

Dr. Hansa S. Jeswani



Head of Dept. and Associate Professor, Civil Engineering Department

H index= 6; i10= 5

Sardar Patel College of Engineering
Andheri (W), Mumbai 400058

Focused and dedicated professional with expertise in **training, research, and consultancy** in Environmental Impact Assessment (EIA), water and wastewater treatment design, and start-up mentoring. Known for a **positive outlook, commitment to excellence, and strong communication skills**, with the ability to collaborate effectively across academic, industry, and management levels. Proficient in **engineering analysis tools and software** (Microsoft Project, Primavera, WaterGEMS, SewerGEMS, StormGEMS, MATLAB, Statistica, MS Office, C, C++). **Multilingual** in English, Hindi, and Gujarati, with proven ability to work both **independently and as part of a team**.

Highlights

- Start Ups and Mentoring
- Environmental Economics
- Human resource
- Entrepreneurship
- Consultancy
- Water and Wastewater treatment design
- Green Building Design and certification
- Rain Water Harvesting
- Waste Management
- Auditing- Lead Auditor ISO 14001, Lead Auditor ISO 18001

Accomplishments

- Consultancy with NABARD (Structural Audits) and Third Party Auditor Mira Bhayandar Municipal Corporation
- Third party auditor for Maharashtra Pollution control Board
- Mentor and Reviewer for BIG-BIRAC grants for IIT Bombay, IIT Delhi and KIIT.
- III Cell Ex officio (2013-2015)
- Dean Finance (2015-19)
- Project Support Officer (Environment) for Pentacle Consultants working for MSRDC for Pune ring road and Konkan Expressway
- Project Support Officer (Environment) for Pentacle Consultants for Samruddhi Highway
- Consultant as third party evaluator for treatment plants

- Drafted plan of action for a soil bio-remediation project in North Dakota and Colorado regions in USA
- Design of water treatment plant for 23 different BEST depots
- Drafted syllabus for waste management post graduate course to be introduced in Victoria University, Australia with collaboration of UNEP
- Participated in community challenge to develop a business model to provide clean drinking water to slum communities
- Published around 22 papers in international peer reviewed journals and conferences with three award winning papers
- Spearheaded an award winning international project related to building a sustainable structure with minimal amount
- Guided several undergraduate projects such as novel materials in water filtration, reuse of wastewater for potable and non-potable purposes and converting a non- sustainable structure into a sustainable structure
- Co-ordinated Industry Institute Interaction Cell at present work place
- Co-ordinated training sessions and lectures

Professional Experience

Sardar Patel College of Engineering

August 2015- Current

Associate Professor

Mumbai, Maharashtra, India

- Consultancy for MSRDC
- Testing and consultancy related to soil, air, water and wastewater treatment
- Design of effluent treatment plants for governmental organizations
- Guiding students for PhD and MTech in the area of Environmental Engineering (Present Ph.D students= 1 nos; Present MTech students = 4 nos)
- Undertake Projects related to utilization of kitchen waste and reuse of wastewater
- Conducting classes for undergraduate, postgraduate and Ph.D in the core areas of environmental engineering
- Evaluation and Training of under graduate students
- Conducting sessions for Industry personnel in the area of environmental engineering
- Participation in conferences and workshops related to core field of environmental engineering

Sardar Patel College of Engineering

August 2003- August 2015

Assistant Professor

Mumbai, Maharashtra, India

- Testing and consultancy related to soil, air, water and wastewater treatment and design
- Undertake Projects related to green buildings and reuse of wastewater
- Conducting classes for undergraduate students
- Evaluation and Training of under graduate students
- Participation in conferences and workshops related to core field of environmental engineering

Paramount Consultants*January 2003- July 2003***Environmental Engineer**

Vadodara, Gujarat, India

- Involved with carrying out the treatability studies for pharmaceutical wastewater and dye and dyestuff wastewater industries using physicochemical and biological treatment
- Trouble shooting at different water and wastewater treatment plants consisting of Activated sludge process, Biotowers and UASB (Namely: Bayer, Baroda; IOCL, Baroda)
- Preparation of EIA reports for Highways

Paramount Consultants*June 2002- Dec 2003***Trainee Engineer**

Vadodara, Gujarat, India

Involved in the redevelopment of an effluent treatment plant for a cluster of 500 industries (mostly consisting of dye and dyestuff) of Ankleshwar, Panoli and Jhagadia.

