



Dr. Anjali Khambete

Proff.at CED.S.V.N.I.T. Surat



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- **Office Address:** Professor Civil Engineering Department S V National Institute of Technology Surat – 395 007
 - **Qualification:** B.E, 1979, M.E(Civil) 1987, Ph.D., from S.V.R. Collage of Engg. And Tech./ S. V. National Institute of Technology.
 - **Designation:** Professor
 - **Department:** Civil
 - **Date of Joining Institute:** 3 April 1984
 - **Experience:** 35years at UG and 32 years at PG
 - **Research Area:** Environmental Engineering, water and Wastewater, Application of Fuzzy Logic to different environmental Areas. Application of fuzzy logic to predict BOD, COD of sewage wastewater, predict Biogas from sewage wastewater, Defining Index for Smart city in context to Indian scenario.
 - **Courses / Subject Involved With:** Industrial water and waste water, Environmental Legislation, Environmental solid waste management, Environmental Chemistry and Microbiology, Unit Processes in Environmental Engineering, Unit Operations in Environmental Engineering, Air Pollution and Control Sustainable Water and Sanitation Systems (M.Tech).
 - Water Treatment and Distribution Systems ,Municipal Solid Waste Management ,Water and Wastewater Treatment . Air Pollution and Control, Building Construction and Material, Building Planning, Building Maintenance, Surveying, (B.E/B.Tech). Engineering Drawing Basic Civil and Environmental Engineering.

- **Professional Experience** : Since 10 years actively working for the expansion of CETP, VGEL. Vapi and Sarigam. Provided technical support as a nominee director, for expansion and final covering the TSDF site at VGEL. Vapi. Provided guidance for the installation of CMEE facility VGEL. Vapi, Giving advises to improve wastewater discharges of chemical, bulk drug , pesticide industries at VGEL. Vapi. Provided technical support to reduce odour at Ankleshwar, Panoli and Bharuch GIDC area, as a environmental expert of Odour committee member formed by GPCB, Gujarat. Provided technical solution for the reduction of noise and odour of FETP, Ankleshwar.
- **Ph.D. Student (Guided)** : 1 Completed and 5 ongoing
- **M. E/ M Tech Dissertations guided:** 42
- Guided more than 40 students for M Tech dissertation in different areas. Topics related to Life Cycle Assessment (LCA), Fuzzy FCP, MCDM and FRBS, Design of incineration, Reduction of very strong COD, Ammonical nitrogen from CETP wastewater with the application of wet air oxidation, and chemical oxidation processes. Treating bulk drug Industrial effluent with different Techniques, Treating Pesticide industrial wastewater with different technologies including bio degradation with specific culture, all these studies are on actual industrial wastewater on pilot plant scale. Treating different industrial and domestic wastewater with the help of RBC, UASBR, ASP, Boron doped and Graphite electrodes processes. Topics related to vermicomposting, Statistical correlation and regression analysis, transportation modelling. Topics related to air pollution through vehicular traffic and predictive modelling of the data Identifying Role of Mangroves in environmental engineering at Jamnagar region of Gujarat (with collecting actual field data).
- **Project Guided:** 27 B.Tech and 14 M.Tech
 - More than 24 years different projects on topics related to construction engineering, Rehabilitation techniques, wastewater and water treatment plant designs. CETP design aspects, design of land fill and TSDF sites its construction, and maintenance related issues. (B.E/B.Tech).
 - Treating refractory and very high COD and Ammonical nitrogen from wastewater of bulk drug industry, pesticide industry with Boron doped electrode electro chemical coagulation, Hydrodynamic cavitation, Fenton

and adsorption techniques. Treating grey water with adsorption, water hyacinth, filtration techniques.

