

National Institute of Technology, Tiruchirappalli: Performa for CV of Faculty/ Staff Members

Curriculum Vitae



Dr. K. Muthukumar, Professor, Department of Chemical Engineering, National Institute of Technology, Tiruchirappalli has completed his B.Tech degree in Chemical Engineering at Shanmugha College of Engineering (SASTRA), Thanjavur, and obtained his Masters in Chemical Engineering from Regional Engineering College (NIT) Trichy. He has completed his Ph.D. at A.C.Tech, Anna University, Chennai under the guidance of Prof.M.Velan in the year 2006. He did his post-doctoral fellowship at Georgia Institute of Technology, Atlanta under Prof. Sankar Nair on nanoporous materials under Raman Fellowship sponsored by the University Grants Commission from 2016-2017. He has worked as a Lecturer in the Department of Chemical Engineering, A.C.Tech, Anna University, Chennai from August 2004 to December 2007. He has been promoted as Assistant Professor on December 2007 and to Associate Professor on December 2010.

Dr. K. Muthukumar has published more than sixty international papers and has more than 30 papers in conference proceedings. His prime research work includes biorefinery engineering, biorefinery separations, and development of innovative methods for waste valorization. He has guided twelve Ph.D. candidates and more than 30 post graduate students. As an active researcher, Dr Muthukumar successfully completed three research projects sponsored by Government funding agencies and a regular consultant to chemical industries. Dr Muthukumar has passion for teaching and taught several subjects to undergraduate and post graduate students. Dr Muthukumar held various administrative responsibilities at Anna University Chennai including Coordinator MBA Distance Education, A.C.Tech. Study Center and Deputy Warden, A.C.Tech. Hostels. He was also a member of department and University level committees. He was the Honorary Secretary of the Indian Institute of Chemical Engineers, Chennai Regional Centre for a period of four years.

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1. Name K Muthukumar
2. Designation: Professor
3. Office Address: Professor
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+91 431 2503105 (Office)
5. Email (Primary): kmkumar@nitt.edu Email (Secondary) :
chemkmk@gmail.com
6. Field(s) of Specialization: Energy and Environment

7. Employment Profile

Job Title	Employer	From	To
Professor	Department of Chemical Engineering National Institute of Technology Tiruchirappalli 620015, India	06/2018	Till date
Associate Professor	Department of Chemical Engineering Algappa College of Technology Anna University, Chennai 600025, India	12/2010	06/2018
Assistant Professor	Department of Chemical Engineering Algappa College of Technology Anna University, Chennai 600025, India	12/2007	12/2010
Lecturer	Department of Chemical Engineering Algappa College of Technology Anna University, Chennai 600025, India	08/2004	12/2007

8. Academic Qualifications:

Examination	Board / University	Year	Division/ Grade	Subjects
Ph.D.	Anna University	2006		Chemical Engineering
M.Tech.	NIT, Trichy	1999	I	Chemical Engineering – Plant Design
B.Tech.	Shanmugha College of Engineering (SASTRA) Bharathidasan University	1998	I	Chemical Engineering
Higher Secondary	TN State Board	1994	I	Maths, Phy, Che, Biology
Matric/10th	TN State Board	1992	I	Math, Sci, Social Sci

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9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	To
Staff Advisor	Rotaract Club of A.C.Tech., Anna University, Chennai-25	2004	2016
Coordinator	Coordinator MBA Distance Education A.C.Tech. Study Centre, Anna University, Chennai-25	2007	2012
Staff Advisor,	Association of Technologists, Chemical Engineering, Anna University, Chennai-25	2010	2013
Deputy Warden,	A.C.Tech. Hostels, Anna University, Chennai-25	2004	2010

10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To
Honorary Secretary	Indian Institute of Chemical Engineers, Chennai Regional Centre	2009	2013

11. Awards, Associateships etc.

12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)
2016	Raman Fellowship	University Grants Commission, Govt. of India	Oct 2016	Oct 2017

13. Details of Academic Work

(i) Curriculum Development

- Was involved in starting a Masters Course on Environmental Science and Technology at A.C.Tech., Anna University.
- Introduced an Elective course on Environmental Reaction Engineering.