Educational Background**Indian Institute of Technology, Bombay**

2008-2012

Ph. D, Environmental Science and Engineering

Mumbai, Maharashtra

- The topic of doctoral research was Biological Treatment of Biomass Gasifier Wastewater and was funded by a project of Department of Biotechnology
- Specific toxicity testing procedures using standard Bioluminescence assay were also performed on effluents generated from the Rotating biological contactors.
- Well conversant with use of HPLC, GC-MS, GC and other equipments for reactor studies. Mathematic modeling using Statistica 8 and Mathematica was a part of the thesis.
- Thesis resulted into filing a patent titled Treatment of Biomass gasifier wastewater by a bacterial biofilm reactor
- Undertook project on oil bioremediation and production of biofuel from algae during my research period.
- **GPA= 9.7/10**

Maharaja Sayajirao University**Master's in Engineering (M.E.) in Civil with Environmental Engineering** 2001 - 2003

Vadodara, Gujarat

- Gold medalist in Master's of Engineering in Maharaja Sayajirao University
- M. E project was to treat the effluent of wastewater from over 500 industries of South Gujarat in an effluent treatment plant and suggest modification in the present plant for Paramount Consultants in Baroda
- Various subjects related to environmental engineering were taught during 1.5 years program
- GPA 4/4

Maharaja Sayajirao University

Bachelor's in Engineering (B.E.) in Civil Engineering

1997- 2001

Vadodara, Gujarat

- Basic civil engineering subjects were taught
- GPA= 3.6/4

Awards and Recognition

- Received award for Outstanding Contribution in the field of Civil Engineering Award by VIWA organization on 4th March 2017
- Editorial Board of IWA publishing, TRO India
- Gold Medal, Master's in Engineering
- Mentor for the Tower of Babylon Project won by IIT Bombay among 5 premier institutes from all over the world
- Participated in Acara challenge in 2009 where development of clean drinking water solutions as a business plan was presented to be used for low income areas in Mumbai
- Investigator for the project on Biological Treatment of Biomass gasification wastewater using algal-bacterial system started at IIT Bombay with a total 56 lakhs grant (3 yrs project) for Department of Biotechnology
- Principal Investigator for the project titled Development of alternative filter Media for Rapid sand filtration with a total 3 lakhs seed grant (1 yr project)

Memberships, Affiliations and Certification

- Executive Programmes: IIM Ahmedabad (Advanced AHRM)
- Life member : IWA, AICTE, CEBEES, AWMA, IEA, IET
- Certification : Lead Auditor ISO14001, Lead Auditor ISO18000

Courses taken in SPCE and IIT Bombay

- Entrepreneurship, Innovation and Design Thinking, Open Elective, 3 semesters, SPCE
- Entrepreneurship and Management, BTech, Civil, One semester, SPCE
- Research and Publication Ethics, Ph. D, One Semester, SPCE
- Environmental Impact Assessment , BTech, Three Semesters, SPCE
- Environmental Engineering I and Env. Engg. II SY and TY BTech, 17 semesters, SPCE
- Industrial Waste Treatment and Solid waste Management, BTech , 9 semesters, SPCE
- Environmental Science and Management, Electrical and MTech Mechanical , 2 semesters
- MTech Environmental Engineering (4 courses) 4 semesters SPCE
- Mentor ACARA challenge and Mentor Masters students and Bachelors students IIT Bombay (2009-2011)

Research Publications

Published in refereed International journals

Ritu Primlani, Hansa Jeswani Killing from Both Ends: A Re-Definition of Road Traffic Mortality, **ARAI Journal of Mobility Technology 3 (1)**

Gaurav Patil Hansa Jeswani 2021. Impact of Covid-19 on Air Quality Index in Mumbai City. Novel Approaches in Environmental Engineering and Its Scope Volume 1 Issue 1 June 2021 32-37

Manish Dubey Hansa Jeswani. 2018. Qualitative study on Stressors- Stresses- Absenteeism pattern among Indian construction professionals. International Journal of Engineering Technology Science and Research ISSN 2394 – 3386 Volume 5, Issue 4 April 2018 80-85
(*Impact Factor 1.8*)

