

Curriculum Vitae

Dr. Sunil Kumar

Senior Scientist & Head

Technology Development Centre

Council of Scientific and Industrial Research-

National Environmental Engineering Research Institute (CSIR – NEERI)

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Personal Details

Date of Birth : 30 June, 1968
Gender : Male
Blood Group : O +ve
Marital Status : Married

Academic Qualification

Qualification	Subject	University	Additional Information
Ph. D	Environmental Engineering	Jadavpur University, Kolkata	Thesis on "Performance and Kinetic Studies for Anaerobic Digestion of Municipal Solid Waste" Supervisors: Dr. Sukumar Devotta, Former Director, NEERI and Prof Somnath Mukherjee, Civil Engineering Dept., Jadavpur University, Kolkata
M. Tech	Environmental Engineering and Management	Indian Institute of Technology – Kharagpur	All Environmental Engineering Subjects with special emphasis on Waste Management
M.E	Civil Engineering (Up to 2 nd Semester only)	Madan Mohan Malaviya Engineering College Gorakhpur	Specialization: Hill Area Development Engineering
B.Sc. Engg.	Civil Engineering	Bhagalpur College of Engineering Bhagalpur	Civil and Environmental Engineering Subjects

Employment and Area of Interest

Current: CSIR-NEERI

Employee Status: Permanent Employee at CSIR – NEERI

Employee Id: 00713

Main Area of Specialisation: Ecology and Environment

Sub area of specialisation(s): Environmental Engineering and Management in General and Solid & Hazardous Waste Management in Particular

Teaching experience/interest:

1. Course Coordinator at CSIR-NEERI, The Academy of Scientific & Innovative Research (AcSIR)
2. Taught Civil Engineering to B. Tech students while pursuing M. Tech at IIT Kharagpur, India (September 1997-Dec 1999)
3. Taught Solid Waste Management to M. Tech (International students) Kasetsart University, Thailand, Bangkok, Thailand (July to August 2007)

Visiting Professorships

1. Visiting Professor, National Institutes of Technology, Arunachal Pradesh, India, 2017 onwards
2. Visiting Professor, A.K.S. University Satna, Madhya Pradesh, India, 2017 onwards
3. Visiting Scholar, Department of Civil Engineering, University of Calgary, Canada, 2010
4. Visiting Researcher, Hong Kong Baptist University, Hong Kong, 2013

Assistant Manager

Intercontinental Consultant and Technocrats Private Limited New Delhi (working on EIA projects – Highway) from 1999 – 2000

Awards

Area	Instituted by	Award Title	Year
Research and Development	Alexander von Humboldt-Stiftung Jean-Paul-Str.12 D-53173 Bonn, Germany	Senior Researcher	2018
Ecology and Environment	Council of Scientific & Industrial Research-National Environmental Engineering Research Institute (CSIR-NEERI), Nehru Marg, Nagpur-440 020 (India)	Outstanding Scientist Award	2016

Ecology and Environment	Council of Scientific & Industrial Research-National Environmental Engineering Research Institute (CSIR-NEERI), Nehru Marg, Nagpur-440 020 (India)	NEERI Foundation Day Award	2009
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Ph. D Guidance

06 Ph. D students are pursuing Ph. D in the field of Solid waste management (03 Ph. D already completed)

Memberships

- **Member**, ISWA Working Group on Energy from Waste, 2016
- **Co-ordinator**, Academy of Scientific and Innovative Research, CSIR-NEERI, Nagpur, India, 2016
- **Expert Member**, Revision of Manual on Solid Waste Management, Government of India, New Delhi, 2013
- **Member, Curriculum Development Committee**, M. Tech in Environmental Engg, Punjab State Technical University, Bhatinda, India
- **Member, Curriculum Development Committee**, M. Sc. In Environmental Science and M. Tech in Environmental Engineering, National Institute of Technology, Rourkela, India
- **Honorary Director**, The Institute of Chartered Waste Managers, Jaipur, India, 2016
- **Editorial Board Member**, Bioresource Technology, Elsevier Publication, 2017 onwards
- **Associate Editor**, Journal of Hazardous, Toxic and radioactive Waste, USA, 2016
- **Associate Editor**, Env. Chemistry Letter, Springer Publication (2013 onwards)
- **Editorial Board Member**, Environmental Monitoring and Assessment, Springer Publication (2007 onwards)
- **Editorial Board Member**, Environmental Monitoring and Assessment, Springer Publication (2007 onwards)
- **Editorial Board Member**, Open Journal of Waste Management, Open Access Journal (2008 onwards)
- **Regional Editor**, Int. Journal of Process Wastes Treatment, New Delhi
- **Lead Guest Editor**. Toxicity of Environmental Contaminants, 2015 onwards
- **Guest Editor**, International Journal of Environment and Pollution, Switzerland (Inderscience Publication) for the special issue on “Environmental Bioremediation”
- **Guest Editor**, Journal of Air and Waste Management Association, USA for the special Issue on “Landfill Gas Modeling and Management”. 2011

- **Guest Editor**, Environmental Monitoring and Assessment (Springer Publication) for the special issue on “Monitoring Quantity and Characteristics of Municipal Solid Waste in Developing Countries”
- **Guest Editor**, International Journal of Environmental Technology and Management (IJETM), UK (Inderscience Publication) for the Special Issue on “Composting for Municipal Solid Waste” and 3 More themes in the area of MSW management
- **Edited Special Issue** on “Case Studies on Landfill Diversion of Household Waste for International Journal of Environment and Waste Management, Inderscience Publication

Project Details

Important National and Internationally sponsored projects have been carried out by Dr. Kumar. Most of the projects are related to solid and hazardous waste management and Environmental Impact and Risk Assessment.