(ii) Courses taught at Postgraduate and Undergraduate levels

- Process Dynamics and Control
- Biochemical Engineering
- Modeling of Environmental Systems
- Mechanical Operations
- Fluid Mechanics theory and lab
- Chemical Process Design
- Unit Operations and Unit Processes in Environmental Technology
- Mass Transfer theory and lab
- Chemical Process Design

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(iii) Projects guided at Postgraduate level

Name	Title
2016	
Janai .R	Preparation of polymer algae composites for industrial application
M.D.Nirmala	Simultaneous treatment and hydrogen production from phenol by electrolysis
Shaziya	Bio electricity generation with de contamination of waste water using microbes
2014	
K.Prabakaran	Studies on the performance of different non-ionic catalysts on the production of biodiesel from natural oils.
Ayyappan	Studies on the performance of different alkaline catalysts on the production of biodiesel
Kishore	Studies on the performance of different acid catalysts on the production of biodiesel from natural oils.
Logesh Kumar	Studies on sonocrystalization
Sundaram	Studies on bio hydrogen production from industrial wastes
S. Naveen Kumar	Studies on development of reactors for the production of Bio hydrogen
2013	
Karthigaiselvan	Synthesis of Nanocatalyst for biodiesel production
2011	
Saranya Devi	Removal of dyes using <i>Moringa olifera</i>
Saranya	Electrospun nano fibres
Saveetha	Innovative approach for production of Bio-diesel from microalgae
2010	
Deepa .B	Biological hydrogen production from pretreated sugarcane Bagasse using <i>Enterobacter aerogenes</i>
Pandiarajan .S	Predication of critical gas velocity in the 3-phase Internal loop airlift reactor
Rega .K	Development of membrane bioreactor for the treatment of textile dye wastewater
Karthika .V	Electrochemical treatment of textile dye effluent by using airlift type three phase 3D electrochemical reactor.
Athmaram	Integration of sonochemical with different physiochemical treatments for the effective mineralization of recalcitrant effluents.
Senthilraj	Studies on development and characterisation of biomaterials for drug delivery.
Qusay.J.Rasheed	Studies on treatment of petroleum wastewater
2009	
Sivakumar.R	Treatment of pharmaceutical wastewater by hybrid techniques

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Sivasudha.S	Hybrid Techniques for the treatment of petroleum effluent
Prabhu arun kumar	Modelling and simulation of Internal loop airlift reactor
Kumaraprasad	Studies on the synthesis of mass exchange Networks
Diana Shalene Barnes	Studies on the hybrid techniques for the improved treatments of industrial effluent
Karthigarani.R	Continuous reduction of Hexavalent chromium by Immobilised <i>Bacillus</i> Sp
Harish.B	Hydrodynamic Studies on internal loop airlift reactor
Ponmani.S	Evaluation of bioethanol production potential from baggasse cotton waste and Ridge gourd fibre.
2008	
Rajesh Kannan	Production of Bioethanol
K.Raja sekhar	Microbial reduction of Hexavalent chromium
Tamilselvi.S	Studies on the synthesis of NPS
Veena .C	Biological Treatment of pharmaceutical wastewater using sequencing Batch reactor
2007	
Antony Angelo Trinito	Mass transfer studies in an inverse fluidised bed reactor
Nithyadevi C	Studies on controlled drug release in cancer Chemotherapy using Nanoparticles
Kannan. V	Modelling and simulation of internal loop airlift reactor
Kesavan K.K	Water usage and treatment network design using Genetic Algorithm
2006	
Vidivelli	Studies on adsorption of dyes

(iv) Other contribution(s)

- UG and PG Project Review Committee member
- Offered internships for UG students.
- Member of Board of Studies and syllabus sub-committee

14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed
Biohydrogen production from industrial wastewater by combined methods	DST-SERB	29 June 2013	28 June 2016	Completed
Development of sono-assisted pretreatment and hydrolysis techniques for the production of bioethanol from lignocellulosic waste	CSIR	01April 2012	30 June 2015	Completed
Treatment of pharmaceutical effluent by combined treatment techniques	UGC	01 Feb. 2011	31 Jan. 2013	Completed

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15. Number of PhDs guided

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co-Supervisor)	Year of Award
M.N.Kathiravan	Microbial chromium reduction using free and immobilized <i>Bacillus</i> sp.	Supervisor	2010
K.P.Gopinath	Decolourisation of dye wastewater	Supervisor	2012
S.Nachiappan	Improvement of biological treatment of wastewaters containing recalcitrant Organics using sono and electro Chemical Methods	Supervisor	2013
R.Velmurugan	Ultrasound assisted pretreatment and hydrolysis for the production of ethanol from sugarcane bagasse	Supervisor	2013
R.Sivaramakrishnan	Production of methyl ester from <i>Oedogonium</i> sp. oil using <i>Bacillus</i> sp. Lipase	Supervisor	2014
A.Babu Ponnusami	Studies on degradation of phenol in aqueous solution by advance oxidation processes	Supervisor	2013
S.R.Vijayalakshmi Devi	Biodegradation of textile dye effluent	Supervisor	2015
Mujambere Jean Marie	Studies on decolorisation of dyes	Supervisor	2015
Zerihun Demrew Yigezu	Production of biodiesel from non-edible oils using lipase producing microorganisms	Supervisor	2015
B.Ramprakash	Biohydrogen production from rice mill wastewater	Supervisor	2016
G.Ramadoss	Ultrasound based pretreatment methods for the production of bioethanol from sugarcane Bagasse	Supervisor	2016
D.Gunasundari	Simultaneous microbial reduction of Cr(VI) and phenol by <i>Stenotrophomonas</i> sp.	Supervisor	2017

16. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)

- One-day seminar on "Safety in Chemical Industries" organized by IChE CRC in association with CLRI on 22 August 2013.
- One-day awareness programme on "Internal Quality Assurance" organized by Internal Quality Assurance Cell, Anna University, Chennai on 22 March 2013.
- One-day awareness programme on "ISO 9001:2008" organized by BUREAU VERSITAS on March 25, 2013.