Ayaz Ahmed Hansa Jeswani. 2018. Qualitative Study on Construction Project Risk. International Journal of Engineering Technology Science and Research ISSN 2394 – 3386 Volume 5, Issue 4 April 2018 40-48 (*Impact factor 1.8*)

Jeswani Hansa, Suparna Mukherji .2016.Treatment of Biomass Gasifier Wastewater in Rotating biological contactor. The Indian Journal of Technical Education, 1-7; ISSN 0971- 3034, Volume 32
(*Impact factor 1.9*)

Jeswani H., Mukherji S., 2015. Treatment of simulated biomass gasification wastewater of varying strength in a three stage rotating biological contactor, Chemical Engineering Journal, 259, 303-312. **(Impact factor 4.3)**

Jeswani H., Mukherji S., 2015. Comparison of Acute Toxicity of Algal Metabolites Using Bioluminescence Inhibition Assay, Nirma University journal of engineering and technology vol. 3, no. 1, July-Dec 2014.

Jeswani H., Mukherji S., 2014. Treatment of simulated biomass gasification wastewater of varying strength in a three stage rotating biological contactor, Chemical Engineering Journal, **(Impact Factor 3.69)**

Jeswani H., Mukherji S., 2013. Batch studies with *Exiguobacterium aurantiacum* degrading structurally diverse organic compounds and its potential for treatment of biomass gasification wastewater, International Journal of Biodeterioration and Biodegradation, 80, 1-9. **(Impact Factor 2.442)**

A. Apte, V. Cheernam, M. Kamat, S. Kamat, P. Kashikar, Dr Hansa Jeswani, 2013. Potential of Using Kitchen Waste in a Biogas Plant, International Journal of Environmental Science and Development, Vol. 4, No. 4, 370-373. **(Impact Factor: 1.884)**

Jeswani H., Mukherji S., 2012. Degradation of Phenolics, Nitrogen-Heterocyclics and Polynuclear Aromatic Hydrocarbons in a Rotating Biological Contactor, Bioresource Technology. 111, 12-20. **(Impact Factor: 5.172)**

Book Chapter

Jeswani Hansa, Adwait Apte, Kashikar Parineeta, Kamat Sudhanshu, Madhusudan Kamat Chapter 15: Use of Kitchen Waste for Generation of Biogas, in "**Utilisation of Biomass Resources**", Springer, India, 2017.

Papers in conference proceedings

International Conference

Prafulla Padvi, Hansa Jeswani "Bacillus Induced Calcium Carbonate Precipitate for Healing of Concrete", Second International Conference on Advancements in Sustainable Materials and Infrastructure (ASMI 2023) 12-13 September, 2023

Deoyani Joshi and Hansa Jeswani Light Weight No-Fines Pervious Concrete Experimental Study For Water Filtration, SPICON 2022, 22-23 December 2022

Shreyas Patil and Hansa Jeswani Data Analysis and Interpretation of occupational health and safety parameters for a construction project, SPICON 2022, 22-23 December 2022

Aman Bodke, Prashant Limaye, Shruti Sheth, Janhavi Patil, Smital Meshram and Hansa Jeswani Comparative Study of methods to Reduce Evaporation from Lakes and Ponds, SPICON 2022, 22-23 December 2022

Prafulla Padv and Hansa Jeswani Microbial induction of calcium carbonate precipitate for self-healing concrete, SPICON 2022

Sonal Deo, Sharvari Deshmukh, Riddhi Lachuriya and Hansa Jeswani Daylighting: A Passive Solar Design Strategy SPICON 2022

Hansa Jeswani and Akshaykumar Swami Conceptualizing green rating system for highways SPICON 2022

Sonu Tiwari, Hansa Jeswani “Development of Risk Management System for Highway Project”, 2nd International Conference on Engineering and Advancement of Technology (ICEAT 2021), 16-17th July 2021

Kochar Arati, Jeswani Hansa “Planning a sustainable development of Existing Village” 2nd International Conference on Recent Challenges in Engineering and Technology (ICRCET-17)

Kulkarni Pranav, Ali Akbar Bohra, Dighe Sachin, Desai Bhargav “Design and modelling of the perpetual pavement” 13th Transportation Planning and Implementation Methodologies for Developing Countries, TPMDC 2016, 10-12 December 2016, Mumbai, India

Jeswani Hansa, Adwait Apte, Kashikar Parineeta, Kamat Sudhanshu, Madhusudan Kamat “Use of Kitchen Waste for Generation of Biogas”, Utilisation and Management of Bioresources - Proceedings of 6th Icon SWM 2016, Jadhavpur University, 25th November- 28th November 2017.