Sl. No.	Title of Project	Funding Agency	Program Name	Duration	Amount
1.	Management of Drain Silt in Delhi State through Recycling/ Processing by Utilizing Appropriate methodologies/ Technologies	South Delhi Municipal Corporation (SDMC), Delhi	Consultancy	2018-2020	48 Lakhs
2.	Feasibility Studies for Utilization of Soil Mix Sludge from Remediated Lagoon	M/s Jubilant Life Sciences Ltd, Nira, Pune Mahārāshtra	Hon’ble Supreme Directive Industrial Projects	2017-2019	34 Lakhs
3.	Sustainable Utilization of Distillery Organic Sludge from Remediated Lagoon	M/s Jubilant Life Sciences Ltd, Nira, Pune Mahārāshtra	Hon’ble Supreme Directive Industrial Projects	2017-2019	33.45 Lakhs

4.	Short Term and Localised Air Pollution Control System for Crematoria Deposited Delta	Delhi Pollution Control Committee	National Green Tribunal, Delhi Sponsored Projects	2017-2018	29.50 Lakhs
5.	Independent Engineer Service for Integrated Waste management for the City of Rewa Cluster in Madhya Pradesh	Feedback Infra Pvt. Ltd		2018	43.20 Lakhs
6.	Study of Current Status of Pollution (Soil, Water and Sound) in Patna	Govt	Consultancy	2018-	41 Lakhs
7.	Appropriate Technology Selection and Waste Characterization Study for Municipal Solid Waste (MSW) being Generated in Puri Municipality, Odisha	Oil and Natural Gas Corporation	Corporate Responsibility	2017	33 Lakhs
8.	Ratification of DPR for Combustion of RDF at Surat: Hitachi Zosen India PVT. Ltd, Hyderabad	Hitachi Zosen India Pvt. Ltd, Hyderabad	Technology Verification	2017	8.50 Lakhs
9.	Physical and Chemical Characterization of Municipal Solid Waste in Nagpur	ARCADIS India Pvt. Ltd, Noida	Bilateral Project	2017	9 Lakhs

10.	Optimization of Organic Waste to Energy Systems in India	Department of Science and Technology, New Delhi	Indo-Swiss International Research Projects	2015	29.97 Lakhs
11.	Pre-Closure Studies of Hapania Dumpsite for Development of its Closure Plan	AALA Technical Pvt. Ltd. Noida, UP	Development of Closure Plan	2015	20 Lakhs
12.	Studies on Quantification and Characterization of Municipal Solid Waste at Municipal Corporation of Greater Mumbai, Mumbai Region	Municipal Corporation of Greater Mumbai	Technology Identification Project	2014-2017	35 Lakhs
13.	Engineering Feasibility of Municipal Solid Waste Biogas Recovery and Appropriateness of its Use with CNG or LPG	XII Five Year Plan, Govt, India	Technology Development	2013-2017	38 Lakhs
14.	Quantification and Characterization of Municipal Solid Waste for Aizwal City	State Investment program and Implementation Unit (SIPMIU) Govt. of Mizoram	Detailed Planning Project	2011-2012	4,45,320
15.	Studies on Processing and Disposal of Municipal Solid Waste in Hilly Regions	Central Pollution Control Board	Technology Development	2010-2012	67 Lakhs

16.	Development of Modeling Tools for LFG Generation from MSW Landfills in India	International (US EPA)	Methane Market Initiative to	2011-2012	75.00 Lakhs
17.	Critical Reviews on Copper and Env. Health in India	International	International Cooperation	2011	5.00 Lakhs
18.	Training Programme on Air Toxics in Environment	Govt.	Capacity Building	2011	4.00 Lakhs
19.	DPR for Solid Waste Management in New Township, Kolkata	Govt.	Detailed Engineering	2009-10	7.00 Lakhs
20.	Pre-feasibility Study for Converting Landfill Gas to Liquefied Natural Gas in India	International (US EPA)	Methane Market Initiative to	2009	50.00 Lakhs
21.	Sampling and Analysis of MSWs at Selected Locations in Kolkata	Public Sector	Solid Waste Management Planning Project	2008	5.00 Lakhs
22.	Env. Impact Assessment of Thermal Power Plants in Jharkhand	Govt.	Developmental Project	2007-08	15.00 Lakhs
23.	Single and Two Phase Anaerobic Digestion of Municipal Solid	In-house R & D Project	Technology Development	2005-06	10.00 Lakhs

	Waste and Composting of Municipal Solid Waste				
24.	National Workshop for Solid Waste Management in India	Govt.	Information Dissemination	2005	4.00 Lakhs
25.	Assessment of Status of Solid Waste Management in Metro Cities, State Capitals, Other Cities and Towns, CPCB, New Delhi	Govt.	Solid Waste Management Planning for Indian Cities and Towns	2004-05	65.00 Lakhs
26.	Status of Methane Emissions from Municipal Solid Waste Disposal Sites in Nagpur and Adjoining Cities	Govt.	GHG Mitigation Planning	2004-05	10.00 Lakhs
27.	Preparation of DPR of Solid Waste Management at Kota	Govt.	Detailed Engineering	2004	15.00 Lakhs
28.	Development of Appropriate Waste Management System in Handmade Paper Industry	Govt.	Developmental Project	2003-04	10.00 Lakhs
29.	Env. Impact Assessment of Mumbai Pune Expressway	Govt.	Developmental Project	2000-2001	15 Lakhs

30.	Projects on Env. Impact Assessment of Highway Projects	Govt.	Developmental Project	1990-2000	90 Lakhs
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Research Publication

Book: 1

Book volume edited: 8

Book chapters: 10

Technical Reports: 35

Conference presentations/publications: 25

Book

1. Kumar, S. (18, October 2016). Municipal Solid Waste Management in Developing Countries by CRC press Reference -178 -42B/W illustrations ISBN 978498737746-CAT# K26553.