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- Indo-Europe workshop on "Recent Developments in Membrane Technology for Industrial Applications" organized by the Dept. of Chemical Engineering, A.C.Tech., Anna University from 10-11 February, 2011.
- Workshop on "ETV/ e-content production" organized by EMMRC, Anna University, Chennai from 29-30 Jan, 2010.
- TEQIP sponsored Seminar on "Process Modeling and Simulation" held at the Department of Chemical Engineering, A.C. College of Technology, Anna University, 2007.
- UGC Sponsored Refresher Course on "Applications of Chemical Engineering Principles for Biotechnology" held at the Department of Chemical Engineering, A.C. College of Technology, Anna University, 2005.
- Orientation Training Programme on "Re – Engineering Teaching Skills" organized by Center for Faculty Development, Anna University, 2005.
- Short term course on "Modern Teaching Competencies" organized by CUIC, Anna University, 2002.
- Short term course on "C and C++" organized by CPDE, Anna University, 2001.
- Participated and presented papers in regularly in CHEMCON (Annual Indian Institute of Chemical Engineers conference)

17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convenor / Co-Convenor)

Venue (for all): Dept. of Chemical Engg., A.C.Tech. Campus, Anna University, Chennai – 25
Level of Activity: National

- Coordinator for the UGC sponsored training programme on "The state of the art-Analytical Instruments" held from 26-30 October 2015.
- Coordinator for the Faculty Development Programme on "Chemical Engineering Thermodynamics-II" held from May 14 – 21, 2015.
- Coordinator for the Faculty Development Programme on "Chemical Engineering Thermodynamics-I" held from Nov 27 – Dec 4, 2014.
- Coordinator for the Faculty Development Programme on "Process Instrumentation Dynamics and Control" held from Nov 29 – Dec 6, 2013.
- Staff Advisor for the THREE DAY Student level symposium "CHEMFLUENCE 2013" held February 28-March 1, 2013.
- Coordinator for the Faculty Development Programme on "Process Instrumentation Dynamics and Control" held from Nov 28 – Dec 5, 2012.
- Staff Advisor for the THREE DAY Student level symposium "CHEMFLUENCE 2012" held February 29-March 3, 2012.
- Staff Advisor for three-day seminar on petroleum refining and petrochemicals "PETROVISION-2011" held February, 2012.
- Staff Advisor for three-day seminar on petroleum refining and petrochemicals "PETROVISION-2011" held February, 2011.
- Staff Advisor for two-day seminar on petroleum refining and petrochemicals "PETROVISION-2011" held February, 2010.
- Co-Coordinator for the one-day seminar on petroleum refining and petrochemicals "PETROVISION-2009" November, 2009.
- Coordinator for one-day awareness programme on "Entrepreneurship Development" sponsored by TEQIP, A.C.Tech., Anna University, October 2007.

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- Coordinator for one-day personality development programme 'YOU VS. YOU' for non-teaching staff members of A.C.Tech. sponsored by TEQIP, A.C.Tech., Anna University, September 2007.
- Coordinator for Three Day Seminar on Intellectual Property organized by A.C.Tech in association with DOTE through TEQIP, September 2007.
- Camp Officer for Zone – III (ACT) Central Valuation during Dec 2006 and June 2007 held at A.C.Tech., Anna University, Chennai – 25.
- Coordinator for "Aptitude Training Programme for A.C.Tech post-graduate students" organized through TEQIP on 23rd and 24th May 2007.
- Coordinator for "CLEANTECH 2006" National seminar on Electrochemical techniques for cleaner environment, Organized by the Department of Chemical Engineering, A.C.Tech, Anna University on 3-4 November 2006.
- Co-Coordinator for "MEMSEP 2006" International seminar on development of purification and filtration industry in Japan and India, Organized by the Department of Chemical Engineering, A.C.Tech, Anna University on 27th November 2006.
- Organizing committee member for one-day workshop on WASTE MANAGEMENT organized by Department of Chemical Engineering in collaboration with AWARE, IGCAR, 2005.
- Co-Coordinator for the Faculty Development Programme on Environmental Engineering sponsored by Center for Faculty Development, Anna University, Jan 2005.
- Staff Advisor for Bharathiyam – 2005, Bharathiyam – 2006 and Bharathiyam – 2007 (Talent competition for school students).
- Staff advisor for Gravity – 2005 and Gravity – 2006 (Science exhibition for school students).
- Programme Coordinator for Know your Campus orientation programme for fresher's organized by Anna University.

