFEE 2018) 28th - 31st October 2018 China, Nanjing.
13. Sugitha S, **Yukesh Kannah R**, Rajesh Banu J, Gunasekaran M and Kumar G. Impact of disperser coupled surfactant pretreatment on lignocellulosic biomass for effective biofuel production: Energy and economic assessment. 11th International Exergy, Energy and Environment Symposium (IEEES-11) held on 14th to 18th June 2019, Chennai, Tamilnadu.
14. Vingesh B, **Yukesh Kannah R**, Kumar SA, Rajesh Banu J. Effect of Size reduction on parameters affecting anaerobic biodegradability in high organic biomass. International conference on recent trends in multi-disciplinary research (ICRTMDR-2018) held on 19th & 20th April 2018 Tuticorin, Tamilnadu.
15. **Yukesh Kannah R**, Kavitha S, Rajesh Banu J. Combinative pretreatment of biosolids for improving the biodegradability and cost profitability. 3rd National conference on Advances in Civil Engineering (NCACE` 18) held on 02nd March 2018 Tirunelveli, Tamilnadu.
16. **Yukesh Kannah R**, Kavitha S, Rajesh Banu J. Combined ozone assisted thermochemical pretreatment of biosolids for improving the biodegradability and cost profitability. National conference on Environmental Science & Technology (NCEST` 18) held on 18th & 19th January 2018 Tirunelveli, Tamilnadu.
17. **Yukesh Kannah R**, Rajesh Banu J, Joe JM, Yeom IT, Kumar G. Performance analysis of membrane bioreactor coupled with combined sludge pretreatment for energy efficient sludge reduction. International Conference on Alternative Fuels & Energy, Daegu, South Korea. 23rd – 25th October 2017.
18. **Yukesh Kannah R**, Kavitha S, Rajesh Banu J, Kumar G, Kim SH. Biohydrogen production from rice straw: effect of combinative pretreatment, modelling assessment and energy balance consideration. International Conference on Alternative Fuels & Energy, Daegu, South Korea. 23rd – 25th October 2017.
19. Tamilarasan K, **Yukesh Kannah R**, Rakesh M, Rajesh Banu J. Energy generation from algal biomass

through combinative pretreatment', International conference on advances in algal biotechnology. School of biosciences and technology, VIT University, Vellore, Tamil Nadu, India, 10th - 12th August 2016.

20. Kavitha S, **Yukesh Kannah R** Rajesh Banu J, 2016,' Enhancement of biomethane production from microalgae by biological disintegration' International conference on advances in algal biotechnology. School of biosciences and technology, VIT University, Vellore, Tamil Nadu, India, 10th - 12th August 2016.
21. **Yukesh Kannah R**, Kavitha S, Rajesh Banu J. Biogas production from waste biomass through combinative pretreatment. 1st National conference on Environmental Rejuvenating Trends (NCERT-2016) Tirunelveli, Tamilnadu held on 19th April 2016.
22. **Yukesh Kannah R**, Kavitha S, Rajesh Banu J. Bioenergy production from waste activated sludge. National Level Technical Symposium (HOOVER 2K15) in T.J.S. Engineering College On 21st February 2015

Awards and Honors

1. Awarded as "**Senior Research Fellow**" (Direct SRF) by Council of Scientific and Industrial Research (CSIR) New Delhi, Government of India on 4th April 2019.
2. A Figure from Paper entitled "Cost effective biomethanation via surfactant coupled ultrasonic liquefaction of mixed microalgal biomass harvested from open raceway pond." has been selected by **Bioresource Technology** to appear in the **cover page**, Volume 304, May 2020.
3. Received **best poster award** for the work entitled "Recovery of volatile fatty acids from marine macroalgae hydrolysate using energy efficient thermo-acidic coupled ultrasonic homogenization" in 8th Global Conference on Global Warming (GCGW-2019) held in Doha, Qatar on April 22nd –25th, 2019.
4. Received **best poster award** for the work entitled "Performance analysis of membrane bioreactor coupled with combined sludge pretreatment for energy efficient sludge reduction" in International Conference on Alternative Fuels & Energy (ICAFE-2017) October 23rd–25th, 2017.
5. Received **recognized reviewer award** from various international journals (Elsevier & Frontiers).
6. Received **best poster award** for the work entitled "Enhancement of biomethane production from microalgae by biological disintegration" in International conference on Advances in Algal Biotechnology (ICAAB - 2016), VIT, Vellore, India. August 10th-12th, 2016.
7. Secured **University Second Rank** during Master of Engineering (Anna University, Chennai – April/May 2015)
8. Received **First prize in Oral paper presentation** event conducted in National Level Technical Symposium (HOOVER 2K15) in T.J.S. Engineering College On February 21st, 2015.
9. Received **First prize in Town Planning** event conducted in National Level Technical Symposium (COLOSSEUM'11) in R.M.K. Engineering College On August 22nd, 2011.