Edited Volumes

1. Varjani. S.J., Parameswaran, B., Kumar, S., Khare, S.K. (2018). Biosynthetic Technology and Environmental Challenges: Energy, Environment and Sustainability. <http://www.springer.com/in/book/9789811074332>.
2. Kumar, S. (2012). Anaerobic Treatment and Biogas Production from Organic Waste, Management of Organic Waste, InTech, DOI: 10.5772/32756. Available from: <https://www.intechopen.com/books/management-of-organic-waste/anaerobic-treatment-and-biogas-production-from-organic-wastes>
3. Kumar, S. (14, March, 2012). Biogas, ISBN 978-953-51-0204-5, 420 pages, Publisher: InTech, Chapters published under CC BY 3.0 license DOI: 10.5772/1793 <https://www.intechopen.com/books/biogashttp://197.14.51.10:81/pmb/ENERGETIQUE/energie%20renouvables/Biogas.pdf>
4. Kumar, S., and Kumar, R. (Febraury, 2012). Air Quality – Monitoring and Modeling. Published by InTechJanezaTrdine 9, 51000 Rijeka, Croatia, ISBN 978-953-51-0161-1 <http://library.umac.mo/ebooks/b28112490.pdf>
5. Kumar, S. (23, August, 2011). Integrated Waste Management, Volume I, ISBN 978-953-307-469-6, 548 pages, Publisher: InTech, Chapters under CC BY-NC-SA 3.0 license, DOI: 10.5772/698. <https://www.intechopen.com/books/integrated-waste-management-volume-i>

6. Kumar, S. (23, August, 2011). Integrated Waste Management, Volume II, ISBN 978-953-307-477-4, pages, Publisher: InTech, Chapters, under CC BY-NC-SA 3.0 license, DOI: 10.5772/698.<https://www.intechopen.com/books/integrated-waste-management-volume-ii/greenhouse-gas-emission-from-solid-waste-disposal-sites-in-asia>
7. Kumar, S. (2011). Waste Management, ISBN 978-953, 7619-84-8, and Published: March 1, under CC BY- NC-SA 3.0 license. INTECH
8. Kumar, S., and Bharti, A. (01, February 2010). Management of Organic Waste, Edited by Sunil Kumar and Ajay Bharti, ISBN 978-953, 307, 925-7 published: under CC By 3.0 license. <https://www.intechopen.com/books/management-of-organic-waste/separate-collection-systems-for-urban-waste>

Book Chapters

1. Awasthi M.K. et al. (2018) Mitigation of Global Warming Potential for Cleaner Composting. In: Varjani S., Parameswaran B., Kumar S., Khare S. (eds) Biosynthetic Technology and Environmental Challenges. Energy, Environment, and Sustainability. Springer, Singapore
2. Sil A., and Kumar, S., (2017). Landfill Leachate Treatment. Current Developments in Biotechnology and Bioengineering, 391-406.
3. Sil A., and Kumar, S., (2017). Waste characteristics and Generation. Sustainable Solid Waste Management. Published by American Society of Civil Engineers (ASCE): Editor: Prof. Jonathan Wong, HKBU, Hong Kong.
4. Kumar S., and Sil, A. (2015). Challenges and Opportunities in SWM in India: an Overview. Cities and Sustainability: Issues and Strategic Pathways 193-210. https://link.springer.com/chapter/10.1007/978-81-322-2310-8_10
5. Chiemchaisri, C., Weerasekara, R., Joseph, K., Kumar, S., & Visvanathan, C. (2010). Chapter 23: Application of Bioreactor Landfill Technology to Municipal Solid Waste Management: Asian Perspective. Impact, Monitoring and Management of Environmental Pollution, ISBN 978-1-60876-487-7, Nova Science Publishers, Inc. pp: 553-568, https://www.novapublishers.com/catalog/product_info.php?products_id=11650
6. Mudhoo, A., Thayalan, G., Muthoora, N.J., Muthoora, M.N., Oozer, B.Z., Rago, Y.P., Ramphul, M.P., Valaydon, A.K., and Kumar, S., Chapter 10: Dioxin and Furans: Sources, Impacts and Remediation. Book: Pollutant Diseases, Remediation and Recycling. https://books.google.co.in/books?id=KPK3BAAAQBAJ&pg=PA478&dq=Sunil+Kumar+neeri+Book+Chapters&hl=en&sa=X&ved=0ahUKEwjMpJ-N4M_XAhUNPrwKHe3sD2AQ6AEINzAD#v=onepage&q=Sunil%20Kumar%20neeri%20Book%20Chapters&f=false

7. Kumar, S., and Chakrabarti, T.(2010). Effective Municipal Solid Waste Management in India. Chapter 7. <https://www.intechopen.com/books/waste-management/effective-municipal-solid-waste-management-in-india>.
8. Chavan, D., Dhar, H., and Kumar, S. (2017). Environmental Pollution and Threats from Improper Solid Waste Management. CRC Press. (Accepted)
9. Kumar S., and Khapre A. (2017). Solid Waste Management: Prevention, Reuse, Recycling, Resource Recovery, Treatment and Disposal. Taylor and Francis Publication (In Press)
10. Kumar S.,&Gaikwad, S.A. (2004). Chapter 6, Municipal solid waste management in Indian urban centre's: an approach for betterment. Urban development debates in the new millennium: studies in revisited theories and redefined praxes, Volume 2. Atlantic publishers & Dist.