18. Invited Talks delivered

Delivered many invited talks at National and International level.

19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member)	Organization	Membership No. with date
Life Member	Indian Institute of Chemical Engineers	LAM

20. Academic Foreign Visits

Country	Duration of Visit	Programme
USA	One year	Post-Doc thro Raman Fellowship

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21. Publications

(A) Refereed Research Journals:

64. Ramprakash, B and **Muthukumar, K.** "Influence of sulfuric acid concentration on biohydrogen production from rice mill wastewater using pure and coculture of *Enterobacter aerogenes* and *Citrobacter freundii*" *International Journal of Hydrogen Energy* 43 (2018) 9254-9258.
63. Merlyn Sujatha R. and Muthukumar, K. "Influence of pre-soaking conditions on ultrasonic extraction of *Spirulina platensis* proteins and its recovery using aqueous biphasic system" *Separation Science and Technology* 53 (2018) 2034 –2043.
62. Sivanarutselvi, S., **Muthukumar, K.** and Velan, M. "Studies on Effect of Hydrothermal Pretreatment of Sugarcane Bagasse for Biobutanol Production" *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects* 39 (2017) 1771-1777 (Impact factor: 0.648).
61. Indulekha, J., **Muthukumar, K.** and Arunagiri, A. "A review on the potential of citrus waste for D-limonene, pectin and bioethanol production" *International Journal of Green Energy* 14 (2017) 599-612 (Impact factor: 1.61).
60. Ramadoss, G. and **Muthukumar, K.** "Ultrasound assisted metal chloride treatment of sugarcane bagasse for bioethanol production" *Renewable energy* 99 (2016) 1092-1102. (Impact factor: 3.404)
59. Manjamatha, V.P., **Muthukumar, K.** "Pretreated lignocellulosic waste mediated biosynthesis of silver nanoparticles under room temperature" Accepted for publication in *International Journal of Nanoscience* (2016).
58. Madhumathi, R., **Muthukumar, K.**, Velan, M. "Optimization of polyhydroxybutyrate Production by *Bacillus safensis* EBT1" *Clean – Soil, Air, Water* 44 (8), 1066–1074 (2016). (Impact factor 1.716)
57. Manjamatha, V.P., **Muthukumar, K.** "Ultrasound assisted green synthesis of silver nanoparticles using weed plant" *Bioprocess and Biosystems Engineering* 39 (3) (2016) 401-411. (Impact factor: 1.901 Cited by 2)
56. Ramprakash, B and **Muthukumar, K.** "Biohydrogen production from rice mill wastewater using mutated *Enterobacter aerogenes*" *Engineering in Agriculture, Environment and Food* 9 (1), (2016)109-115.
55. Ramadoss, G. and **Muthukumar, K.**"Mechanistic study on ultrasound assisted pretreatment of sugarcane bagasse using metal salt with hydrogen peroxide for bioethanol production" *Ultrasonics sonochemistry* 28 (2016) 207-217. (Impact factor: 4.32, Cited by 9).
54. Mujiyambere, J.M.V and **Muthukumar, K** "Studies on dye decolorization by ultrasound assisted electrocoagulation" *CLEAN–Soil, Air, Water* 44(3) (2016) 232-2838 (Impact factor: 1.94)
53. Chemat, F., You, H.J., **Muthukumar, K.**, Murugesan, T. "Effect of l-arginine on the physical properties of choline chloride and glycerol based deep eutectic solvents" *Journal of Molecular Liquids* 212 (2015) 605-611. (Impact factor: 2.740, Cited by 4)
52. Yigezu Z.D. and **Muthukumar, K.** "Structural characteristics of selected metal oxides used for the catalytic pyrolysis of sunflower oil" *Journal of Analytical and Applied Pyrolysis* 114 (2015) 60–67. (Impact factor:3.56)
51. Ramprakash, B and **Muthukumar, K.** "Comparative study on the performance of various pretreatment and hydrolysis methods for the production of biohydrogen using