- **Research Publications:** 68
- **Workshops / Seminars / STTPs where expert lectures delivered:** 12/ 8/ 11
- **Conferences Attended Abroad:** 11.
 - **Session Chair** for Oral and technical presentation at ICEWRM2017: 19 th International Conference on Environment and Water Resource Management. Tokyo, Japan Dated 28-29 May 2017.
 - **Session Chair** Oral and technical presentation at the “ International Conference on Sustainable Civil Engineering” held on June 20-2, 2016 in Cape Town, South Africa.
- **BOOKS PUBLISHED (Co author of books)** 4
- **BOOK CHAPTER (Co author of books)** 2

Co author of books:

- Physico-Chemical Techniques to Treat Cocktail Wastewater from CETP; Lambert Academic Publishing, 2015.
- Electro-chemical Oxidation, Aerobic, Anaerobic, and Ultrasound for strong pesticide waste water treatment. Lambert Academic 2015.
- Proceedings of workshop on : Urban storm drain designing and modeling. S.M.Yadav; Anjali K. Khambete, Excel new India publishers. ISBN: 978-93-82880-00-4.
- R.A.Christian; Anjali K. Khambete, Short term training workshop on :Fuzzy set theory and fuzzy logic application in civil and environmental engineering. Compiled proceeding; Under networking scheme of TEQIP. 8-13, Jan, 2007.
- **Book chapter: co author;** Smart City Project Selection, Prioritization, Customization and Implementation—Voice of Smart Citizens Case Study of Bhubaneswar, and Surat, Springer Nature Singapore .
- Partha Tripathy; and Khambete A. K.; Chauhan Krupesh C.;" Title of Contribution: **Citizen Engagement in Project Selection, Prioritization, Customization & Implementation in Indian Smart Cities: Bhubaneswar & Surat, India"; Title of Book: E-Democracy for Smart Cities Editor(s) name(s): Prof. T.M. Vinod Kumar* ISBN 978-981-10-4034-4; - Published by Springer, Singapore -- DOI : 10.1007/978-981- 10-4035-1 -- the book details are in : <http://www.springer.com/in/book/9789811040344> Jun, 2017.

- Contemporary fuzzy logic tools for urban wastewater indexing. A. K. Khambete, G. S. Anaokar, Book Chapter: AUG Publication 2019.

➤ **Membership of Professional Bodies:** Indian Society for Technical Education since (1994), Life Member of AICTE.

➤ **Expert lectures delivered:** 19 Lectures delivered within and outside the Institute.

➤ **Review of Journals:**

- IBIC2012 3rd Intern. Conference on Industrial Biotechnology, Palermo, 24-27 June 2012 3 2.
- European Journal of Operational Research. 4 3.
- International Scholars Journal.

➤ **ADMINISTRATIVE WORKS CARRIED OUT IN THE INSTITUTE:**

A) Institute Administration:

- Worked as **Dean, Planning and Development.**
- Worked as **Presiding officer of ICC (Internal Complaint Committee) committee and completed three cases**, by giving justice to victimized girl students. Entire team worked, up to late hours, during all weekly off and holidays. I used to work till late night for the preparation of next day sessions. All work was carried out along with B Tech. and M, Tech teaching loads. Setting and checking papers. Attended more than 10-12 High court sessions at Ahmadabad for the case of women sexual harassment at workplace.
- Worked as Faculty advisor for UG program, 2013
- chairman of Centre of Humanity Resource Development at Student Council Committee - 2010,
- coordinator of Decoration Committee in 15th convocation programme institute- 2014, chairman for Library Physical stock verification of library since 2015 - 2017.

B) Departmental Administration:

- Section Head of Environmental Section since July, 2017.
- Environmental lab in charge since 2011-2012, 2014-2016, 2017.
- Chairman of woman Empowerment cell of CED.
- Member, committee for personal interview for PhD admissions (July 2017)

- Departmental Disciplinary committee from Academic Year 2015-16 till date (06 Semester).
- Worked as co-coordinators for central assessment for S.G.U.* UG in charge -2008

➤ **ADMINISTRATIVE WORK AND POSITIONS OUTSIDE THE INSTITUTE:**

Member And Nominee Director By Governmrnt of Gujarat:

- Acting as Nominee director at Vapi Green Enviro Limited. (Vapi),
- Acting as Nominee director at Sarigam Clean Initiative (Sarigam).
- DIN NO: 02935521.
- Expert committee for Common facilities i.e. TSDFs, CHWIF, & register recycler of E – waste framed by GPCB. Gandhinagar.
- Worked as member of Expert Committee for control of Odor nuisance from industries in the Bharuch region. No:GPCB/Brch. C-827/26637; Dated: 4/Dec./2009.
- Biographical – note in “ Indo – European Who’s Who since 17/Apl/ 1995
- Biographical – note in “ Indo – American Who’s Who since 20/ Jan/ 1994
- Study was carried out at Effluent Treatment plant – Ankleshwar for reducing noise pollution, No: GPCB/47200, Dated: 23/Mar/ 2010.
- Worked as member of Expert Committee for control of Odor nuisance from industries in the Ankleshwar and Panoli industrial area. No:GPCB/Brch. C. 812/ 24617, Dated:1/Nov./2009.