Ghosh, Oshmi; Jeswani, Hansa, “Sustainable Industrial Waste Water Management for Industrial development cooperation in Thane Region, Maharashtra” 13th IWA Specialized Conference on Small Water and Wastewater Systems & 5th IWA Specialized Conference on Resources-Oriented Sanitation, Volume 1, p.p 1-6, Athens, Greece, 13-17 September 2016.

Jeswani Hansa, Pranav Kulkarni, Ali Akbar Bohra, “Techno-economic evaluation for re-designing existing hospital building to a sustainable structure” Proceedings of Third International Conference on Advances In Civil, Structural and Environmental Engineering, DOI: 10.15224/978-1-63248-065-1-94, Page(s): 132 – 136, Zurich, Switzerland, 10-11 October, 2015

Jeswani Hansa, “Water loss prevention by techno-economic use of rainwater and wastewater for non-potable purpose” IWA Waterloss2016 Conference, Volume6, p.p. 82-84, Bengaluru, India, 31st Jan-3rd Feb 2016.

Khelurkar, Nikunj; Shah, Sunay; Jeswani, Hansa, "A review of radioactive waste management," Technologies for Sustainable Development (ICTSD), 2015 International Conference on , vol., no., pp.1,6, 4-6 Feb. 2015; doi:10.1109/ICTSD.2015.7095849

Tayde, Prashant; Shastri, Chaitanya; Shah, Bhoomi; Sankpal, Nitesh; Asabe, Nitin; Jeswani, Hansa, "Use of sullage for non-potable purpose," Technologies for Sustainable Development (ICTSD), 2015 International Conference on , vol., no., pp.1,5, 4-6 Feb. 2015doi:10.1109/ICTSD.2015.7095868

H. Jeswani, Ninad Oke, Parth Choksi, Rumana Sayyed, Amey Naik 2014. Use of Pervious concrete for filtration. 21st Century Watershed conference, University of Waikato, Hamilton New Zealand, Oral Presentation, 3rd-7th November 2014.

Jeswani H, Mukherji S 2014. Biological treatment of biomass gasification wastewater. 2nd IWA Specialized conference- Ecotechnologies for Wastewater Treatment-EcoSTP, held in Verona, Italy 23rd -27th June 2014 (Best Paper Award)

Mukherji, S., A. Chavan and H. Jeswani, "Algal Bacterial Biofilm in Rotating Biological Contactor for Removal of Organic Contaminants from Wastewater: Advantages and Challenges" International Conference on Algal Biorefinery: A Potential source of Food, Feed, Biochemicals, Biofuels and Biofertilizers(ICAB 2012), IIT Kharagpur, India, 10th -12th Jan, 2013. Oral presentation, Abstract No.ICAB F090Q

Jeswani H, B Sawant, A. ,Sengupta,A, Sarkar,A., Haldankar,M, Borole,K. Techno-economic evaluation for reuse of wastewater and rainwater, Heraklion, Greece, 23-25th March, 2012.

Madhav, V. D. Panchratna, H. Jeswani, V. Sethi, S. Mahajani, D. Giammar and J. Fortner and S. Mukherji "Gas Cleaning and Wastewater Treatment for Small Scale Gasification Systems" 4th International Symposium on Energy and Environment: Abundant, Clean, Cost Effective Energy Systems for Sustainability, Dec 9th-12th, 2012. Poster Presentation.

Jeswani, H. and Mukherji, S., "Treatment of simulated biomass gasification wastewater using an algal-bacterial system", International conference on "Ecotechnologies for Wastewater Treatment", Santiago de Compostela, Spain, organized by University of Santiago deCompostela, Santiago de Compostela, Spain and International Water Association, 25-27thJune 2012. (Won the best poster award)

Mukherji, S. and Jeswani, H., "Treatment of biomass gasifier wastewater in a rotatingbiological contactor" International conference on "Processes in Biofilms",Shanghai, China,organized by Tonji University, Shanghai, China and International Water Association, 27-30thOct, 2011.