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- Enterobacter aerogenes RM 08 from rice mill wastewater" *International Journal of Hydrogen Energy* 40 (2015) 9106–9112. (Impact factor: 3.31 Cited by 8)
50. Yigezu Z.D. and **Muthukumar, K.** "Biofuel production by catalytic cracking of sunflower oil using vanadium pentoxide" *Journal of Analytical and Applied Pyrolysis* 112 (2015) 341-347. (Impact factor: 3.56, Cited by:4)
 49. Vijayalakshmi, S.R. and **Muthukumar, K.** "Improved biodegradation of textile dye effluent by coculture" *Ecotoxicology and Environmental Safety* 114 (2015) 23-30. (Impact factor:2.76, Citation:1)
 48. Ramadoss, G. and **Muthukumar, K.** "Influence of dual salt on the pretreatment of sugarcane bagasse with hydrogen peroxide for bioethanol production" *Chemical Engineering Journal* 260 (2015) 178-187 (Impact factor: 4.32, Citation:17)
 47. Gowthami, P. **Muthukumar, K** and Velan, M. "Utilization of coconut oil cake for the production of lipase using *Bacillus coagulans* VKL1" *Biocontrol science* 20 (2015) 125-133.
 46. Nachiappan, S and **Muthukumar, K** "Treatment of pharmaceutical effluent by sono-Fenton-sorption" *CLEAN–Soil, Air, Water* 42 (2014) 1526-1533 (Impact factor: 1.94)
 45. Vijayalakshmi, S.R. and **Muthukumar, K.** "Phytoremediation of textile effluent pretreated with ultrasound and bacteria" *Journal of Environmental Chemical Engineering* 2 (2014) 1813–1820. (Citation:7)
 44. Ramprakash, B and **Muthukumar, K.** "Comparative study on the production of biohydrogen from rice mill wastewater" *International Journal of Hydrogen Energy* 39 (2014) 14613–14621. (Impact factor:3.31, Citation:8)
 43. Yigezu Z.D. and **Muthukumar, K.** "Catalytic cracking of vegetable oil with metal oxides for biofuel production" *Energy Conversion and Management*, 84 (2014) 326-333. (Impact factor 4.38, Citation:25)
 42. Vijayalakshmi, S.R. and **Muthukumar, K.** "Biodegradation of malachite green by *Ochrobactrum* sp." *World J Microbiol Biotechnol*, 30 (2014) 429-437. (Impact factor1.77, Citation:2)
 41. Babu Ponnusami, A. and **Muthukumar, K.** "A review on Fenton and improvements to the Fenton process for wastewater treatment" *Journal of Environmental Chemical Engineering*. 2 (2014) 557- 572. (Citation: 204)
 40. Sivaramakrishnan, R. and **Muthukumar, K.** "Direct transesterification of *Oedogonium* sp. oil by using immobilized isolated novel *Bacillus* sp. lipase" *Journal of Bioscience and Bioengineering*. 117 (2014) 86-91. (Impact factor:1.88)
 39. Ramadoss, G. and **Muthukumar, K.** "Ultrasound assisted ammonia pretreatment of sugarcane bagasse for fermentable sugar production" *Biochemical Engineering Journal*. 83 (2014) 33-41. (Impact factor:2.46, Citation:18)
 38. Subramani, A and **Muthukumar, K** "Transesterification of palm oil with high free fatty acid content using sodium hydride" *Indian Chemical Engineer* (2014) 1-7.
 37. Gunasundari, D. and **Muthukumar, K.** "Simultaneous Cr(VI) reduction and phenol degradation using *Stenotrophomonas* sp. isolated from tannery effluent contaminated soil" *Environmental Science and Pollution Research*. 20 (2013) 6563-6573. (Impact factor: 2.82, Citation: 12)
 36. Brinda Lakshmi, M., **Muthukumar, K.**, M Velan. "Optimization of minimal salt medium for efficient phenanthrene biodegradation by *Mycoplana* sp. MVMB2 isolated from petroleum contaminated soil using factorial design experiments" *CLEAN–Soil, Air, Water*, 41 (2013) 51-59. (Impact factor: 1.94, Citation:10)