Journal Articles:

2018

1. Negi, S., Dhar, S., Hussain, A., & **Kumar, S.** (2018). Biomethane potential for co-digestion of municipal solid waste and rice straw: a batch study. *Bioresource Technology*,254, 139-144.
2. Breitenmoser, L., Dhar, H., Gross, T., Bakre, M., Huesch, R., Hugi, C., Witgens, T., Kumar, R., & **Kumar, S.** (2018). Methane potential from municipal biowaste: insight from six communities in Maharashtra, India. *Bioresource Technology*, 254, 224-230.
3. Sharma, D., Yadav, K.D & **Kumar, S.** (2018). Biotransformation of flower waste composting: Optimization of waste combination using response surface methodology. *Bioresource Technology*,
4. **Kumar, S.**, Negi, S., Mandpe, A., Singh, R.V., & Hussain, A. (2018). Rapid composting techniques in Indian context and utilization of black soldier fly for enhanced decomposition of biodegradable wastes- A comprehensive review. *Journal of Environmental Management*, 227, 189-199.
5. Shabbir, Md., Singh, M., Maiti, S., **Kumar, S.**, Saha, S.K. (2018). Removal and biodegradation of organo-phosphorous pesticide using bacteria isolated from domestic sewage. *Bioresource Technology*, 263, 280-288.
6. Sharma, D., Yadav, K.D., **Kumar S.** (2018). Role of saw dust and cow dung on compost maturity during rotary drum composting of flower waste. *Bioresource Technology*, 264, 285-289.

7. Awasthi, M.K., Wong, J.W.C., **Kumar, S.**, Awasthi, S. K., Wang, Q., Wang, M., Ren, X., Zhao, J., Chen, H., & Zhang, Z. (2018). Biodegradation of food waste using microbial cultures producing thermostable α -amylase and cellulase under different pH and temperature. *Bioresource Technology*, 248, 160-170.
8. Awasthi, M.K., Li, J., **Kumar, S.**, Awasthi, S.K., Wang, Q., Chen, H., Wang, M., Ren, X., & Zhang, Z. (2018). Effects of biochar amendments on bacterial and fungal diversity for co-composting of gelatin industry sludge mixed with organic fraction of municipal solid waste. *Bioresource Technology*, 246, 214-223.
9. Awasthi, S.K., Joshi, R., Dhar, H., Verma, S., Awasthi, M.K., Varjani, S., Sarsaiya, S., Zhang, Z., & **Kumar, S.** (2018). Improving methane yield and quality via co-digestion of cow dung mixed with food waste. *Bioresource Technology*, 251, 259-263.
10. Bhat, S.A., Singh, S., Singh, J., **Kumar, S.**, and Vig, A.P., (2018). Bioremediation and detoxification of industrial wastes by earthworms: Vermicompost as powerful crop nutrient in sustainable agriculture. *Bioresource Technology*, 252, 172-179.
11. Ayyappan, C.S., Bhalambaal, V.M., **Kumar, S.**, (2018). Effect of biochar on bio-electrochemical dye degradation and energy production, *Bioresource Technology*, 251, 165-170.

2017

12. Rawoteya, S.A., Mudhoo, A., & **Kumar, S.** (2017). Co-composting of vegetable wastes and carton: Effect of carton composition and parameter variations. *Bioresource Technology*, 227, 171-178.
13. Manyapu, V., Shukla, S., **Kumar, S.**, & Rajendra, K. (2017). In-vessel composting: a rapid technology for conversion of bio-waste into compost. *International Journal of Science and Engineering*, 2, 58-63.
14. Barzgar, S., Hettiaratchi, J.P.A., Pearse, L., & **Kumar, S.** (2017). Inhibitory effects of acidic pH and Confounding effects of moisture content on methane biofiltration. *Bioresource Technology*, 245, 633-640.
15. Dhar, H., **Kumar, S.**, & Kumar, R. (2017). A review on organic waste to energy systems in India. *Bioresource Technology*, 245, 1229-1237.
16. **Kumar, S.**, Smith, S.R., Fowler, G.F., Velis, C., Kumar, S.J., Arya, S., Rena., Kumar, R., & Cheeseman, C. (2017). Challenges and opportunities associated with waste management in India. *Royal Society Open Science*, 4, 160764.
17. Kumari, K., **Kumar, S.**, Rajagopal, V., Khare, A., & Kumar, R. (2017). Emission from open burning of municipal solid waste in India. *Environmental Technology*, 1-14. <http://dx.doi.org/10.1080/09593330.2017.1351489>
18. Mancebo, U., Hettiaratchi, J. P.A., **Kumar, S.**, & Hurtado, O. (2017) The use of methanotrophic applications to control of fugitive methane emissions from the

- biodegradation of organic waste. *International Journal of Environmental Technology, and Management*, 15, 524-538.
19. Farrokhzadeh, H., Hettiaratchi, J.P.A., Jayasinghe, P., & **S Kumar**. (2017). Aerated bio filters with multiple-level air injection configurations to enhance biological treatment of methane emissions. *Bioresource Technology*, 239, 219-225.
 20. Rich, N., Bharti, A., & **Kumar S.**, (2017). Effect of bulking agents and cow dung as an inoculants on vegetable waste compost quality. *Bioresource Technology*, 252, 83-90.