➤ **CONSULTANCY and Other Expertise Work:**

- Working as an active member of Environment Audit Cell. Carried out Environment Audits of following SCHEDULE-I industries:
- Analysis of water and waste water samples at collage laboratory.
- Acted as member of odour committee of three members with the order from GPCB governing authority, to define and the resolve the problems of odour at GIDC Bharuch, Ankleshwarand Panoli area.
- Resolve the problem of noise nuisance at FETP Bharuch.
- Acted as member to inspect the problem of odor pollution, VOC release in the environment, air and gas pollution at Palsana, GIDC, appointed by GPCB, Gandhinagar
- Working for SMC, the problem of water hysinth and odor at Tapi river, Surat.

- Third Party Inspection (TPI) on Visit basis for the work of closure of Accumulated Waste & relevant infrastructure development works at khajod disposal site, surat under Swachh Bharat Mission.
- Third Party Inspection (TPI) on Visit basis for the work of Laying of Drainage line at Daman.
- Worked for VETP, Vadodara to check the leaks from newly installed pipe line of 25 Km.

SELECTED RECENT PUBLICATIONS: Refereed International Journals

- Khambete A. K, Christian R. A. and Anoakar G.S., “Prediction of Major Wastewater Characteristics of Urban Wastewater Treatment Plant Using Fuzzy Composite Programming” Water Conservation Science and Engineering, Springer Vol2 (3), Page,99-107 (**Springer**).
- Anoakar G.S., Khambete A.K. and. Christian R.A., “Study of Reaction Kinetics of Municipal Biomass Digester”, International Conference on Recent Innovations in Engineering and Technology (ICRIET), Nov,2016.
- Anoakar G.S., Khambete A.K. and. Christian R.A., “Predicting Bio-gasification Potential of Urban Wastewater Using Multiparameter Aggregated Index of Influent”, Environmental Progress and Sustainable Energy, 2019.
- Anoakar G.S., Khambete A.K. and. Christian R.A., “Evaluation of a performance index for municipal wastewater treatment plants using MCDM - TOPSIS”, International Journal of Technology, 2018.
- Anoakar G.S., Khambete A.K. and. Christian R.A., “A Distinct Indicator to Predict Bio-gasification Potential of Urban Wastewater by Fuzzy Composite Approach”, International Conference on Emerging Trends in Science Engineering & Technology (ICETSET) (**SCOPUS conference**).
- Anoakar G.S., Khambete A.K. and. Christian R.A., “A fuzzy Neural and Graphical Model to predict Biogas from Wastewater sludge by Multiparameter Aggregated Indexing”, Indian Journal of Environmental Protection (**SCI**).
- Anoakar G.S. and Khambete A.K., “Application of Fuzzy Logic in Environmental Engineering for Determination of Air Quality Index”, International Journal of

Engineering Technology, Management and Applied Sciences Volume 4, Issue 2, ISSN 2349-4476, 2016.