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35. Brinda Lakshmi, M., **Muthukumar, K.**, M Velan. "Immobilization of *Mycoplana* sp. MVMB2 isolated from petroleum contaminated soil onto papaya stem (*Carica papaya* L.) and its application on degradation of phenanthrene" *CLEAN–Soil, Air, Water*, 41 (2013) 51-59. (Impact factor: 1.94, Citation:2)
34. Nachiappan, S and **Muthukumar K.** "Treatment of pharmaceutical effluent by ultrasound coupled with dual oxidant system" *Environmental Technology* 34 (2013) 209-213. (Impact factor: 1.56, Citation:6)
33. Babu Ponnusami, A. and **Muthukumar, K.** "Treatment of phenol containing waste water by photo electro Fenton method using supported nano scale zero valent iron" *Environmental Science and Pollution Research* 20 (2013) 1596- 1605. (Impact factor: 2.82, Citation:10)
32. Babu Ponnusami, A. and **Muthukumar, K.** "Removal of phenol by heterogeneous photo electro Fenton-like process using nano-zero valent iron" *Separation and Purification Technology*. 98 (2012) 130-135. (Impact factor:3.09, Citation:57)
31. Velmurugan, R and **Muthukumar, K.** "Ultrasound-assisted alkaline pretreatment of sugarcane bagasse for fermentable sugar production: Optimization through response surface methodology" *Bioresource Technology*. 112 (2012) 293–299. (Impact factor: 4.49, Citation:66)
30. Nachiappan, S and **Muthukumar K.** "Pretreatment of textile effluent by ultrasound based hybrid methods for the enhancement of biodegradability" *Journal of Scientific and Industrial Research*, 71 (2012) 757-765 (Impact factor: 0.5).
29. Sivaramakrishnan, R. and **Muthukumar, K.** "Isolation of thermo-stable and solvent tolerant *Bacillus* sp. lipase for the production of biodiesel" *Applied Biochemistry and Biotechnology*. 166 (2012)1095–1111 (Impact factor: 1.73, Citation: 18)
28. Velmurugan, R and **Muthukumar, K.** "Sono-assisted enzymatic saccharification of sugarcane bagasse for bioethanol production" *Biochemical Engineering Journal*. 63 (2012) 1-9 (Impact factor: 2.46, Citation:42)
27. Babu Ponnusami, A. and **Muthukumar, K.** "Advanced Oxidation of phenol: A comparison between Fenton, electro-Fenton, sono-electro-Fenton and photo-electro-Fenton Processes" *Chemical Engineering Journal*. 183 (2012) 1– 9 (Impact factor: 4.32, Citation:166)
26. Sivaramakrishnan, R. and **Muthukumar, K.** "Production of methyl ester from *Oedogonium* sp. oil using immobilized isolated novel *Bacillus* sp. lipase" *Energy& Fuels*, 26 (2012) 6387–6392 (Impact factor:2.79, Citation:4)
25. Velmurugan, R and **Muthukumar, K.** "Utilization of sugarcane bagasse for bioethanol production: sono-assisted acid hydrolysis approach" *Bioresource Technology*. 102 (2011) 7119-7123. (Impact factor: 4.49, Citation:56)
24. Athinthra, K.S., Ashwin, R., Saravana Rajakumar, T., **Muthukumar, K.** "Improved adsorptive removal of Congo red dye using ultrasonically pretreated *Strychnos potatorum* seed powder" *Indian Chemical Engineer* 53 (2011) 1.
23. Rasheed, Q.J., Pandian, K. and **Muthukumar, K.** "Treatment of petroleum refinery wastewater by ultrasound-dispersed nanoscale zero-valent iron particles" *Ultrasonics Sonochemistry*. 18 (2011) 1138–1142 (Impact factor:4.32, Citation:44)
22. Kathiravan, M.N., Karthick, R., and **Muthukumar, K.** "Ex-situ bioremediation of Cr(VI) contaminated soil by *Bacillus* sp.: batch and continuous Studies, *Chemical Engineering Journal*. 169 (2011) 107–115. (Impact factor:4.32, Citation:38)
21. Kathiravan, M.N. and **Muthukumar K.** "Ultrasound mediated reduction of Cr(VI) using sludge obtained during electrocoagulation" *Environmental Technology*. 32 (2011) 1523-1531. (Impact factor: 1.56, Citation: 3)