(Special Issue)

21. Pearse, L.F., Hettiaratchi, J.P.A., & **Kumar, S.** (2017). Towards developing a representative biochemical methane potential (BMP) assay for landfill waste-a review. *Bioresource Technology*, In press.
22. Manyapu, V., Mandpe, A., & **Kumar S.** (2017). Synergistic effect of fly ash in-vessel-composting of biomass and kitchen waste. *Bioresource Technology*, 251, 114-120.
23. Khapre, A., & **Kumar, S.** (2017). Phyto-capping: an alternative option for mitigation of lfgs and remediation of landfill leachate. *Indian Journal of Experiment Biology*, 10.1080/09593330.2017.1414314.
24. Khapre, A., Lakshmikanthan, C., & **Kumar, S.** (2017). Physico-chemical analysis and isolation of microbes from ground water nearby landfill site: a case study. *Indian Journal of Experiment Biology*, 56, 526-530.
25. Khapre, A., **Kumar, S.** & Rajasekaran, C., (2017). Phytocapping: an alternative cover option for municipal solid waste landfill. *Environmental Technology*,
26. Chavan, D., & **Kumar, S.** (2018). Reduction of Methane emission from landfill using bio cover as a bio-mitigation system-a review. *Indian Journal of Experiment Biology*, 56, 451-459.

2016

27. Bartholameuz, E.M., Hettiaratchi, J.P.A., & **Kumar, S.**, (2016). Enhanced performances of the aerobic landfill reactor by augmentation of manganese peroxidase. *Bioresource Technology*, 218, 46-52.
28. **Kumar, S.**, Nimchuk, N., Kumar, R., Zeitsman, J., Tara, R., Spiegelman, C., & Kenney, M. (2016). Specific model for the estimation of methane emission from municipal solid waste landfills in India. *Bioresource Technology*, 216, 981-987.

29. Dhar, H., Kumar, P., **Kumar, S.**, Mukherjee, S.N., &Vaidya, A.N. (2016). Effect of organic loading rate during anaerobic digestion of municipal solid waste. *Bioresource Technology*, 217, 56-71.
30. Nair, V.V., Dhar, H., **Kumar, S.**, Thalla, A.K., Mukherjee, S.N., & Wong, J.W.C. (2016). Artificial neural network based Biomethan to evaluate methane yield from biogas in a laboratory-scale anaerobic bioreactor. *Bioresource Technology*, 217, 90-99.
31. **Kumar, S.** Das, A., Srinivas, G.L.K., Dhar, H., Ojha, V.K., &Wong, J.W.C. (2016). Effect of calcium chloride on abating inhibition due to volatile fatty acids during the start-up period in anaerobic digestion of municipal solid waste. *Environmental Technology*, 37, 1501-1509.
32. **Kumar, S.**, Dhar, H., Nair, V.V., Bhattacharyya, J.K., Vaidya, A.N., & Akolkar, A.B. (2016). Characterization of municipal solid waste in high-altitude sub-tropical regions. *Environmental Technology*, 37, 2627-2637.
33. Harshita, J., Krupanidhi, S., **Kumar, S.**,&Wong, J.W.C. (2016). Design and development of indoordevice for recycling of domestic vegetable scrap. *Environmental Technology*, 37, 326-334.

2015

34. Benjamin, S., Pradeep, S., Josh, M.S., **Kumar, S.**, & Masai, E. (2015). A monograph on the remediation of hazardous phthalates. *Journal of Hazardous Material*, 298, 58-72.
35. Kumari, K., Ranjan, N., **Kumar, S.**, & Sinha, R.C. (2015). Distillery effluent as a liquid fertilizer: a win-win option for sustainable agriculture. *Environmental Technology*, 37, 381-387.

2014

36. Sil, A., **Kumar, S.**,&Wong, J.W.C., (2014). Development of correction factors for landfill gas emission model suiting Indian condition to predict methane emission from landfills. *Bioresource Technology*, 168, 97-99.
37. Chakraborty, R.,Mukherjee, S.N.,&**Kumar, S.** (2014).Screening of few aquatic floating plants for chromium phytoremediation. *International Journal of Environmental Technology, and Management*, 17.191-198.
38. Chakraborty, R., Karmakar, S., Mukherjee, S.N.,&**Kumar, S.** (2014). Kinetic evaluation of chromium (VI) sorption by water lettuce (Pistia). *Water Science and Technology*, 69, 195-201.
39. Kundu, P., Debsarkar, A., Mukherjee, S.N.,&**Kumar, S.** (2014). Artificial neural network modelling in biological removal of organic carbon and nitrogen for the