- Anoakar G.S., Khambete A.K. and Christian R.A., “Boosting Biogasification of Urban Wastewater Sludge Using Water Hyacinth”, European Journal of Advances in Engineering and Technology, 2018.
- Anoakar G.S., Khambete A.K. and Christian R.A., “A Sensitivity Study of Kinetic Models of Biogas from Municipal Sludge Blended with Water Hyacinth”, ISERD – International Conference on Environment and Natural Science (ICENS) Oslo, Norway 3rd - 4th July, 2019 (**SCOPUS**).
- Jain A. R. and Khambete A. K.; “Odour control in pesticide industries”; Journal of Environmental Research and Development, Vol 10, (1) July- September 2015.
- Khambete A.K and Christian R. A., “Statistical analysis to identify the main parameters to effecting WWQI of sewage treatment plant and predicting BOD”, International Journal of Research in Engineering and Technology; (IJRET); eISSN: Page 186-194.2319-1163 pISSN: -7308.
- Khambete A.K and Christian R. A., “Ranking Sewage Treatment Plants with the Application of Fuzzy Composite Programming”; International Journal of Scientific Engineering and Technology, (IJSET) Vol. 3(2), Page: 116-120. ISSN: 2277-1581, Feb. 2014.
- Partha Tripathy; Khambete A.K., Chauhan Krupesh C. and Rajeev.K.R; “Urban Mobility Performance Measurement Framework Using Fuzzy MCDM Method- An Innovative Approach”, International Conference on Recent Innovations in Engineering and Technology (ICRIET), Nov,2016.
- Partha Tripathy, Dr Krupesh A Chauhan & Dr. A K Khambete, “Sustainable & Smart Cities – need sustainable & smart financing”, International Conference on Smart & Sustainable Cities, SVNIT, Surat, April 2016.
- Partha Tripathy, Gunjan Gupta, Dr Krupesh A Chauhan & Dr. (Mrs.) A K Khambete, “E-Governance Is A Critical Success Factor for Any Indian Smart

- Cities - Status, Challenges and Issues”, International Conference on Smart Sustainable Cities (ICSSC - 2016),121-132, <http://www.elkjournals.com/>
- Partha Tripathy, Midhun S N, & Dr Krupesh A Chauhan, “Smart & Sustainable Cities Should Be Slum Free- Indicator Framework for Assessment and Monitoring”, GRD Journals, March 2016
 - Partha Tripathy, Dr Krupesh A Chauhan & Dr. A. K. Khambete, “Citizen Engagement in Project Selection, Prioritization, Customization & Implementation in Indian Smart Cities: Bhubaneswar & Surat, India”, E-Democracy for Smart Cities, Advances in 21st Century Human Settlements, Springer, Singapore.
 - Partha Tripathy, Anjali K. Khambete, Krupesh A. Chauhan, “An Innovative Approach to Assess Sustainability of Urban Mobility—Using Fuzzy MCDM Method”, Innovative Research in Transportation Infrastructure. Lecture Notes in Intelligent Transportation and Infrastructure. Springer, Singapore.
 - Randhavane Shrikant B. and Khambete A. K.,” Use of Hydrodynamic Cavitation Reactor in Degradation of Chlorpyrifos”, International Conference on Recent Innovations in Engineering and Technology (ICRIET), Odissa, Nov 2016.
 - Randhavane Shrikant B. and Khambete A. K., “Harnessing Hydroxyl Radicals Generated by Hydrodynamic Cavitation Reactor in Simultaneous Removal of Chlorpyrifos Pesticide and COD from Aqueous Solution”; Desalination and Water Treatment (SCI-E Indexed) Accepted on May 25,2017 **(SCI Indexed)**.
 - Randhavane Shrikant B. and Khambete A. K. “Degradation of Chlorpyrifos Pesticide in Aqueous Solution and Chemical Oxygen Demand from Real Effluent with Hydrodynamic Cavitation Appro”, 19th International Conference on Environment and Water Resource Management, Tokyo, May 28-29,2017.
 - Randhavane Shrikant B. and Khambete A. K., “Chlorpyrifos: An Emerging Contaminant in Natural Environment and Treatment methods”: Mini Review Ecology, environment and conservation. Vol 1, 2018 Accepted on June 15, 2017 **(SCOPUS Indexed)**.