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20. Sivakumar, R. and **Muthukumar, K.** "Sonochemical degradation of pharmaceutical wastewater" *CLEAN, Soil, Air, Water* 39 (2011) 136-141. (Impact factor: 1.94, Citation:9)
19. Babu Ponnusami, A. and **Muthukumar, K.** "Degradation of phenol in aqueous solution by Fenton, sono-Fenton and sono-photo-Fenton methods" *CLEAN, Soil, Air, Water* 39 (2011) 142-147. (Impact factor: 1.94, Citation:64)
18. Muthumanickam, A., Elankavi, E., Gayathri, R., Kubera Sampathkumar, S., Vijayakumar, G., **Muthukumar, K.** and Subramanian, S. "Tensile and in-vitro degradation study of electro spun fibrous mat produced from eri silk fibroin" *International Journal of Materials Research* 101 (2010) 1548-1553. (Impact factor:0.67, Citation:7)
17. Prabhu Arunkumar, R and **Muthukumar, K.** "Phenomenological simulation model for the prediction of hydrodynamic parameters of an internal loop airlift reactor" *Ind. Eng. Chem. Res.*, 49 (2010) 4995–5000, (Impact factor:2.071)
16. Lakshmidevi, R. and **Muthukumar, K.** "Enzymatic saccharification and fermentation of paper and pulp industry effluent for biohydrogen production" *International Journal of Hydrogen Energy.* 35 (2010) 3389-3400. (Impact factor: 4.053, Citation: 28)
15. Gopinath, K.P., **Muthukumar, K.** and Velan, M. "Sonochemical degradation of congored: optimization through response surface methodology" *Chemical Engineering Journal.* 157 (2010) 427–433. (Impact factor:3.074, Citation:42)
14. Kathiravan, M.N., Karthick, R., Karthiga Rani, R. and **Muthukumar, K.** "Mass transfer studies on the reduction of Cr(VI) using calcium alginate immobilized *Bacillus* sp. in packed bed reactor, *Bioresource Technology.* 101 (2010) 853–858. (Impact factor: 4.365, Citation: 44)
13. Kathiravan, M.N., Karthick, R., Muthu, N., **Muthukumar, K.** and Velan, M. "Sonoassisted microbial reduction of chromium", *Applied Biochemistry and Biotechnology.* 160 (2010) 2000–2013. (Impact factor: 1.879, Citation: 19)
12. Nachiappan, S and **Muthukumar K.** "Intensification of textile effluent chemical oxygen demand reduction by innovative hybrid methods" *Chemical Engineering Journal.* 163 (2010) 344-354. (Impact factor:3.074, Citation:10)
11. Kumaraprasad, G and **Muthukumar, K.** "Design of mass exchange network and effluent distribution system for effective water management", *Journal of Cleaner Production.* 17 (2009) 1580-1593. (Impact factor:1.867, Citation: 7)
10. Gopinath, K.P., Asan Meera Sahib, H., **Muthukumar, K.** and Velan, M. "Improved biodegradation of Congo red by using *Bacillus* sp.", *Bioresource Technology.* 100 (2009) 670-675. (Impact factor: 4.253, Citation:46)
9. Gopinath, K.P., Murugesan, S., Abraham, J., **Muthukumar, K.** "*Bacillus* sp. mutant for improved biodegradation of Congo red: Random mutagenesis approach", *Bioresource Technology.* 100 (2009) 6295-6300. (Impact factor: 4.253, Citation:48)
8. **Muthukumar, K.** and Velan, M. "Volumetric mass transfer coefficients in an internal loop airlift reactor", *Indian Chemical Engineer*, Vol. 51, No. 2, pp. 129-140 (2009).
7. **Muthukumar, K.**, Bharath, C., Pugalenti, V. and Velan, M., "Biodegradation kinetics of benzoic and anthranilic acids by *Micrococcus* sp.", *Journal of Scientific & Industrial Research*, Vol. 68, pp. 900-903 (2009). (Impact factor: 0.359) (Cited by: 5)
6. Srivathsan, V. R., Srinivasan, L. N., **Muthukumar, K.** "An overview of enzymatic production of biodiesel", *Bioresource Technology.* 99 (2008) 3975-81. (Impact factor: 4.453, Citation: 550)

National Institute of Technology, Tiruchirappalli:
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5. **Muthukumar, K.** and Velan, M. "Volumetric mass transfer coefficients in an internal loop airlift reactor with low-density particles", *Journal of Chemical Technology & Biotechnology*. 81 (2006) 667-673. (Impact factor: 2.34, Citation:9)
4. **Muthukumar, K** and Velan, M. "Influence of additives and geometric design on hydrodynamic characteristics of an internal loop airlift reactor", *Journal of Chemical Engineering of Japan*. 38 (2005) 253-263. (Impact factor: 0.60, Citation: 8)
3. **Muthukumar, K.,** Naveen Prasad, B. and Velan, M. "Critical gas velocity in a three-phase internal loop airlift reactor with low-density particles", *Journal of Chemical Technology & Biotechnology*. 79 (2004) 1376-1380. (Impact factor: 2.34, Citation: 2)
2. **Muthukumar, K.,** Shunmuga Sundaram, P., Anantharaman, N. and Ahmed Basha, C. "Treatment of Textile dye waste water by using an electrochemical bipolar disc stack reactor", *Journal of Chemical Technology and Biotechnology*. 79 (2004) 1135-1141. (Impact factor: 2.34, Citation: 23)
1. **Muthukumar, K.,** Arunagiri, A., Anantharaman, N., Shumugha Sundaram, P. and Ahmed Basha, C., "Treatment of textile dye effluent by electrocoagulation technique", *Journal of Industrial Pollution Control*, Vol.19, No.2 (2003). (Cited by: 1)