- treatment of slaughterhouse wastewater in a batch reactor. *Environmental Technology*, 35, 1296-1306.
40. Sil, A., **Kumar, S.**, & Kumar, R. (2014). Formulating LandGem model for estimation for estimation of landfill gas under Indian scenario. *International Journal of Environmental Technology, and Management*, 17, 293-299.
 41. Goyal, D., **Kumar, S.**, & Sil, A., (2014). Municipal solid waste: zero tolerance management strategy. *International Journal of Environmental Technology, and Management*, 17, 113-121.
 42. Hettiaratchi, J.P.A., Jayasinghe, P.A., Bartholomeuz, E.M., & **Kumar, S.** (2014). Waste degradation and gas production with enzymatic enhancement in anaerobic and aerobic landfill bioreactors. *Bioresource Technology*, 159, 433-436.
 43. Jayasinghe, P.A., Hettiaratchi, J.P.A., Mehrotra, A.K., & **Kumar, S.** (2014). Reaction mechanisms and rate constants of waste degradation in landfill bioreactor systems with enzymatic-enhancement. *Bioresource Technology*, 162, 279–282.

2013

44. Motling, S., Dutta, A., Mukherjee, S.N., & **Kumar, S.** (2013). Isolation and characterization of Cr (VI) tolerant bacteria from tannery waste and its bioremediation potential. *Journal of Environment Science and Engineering*, 55, 333-342.

2012

45. Aghav, R.M., Kundu, P., **Kumar, S.**, & Mukherjee, S.N. 2012. Removal of phenols from aqueous solutions of treated rice husk ash. *International Journal of Environmental Technology, and Management*, 15, 539-558.
46. Wakadikar, K., Sil, A., **Kumar, S.**, Kumar, R., & Mudhoo., A. (2013). Influence of sewage sludge and leachate on biochemical methane potential of waste biomass. *Journal of Bioremediation and Biodegradation*, 1-6.
47. Zietsman, J., Bari, M. E., Rand, A.J., Gokhale, B., Lord, D., **Kumar, S.**, (2012). Feasibility of Landfill Gas as a Liquefied Natural Gas Fuel Source for Refuse Trucks. *Journal of Air and Waste management Association*, 58, 613-619.
48. Ghosh, S., Mukherjee, S.N., & **Kumar, S.** (2012). Evaluation of geomembrane, amended soil and composite liner system as lining materials for chromium decontamination in landfill site. *International Journal of Environmental Technology, and Management*, 15, 388-399.
49. Chiemchaisri, C., Chiemchaisri, W., & **Kumar, S.**, Wicramarachchi, P.N. (2012). Reduction of methane emission from landfill through microbial activities in cover

- soil: A brief review. *Critical Reviews in Environmental Science and Technology*, 42, 412-434.
50. Ramani, T., Zietsman, J., **Kumar, S.**, & Kumar, R. (2012). Improving municipal solid waste management in India a glance at the world. *Waste Management*, 32, 613-614
51. Chakraborty, R., Mitra, A. K., Roy, K.S., Mukherjee, S.N., & **Kumar, S.** (2012). Isolation and characterization of Cr (VI) tolerant bacteria from tannery waste and its bioremediation potential. *Journal of Environmental Science and Engineering*, 54, 294-305.
52. Sil, A., Wakadikar, K., **Kumar, S.**, Babu, S., Sivagami, S.P.M., Tandon, S., Kumar, R., & Hettiaratchi, J.P.A. (2012). Toxicity characteristics of drilling mud and its effect on aquatic fish populations. *Journal of Hazardous, Toxic, and Radioactive Waste*, 15, 51-57.
53. **Kumar, S.**, & Chakraborty, T., (2012). Special grouping of papers on landfill gas modelling and management. *Journal of Air and Waste Management Association*, 58.602.

2011

54. **Kumar, S.**, Chiemchaisri, C., & Mudhoo, A. (2011). Bioreactor landfill technology in municipal solid waste treatment. *Critical Reviews in Biotechnology*, 42, 77-97.
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Important Conference Proceedings:

1. Khapre, A., & **Kumar, S.** (2017). Phytocapping: an alternative landfill covers option for mitigation of landfill gases and leachate remediation. Asia-pacific Conference on Biotechnology for Waste Conversion (BioWCHK (2017) Hong Kong SAR, China, 6-8 December (2017).
2. Breitenmoser, L., Gross, T., Dhar, H., **Kumar, S.**, & Wintgens, T. (2017). Benefits and challenges of anaerobic digestion of organic waste for biogas production in

- India: A review of established business models. 5th International Conference on Sustainable Solid Waste Management, Athens, 21-24 June (2017).
3. Dhar, H., **Kumar, S.**, & Mukherjee, S.N. (2017). An Investigation of leachate quality generated in a laboratory scale simulated bioreactor landfill and its role. National Conference on Sustainable Advanced Technologies for Environment Management (SATEM) 28-30, June, (2017).
 4. Wong, J.W.C., Nelles, M. Ok, Y.S., & **Kumar, S.** (2014). Advance Biological Treatment Technologies for Sustainable Waste Management: Selected papers from “International Conference on Solid Waste – Innovation in Technology and Management (ICSWHK (2013))”, 5–9 May (2013, Hong Kong Convention and Exhibition Centre, Hong Kong SAR. *Bioresource Technology*, .168, 1.
 5. **Kumar, S** (2014). Phytocapping Technology for sustainable waste containment in developing countries, Srilanka Colombo, 29-30 May (2014).