- Randhavane Shrikant B. and Khambete A. K., “Hydrodynamic Cavitation: A Novel Treatment Approach Materials Today’s”, Proceedings (SCOPUS indexed) Accepted on June 27, 2017 **(SCOPUS Indexed)**.
- Randhavane Shrikant B. and Khambete A. K., “Hydrodynamic Cavitation: An approach to Degrade Chlorpyrifos Pesticide from Real Effluent”, KSCE-Journal of Civil Engineering, (SCI-E Indexed), Accepted on July 16, 2017.
- Randhavane Shrikant B, A.K. Khambete, “Photolysis: Case Studies for Organophosphate Pesticide Treatment” International Research Journal of Engineering and Technology, 2014, 3, Vol 2., 1596-1599. **(SCOPUS Indexed)**.
- Randhavane Shrikant B, A.K. Khambete, “Pesticide Industry: A General Insight”, International Journal of Modern Trends in Engineering and Research, 2016, 4, Vol.3, 395-402.
- Shrikant Randhavane, Anjali Khambete, “Pyrethroid Pesticide Application and Toxicity: A Review”, International Journal for Scientific Research & Development, 2015, 04, Vol. 3., 724-726.
- Chitnis K. A. and Khambete A.K.; “Application of Fuzzy logic in Noise Pollution & Air Quality – Review”, International Journal of Advance Engineering and Research Development (IJAERD), Page 26- 27 Feb 2015
- Chitnis K. A. and Khambete A.K., “Fuzzy MCDM approach for Air Quality Assessment”, International Journal for Innovative Research in Science & Technology (IJIRST), Vol 1 (1), April I 2015.
- Randhavane Shrikant B; Khambete A.K., “Pesticide Industry-A Review of 12th Five Year Plan”; Journal of Advance Engineering and Research Development (IJAERD) , 27 Feb 2015.
- Randhavane Shrikant B., Khambete A. K.; “Identification and Treatment Methodologies for Pesticides in Waste Water”, International Journal for Innovative Research in Science & Technology (IJIRST), Vol.1 (10); April 2015.
- Rajput Dipesh C., Khambete A.K., “Performance of Sequencing Batch Biofilm Reactor on Low Filling Ratio to Treat Sewage”, International Journal for Innovative Research in Science & Technology Vol 1 (10), March 2015.

- Gowtham Sarella and Khambête A.K.; “Ambient Air Quality Analysis Using Air Quality Index - A Case Study of Vapi”, International Journal for Innovative Research in Science & Technology Vol 1 (10) March 2015.
- Ashitosh Kumar and Khambete A.K., “Removal of Ammoniacal Nitrogen and Chemical Oxygen Demand from Primary Effluent of CETP by Physico-chemical Method”, ARSSS International Conference, Pune, 05th May, 2019

Books published / in last 10 years

- A. K. Khambete, “Biogas Generation from Sludge of Common Effluent Treatment Plant:”, Lambert Academic Publishing, 2012. ISB N 3659231975, 9783659231971 2.
- Jain Abhishek Anjali Khambete,” Physico-Chemical Techniques to Treat Cocktail Wastewater from CETP;” Lambert Academic Publishing,2015. ISBN 3659709360 ISBN-13 9783659709364.
- Jatin Wadia Anjali Khambete Electro-chemical Oxidation, Aerobic, Anaerobic, and Ultrasound for strong pesticide waste water treatment Lambert Academic Publishing, 2015. ISBN- 13: 978-3-659-70889-3 ISBN- 10: 3659708895 4 EAN: 978365970889 4.
- Khambete A.K. and Ishan shah, “Electrochemical oxidation: New approach for wastewater treatment”; LAP Lambert Academic, Publishing, ISBN 978-3- 8465-3285-0, 120 Pages.
- Khambete A.K.; Laboratory Manual For Environmental Engineering Lab(M.Tech). SVNIT Student store.
- Khambete A.K and Mayur Paphalkar Proceeding of Inter National Conference, Novel Concept For Waste Water Treatment By E-Ionization", pp. 169- 170 ;1st International Science Congress ISC-2011, Maharaja Ranjit Singh College of Professional Sciences, held at Indore Madhya Pradesh on 24th - 25th December 2011, Souvenir, Science and Technology for Sustainable Development. ISCA-ISC- 2011-8EnvS-50, ISSN 2249- 9261 Print Version.
- Khambete A. K., and Mayuri Mistry Proceeding of Inter National conference, “Extraction of Biodiesel from Waste Vegetable Oil” pp.419-422. International Conference on Advances in Civil Engineering (ACE-2011), K L University, Vijayawada, A.P., INDI ACE-2011,21-23, October 2011.