(B) Conferences/Workshops/Symposia Proceedings

1. Ramadoss, G., Sushmitha, T., Meghana, D., Muthukumar, K. "Ultrasound assisted saccharification of dual salt pre-treated sugarcane bagasse for bioethanol production" Third International Conference on Petroleum Science and Technology 2014, November 3-5, 2014 IIT Madras, Chennai, India.
2. Velmurugan, R and Muthukumar, K., "Sono-assisted enzymatic saccharification of paper and pulp industry effluent for bioethanol production" CHEMECA 2010.
3. Gopinath, K.P., Shreela, M., Venkatesh, V., Muthukumar, K., and Velan, M., "Improved biodegradation of Congo red by *Bacillus* sp.: A genetical Approach through random mutagenesis," Indian Chemical Engineering Congress CHEMCON 2008, December 27-30, 2008, Chandigarh, India.
4. Gopinath, K.P., Shreela, M., Venkatesh, V., Praveen, S.A., Muthukumar, K., and Velan, M., "Studies on biodegradation of Congo red by *Bacillus* sp. Immobilized in calcium alginate," Indian Chemical Engineering Congress CHEMCON 2008, December 27-30, 2008, Chandigarh, India.
5. Kathiravan, M.N., Rajasekar, K., Muthukumar, K., and Velan, M., "Kinetic studies on bioaccumulation of hexavalent chromium by *Rhizopus Oryzae*" Indian Chemical Engineering Congress CHEMCON 2008, December 27 – 30, 2008, Chandigarh, India.
6. Gopinath, K.P., Muthukumar, K., and Velan, M., "Sonochemical degradation of wastewater containing Congo red," Indian Chemical Engineering Congress CHEMCON 2008, December 27-30, 2008, Chandigarh, India.
7. Muthukumar, K., Anand, K., Vidivelli, V., and Velan, M., "Equilibrium and kinetic studies on adsorption of dyes on orange peel," Indian Chemical Engineering Congress CHEMCON 2008, December 27-30, 2008, Chandigarh, India.
8. Kannan, M., Kathiravan, M.N., and Muthukumar, K., "Biodiesel production from vegetable oil using calcium alginate immobilized *R. oryzae* as whole cell biocatalyst", National Conference on Chemical & Bioprocess Engineering, 13-14 December 2007, Tirupati, India.

National Institute of Technology, Tiruchirappalli:
Performa for CV of Faculty/ Staff Members

9. Rajesh Kanna A, Kathiravan, M.N., Bharatiraja, B, Muthukumar, K. and Velan, M., "Production of bioethanol from lignocellulosic wastes", National Conference on Chemical & Bioprocess Engineering, 13-14 December 2007, Tirupati, India.
10. Veena, C., Kathiravan, M.N., Muthukumar, K. and Velan, M., "Treatment of pharmaceutical wastewater using sequencing batch reactor", National Conference on Chemical & Bioprocess Engineering, 13-14 December 2007, Tirupati, India.
11. Kathiravan, M.N., Rajasekar, K. and Muthukumar, K., "Hexavalent chromium reduction by *Pseudomonas* sp. isolated from tannery Effluent", National Conference on Chemical & Bioprocess Engineering, 13-14 December 2007, Tirupati, India.
12. Tamil Selvi, S., Muthukumar, K., Velan, M., and Pandian, K. "Synthesis of biomaterial supported nanoparticles", National Conference on Chemical & Bioprocess Engineering, 13-14 December 2007, Tirupati, India.
13. Karthikeyan M. and Muthukumar, K., "Airlift Reactor for environmental applications – an overview," Indian Chemical Engineering Congress CHEMCON 2007, December 27-30, 2007, Kolkatta, India.
14. Muthukumar, K. and Kathiravan, M.N. "An overview of engineered microbes and enzymes for heavy metals removal," Indian Chemical Engineering Congress CHEMCON 2007, December 27-30, 2007, Kolkatta, India.
15. Muthukumar, K., Parivallal, B., and Velan, M., "Effect of surface active agents on gas Holdup in an airlift bioreactor in the presence of non-Newtonian fluid," Indian Chemical Engineering Congress CHEMCON 2006, December 27-30, 2006, Ankleshwar, India.
16. Kesavan, K. and Muthukumar, K., "Treatment network design using water source diagram," Indian Chemical Engineering Congress CHEMCON 2006, December 27-30, 2006, Ankleshwar, India.
17. Jai Santhosh Jasmine, J. and Muthukumar, K., "Sequencing batch reactor technology for wastewater treatment," Indian Chemical Engineering Congress CHEMCON 2006, December 27-30, 2006, Ankleshwar, India.
18. Naveen Prasad, B.S., Muthukumar, K., Sivasubramanian, V. and Velan, M., "Hydrodynamic studies on external loop airlift reactor," Indian Chemical Engineering Congress CHEMCON 2004, December 27-30, 2004, Mumbai, India.
19. Muthukumar, K., Karthikeyan, M., Ilaiyavarahan, K., and Velan, M., "Hydrodynamic studies on internal loop airlift reactor," Indian Chemical Engineering Congress CHEMCON 2003, December 19-22, 2003, Bhubaneswar, India.
20. Jegan J.J., Muthukumar K., Bindu S. and Velan M., 'Hydrodynamic characteristics of a three-phase draft tube inverse fluidized bed reactor', 2nd World Engineering congress, Sarawak, Malaysia, July – 2002.
21. Muthukumar, K., Senthil Manoharan, N., Mohanarangan B., and Velan M., "Gas holdup characteristics in a pilot scale internal loop airlift reactor," Indian Chemical Engineering Congress CHEMCON-2002, December 19-22, 2002, Hyderabad, India.
22. Mohanarangan B., Muthukumar K. and Velan M., 'Optimized internal water mains network model', Indian Chemical Engineering Congress CHEMCON-2002 held at Hyderabad.