Travel Abroad

Sl. No	Dates		Title of Presentation	Country	Type
	From	To			
1.	23-03-2018	26-03-2018	Transdisciplinary Research for Environment Care	Beijing China	Scientific and academic
2.	16-01-2018	20-01-2018	17 th Expert Meeting on Solid Waste Management in Asia and Pacific islands	Japan	Scientific and academic
3.	20-11-2017	25-11-2017	Sino India Programme on Environmental Protection Technology	Indian Delegation to visit China for international cooperation	Scientific and academic
4.	01-11-2017	09-11-2017	In Connection with Indo-Swiss Project on Optimization of Organic Waste to Energy Systems in India Switzerland	Project Meeting at FHNW, Institute of Ecopreneurship, Basel, Switzerland	Scientific, academic and management
5.	26-04-2017	28-04-2017	Brainstorming Programme on Application of Modern Waste Management Technology in Asia in China	Meeting on Waste to Energy Research Technology, USA, Nanjing	Scientific, academic and management
6.	23-01-2017	28-01-2017	Learning Event on Organic Waste to Energy through Anaerobic Digestion at	Learning Event at Kathmandu University, Nepal	Student and faculty member

			Kathmandu University at Nepal		
7.	6-12-2016	8-12-2016	Asia-Pacific Conference on Biotechnology for Waste Conversion at Hong Kong Baptist University, Hong Kong	Hong Kong Baptist University, Hong Kong	Scientific and academic
8.	20-11-2016	27-11-2016	Meeting with Norwegian Environmental Agency, SINTEF, NTNU, Research Council Norway & Municipal Bodies of Oslo/Bergen and To Study the State-of Art Environmental Technologies of Norway and other Innovations which can be of direct use in India and also to Disseminate the Know-How and other Capabilities of CSIR-NEERI	Norwegian Embassy, Oslo, Norway	Scientific, academic and company
9.	4-10-2016	8-10-2016	Bi-Annual Meeting of Waste to Energy Research Technology at USA	Columbia University, New York	Scientific, and academic
10.	6-09-2016	26-09-2016	To Participate in R &D Collaboration on Organic Waste Recycling and different Prospects of Environment Pollution Management and International Programme on Waste to Energy at China	North West A &F, Yangling, China	Scientific, and academic
11.	1-02-2016	12-02-2016	In Connection with Indo-Swiss Project on Optimization of Organic Waste to Energy Systems in India Switzerland	FHNW, Institute of Ecopreneurship, Basel, Switzerland	Scientific, academic and management
12.	26-08-2015	5-09-2015	International Workshop on GHG, Reductions from Solid Waste using Biological Methods Followed by Exposure visit to Bioreactor	University of Calgary, Canada	Scientific and academic

			Landfill Facilities in Calgary Canada		
13.	19- 05- 2015	23- 05- 2015	Presenting Research Paper ICSHWK 2015, Hong Kong	Hong Kong Baptist University, Hong Kong	Scientific and academic
14.	29- 05- 2014	30- 05- 2014	UMNEP Meeting on Phyto- Capping Technology for Sustainable Waste Containment in Developing Countries, Sri Lanka	Brainstorming workshop at Colombo, Sri Lanka organized by United Nations University, Germany	Scientific and academic
15.	15- 01- 2013	20- 01- 2013	To Develop Research Proposal, Thailand	Kasetsart University Bangkok, Thailand	Scientific and academic
16.	04- 05- 2013	02- 06- 2013	Invited as a Visiting Researcher, Hong Kong	Hong Kong Baptist University, Hong Kong	Scientific and academic
17.	06- 05- 2012	20- 05- 2012	Research Work on Modelling Exercise for Landfill Gas Emission from Landfills and Finalization of Project Report, United States of America	Texas Transportation Institute (TTI), Texas A&M University	Scientific and academic
18.	04- Jun- 2010	10- Jul- 2010	Research Work on Design of Bio filter for Controlling GHG Emission from MSW Landfills, Collaborating Opportunities on R&D in MSW Management and Preparation of Research Papers, Canada	University of Calgary Canada	Scientific and research
19.	26- Nov- 2007	28- Nov- 2007	To Participate and Deliver Guest Lectures in International Conference on Eco-Tech (2007) at Kalmar, Sweden	Kalmar University, Sweden	Scientific and academic
20.	20- Sep- 2007	22- Sep- 2007	To Present Papers in International Workshop on Cities, Science and	The World Academy of Science, Italy	Scientific and academic

			Sustainability and International Solid Waste Congress between 20-22 September (2007), Italy		
21.	24-Sep-2007	28-Sep-2007	Presentation in International Solid Waste Congress September 24-28, (2007) at Amsterdam, The Netherlands Netherlands (Kingdom of the)	ISWA Congress 2007, The Netherlands	Scientific and academic
22.	25-Aug-2007	02-Sep-2007	To Deliver Lectures in International Masters Programme in Environmental Engineering at Kasetsart University, Bangkok, Thailand	Kasetsart University Bangkok	Scientific and academic
23.	25-Apr-2007	27-Apr-2007	To Participation in 3R Knowledge Hub Inception workshop and 7th Asia Pacific Roundtable on Sustainable Production and Consumption. Vietnam (Socialist Republic)	Asian Institute of Technology, Bangkok organized workshop on 3R initiative at Hanoi, Vietnam	Scientific and academic
24.	12-Aug-2006	02-Sep-2006	Training Programme on Ecological Alternatives in Sanitation, Sweden	Stockholm Environment Institute, Sweden	Scientific and academic
25.	19-Sep-2005	20-Sep-2005	Workshop on Sanitation and Wastewater Management: The Way Forward, Philippines (Republic of the)	ADB Manila	Scientific and academic
26.	26-Sep-2004	02-Oct-2004	Exposure Visit on Design, Construction and Operation of Sanitary Landfills, United States of America	US EPA, Philadelphia	Scientific and academic

National / International Conferences and Training Programs Organized

1. Organizing International Conference on Emerging Trends of Biotechnology in waste conversion (ETBWC- 2017) from 8th to 10th October 2017 at CSIR- National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur, Maharashtra, India , in Association with Biotech Research Society of India (BRSI).
<http://210.212.165.78/BRSI/>

2. Organized International Learning Event on Organic Waste to Energy through Anaerobic Digestion at Kathmandu University, in Association with the University of Applied Sciences and Arts Northwestern Switzerland (FHNW) and Kathmandu University.
3. Organized International Conference on Integrated Solid Waste Management Practices in Developing countries at CSIR- national Environmental Engineering Research Institute (CSIR-NEERI), Nagpur, Maharashtra, India, 2017. By WTERT, India in Association with CSIR-NEERI.
http://www.neeri.res.in/sites/default/files/swm_final_06_04_2017Brochure.pdf
4. Organized 4th International Conference on Sustainable Solid waste Management in India at Surat February 2016 by Waste to Energy Research and Technology Council (WTERT), India in collaboration with Surat Municipal, Corporation.
<http://wtert.in/wp-content/uploads/2016/01/Surat-Brochure.pdf>
5. Organized Indo-UK Seminar on International Scientific Seminar on “Sustainable Solid Waste Management for Cities: Opportunities in SAARC Countries” at CSIR- National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur, Maharashtra, India 2015 in association with Imperial College London (UK).
6. Organized 3rd International Brainstorming Workshop on “Sustainable Municipal Solid Waste Management in India” at Hyderabad 2015 by WTERT.
http://wtert.in/wp-content/uploads/2014/10/Brochure_3rd-International-Brainstorming-Workshop.pdf
7. Chief Coordinator for organizing International Conference on Technologies for Sustainable Waste Management in Developing Countries at Vignan University from 23-24 August 2013.
<http://www.source-omega.com/files/uploads/de663801-9609-451a-bb78-6ee423d76f8a.pdf>
8. Organized 2nd International Brainstorming Workshop on Short and Long-Term Solutions for Municipal Solid Waste Management Problems in Indian Cities at Delhi, 2013 by WTERT in Association with Earth Engineering Centre, Columbia University, USA
http://wtert.in/upload_event_atta/130131091903_ws_Intl_MunicipalSolidWasteIn_dianCities.pdf
9. Organized 1st International Brainstorming Workshop on “Sustainable Municipal Solid Waste Management Waste to Energy in India “at Mumbai 2012 by WTERT in Association with Earth Engineering Centre, Columbia University, USA,
http://wtert.in/upload_event_atta/120504033742_Final_Brochure_May_2012.pdf

Advisory Board Members

1. Participated as Advisory Board at National Level Summit on Waste to Energy Technology Plants and Equipment's Providers on 3rdFebruary (2017) in Hyderabad.[http://wtert.in/wp-content/uploads/\(2017\)/01/WTERT-Final-Brouchure-3rd-February-\(2017\)1.pdf](http://wtert.in/wp-content/uploads/(2017)/01/WTERT-Final-Brouchure-3rd-February-(2017)1.pdf)
2. Participated as advisory board at One day international Conference on “Role of Waste to Energy in Circular Economy: The Potential of India” & Two days Certificate Course on “Advancing State of the Art Sustainable Waste to Energy in Asia in Calicut from November 23-25 (2017), organized by WTERT, India.[http://www.seas.columbia.edu/earth/wtert/newwtert/assets/news/file/WTERT%20Calicut%20Brochure%20\(2017\)_Final%20Ver_4.5.16-2.pdf](http://www.seas.columbia.edu/earth/wtert/newwtert/assets/news/file/WTERT%20Calicut%20Brochure%20(2017)_Final%20Ver_4.5.16-2.pdf)
3. Participated as National Advisory committee at First International Conference on sustainable Energy and Environmental Challenges (SEEC-(2017)) at Feb 26 — 28, (2017) Venue: Center of Innovative and Applied Bioprocessing Mohali, India Under the auspices of International Society for Energy, Environment and Sustainability. [http://www.isees.in/seec/data/brochure_SEEC\(2017\).pdf](http://www.isees.in/seec/data/brochure_SEEC(2017).pdf)
4. Invited for “Workshop Agenda: Co processing of MSW based RDF in Cement Plants Baseline Finalization and MRV Planning for Waste NAMA to present PPT on Determining emissions for Solid Waste Sector in India (NATCOM project team, MoEFCC) dated 17 February (2017)
5. Invited for “Bi-annual meeting of WTERT held at Columbia University on October 6-7 (2017).
6. Special Invitee at the Greenco Summit (2017) on 16-17 June and SRI Plastic recycling project meeting at HICC, Hyderabad.
7. Invited for 2nd Meeting of BOS in Environmental Sc. & Technology Scheduled on 9/05/ (2017) at Maharaja Ranjit Singh Punjab Technical University.
8. Recognized as Doctor of Philosophy Research Guide in Engineering at NERIST Itanagar, Jadavpur, University, Punjab State Technical University Bhatinda.