Jeswani, H. and Mukherji, S., "Treatment of biomass gasifier wastewater in bench-scale bioreactors by waste activated sludge and *Exiguobacteriumaurantiacum*" Internationa lconference on "Microbes in Wastewater Treatment ", Goa, India, organized by BITS Pilani,Goa, India and International Water Association, 24-26thJan, 2011.

Jeswani H., Mukherji S., Treatment of Biomass Gasifier Wastewater inBench-Scale Bioreactors

by Waste Activated Sludge and *Exiguobacterium aurantiacum*, MWT 2011, Jan 26-29, 2011.

Jeswani, H. Treatment of Wastewater from the Gujarat Industrial Development Cooperation Estate, Ankleshwar, Gujarat Using Two Step Biological Processes, Proceedings., IGC 2006.1st-3rd of Feb, 2006.

B Bhatti, R Mehta, V. Panchal, A Qureshi, H Sohu, H Jeswani. 2012. Techno-economic analysis for the re-design of an existing structure to a sustainable structure, AARCV, 21-23rd June, 2012, Bangalore, India.

National Conferences

Ninad Oke, Parth Choksi, Rumana Sayyed, Nikita Mahapatra and Hansa Jeswani A review on use of pervious concrete as a rapid gravity filter and for storm water management, 4th National conference on environment and biodiversity, Pune, 4-5th October 2013.

Kishan Pai, Gyanprakash Sharma, Hansa Jeswani. 2012. Solution: Nuclear waste disposal India. Racee 2012, NIT, Rourkela, held on 20-21, 2012.

Kishan Pai, Gyanprakash Sharma, Hansa Jeswani. 2012. Solid Waste Management in Mumbai. Racee 2012, NIT, Rourkela, held on 20-21, 2012.

Jeswani H., Mukherji S. 2012 Comparison of Acute Toxicity of Algal Metabolites Using Bioluminescence Inhibition Assay, Proceedings of 27th National Convention of Environmental Engineers, organized by Institution of Engineers, Mangalore, held on 24-25 January, 2012

Jeswani H., Mukherji S. 2010. Comparison of coal gasifier and biomass gasifier wastewater. Proceedings, Enviroenergy 2010, 27-29th November, 2010.

Jeswani H., Mukherji S. 2009. Feasibility Study for Treatment of Gasification Wastewater Using an Algal – Bacterial System. Proceedings, NUCONE 2009, 27-29th November, 2010.

Jeswani, H., 2008., Advance Wastewater Treatment For Economical Non Potable Reuse SWRDAM 2008.

Bhosale, S., Sawant, P., Shrivastav, P., Jeswani, H. 2008. Bio-Composting of Distillery Waste to Save Fresh Water. Proceedings, SWRDAM 2008.

Bhoir R., Sawant P., Jeswani, H. 2008. Wastewater Management : An Overview. SWRDAM 2008.

Zope, P., Sawant P., Jeswani, H. 2008. Design Criteria, Protocol and Selection of Model for Urban Storm Water Management, Proceedings, SWRDAM 2008.

Zope, P., Sawant P., Jeswani, H. 2008. Pollution Prevention in Urban Storm Water Management, Proceedings, SWRDAM 2008.

Rao, C., Sawant P., Jeswani, H. 2008 Review of Wastewater Management in Fertilizer Industry, SWRDAM, 2008.

FDP/programmes conducted

Programme	Dates	Role
Webinar on Opportunities for Civil Engineers in Water Sector under "Jal Jeevan Mission"	1 day session 28 th July 2021	Organizer
National level programme on "Appreciation of Infrastructure projects in India" (twinning activity TEQIP III)	5 days (weekends)(Feb 19,20,21 and March 1,2)	Organizer
Workshop and hands on session with Bentley systems on WaterGEMS software(twinning activity TEQIP III)	11 th -12 th October 2019	Organizer

Developing Interpersonal skills and effective communication(national level TEQIP II)	2 nd January-7 th January 2017	Co-coordinator
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Lectures delivered

Programme	Dates	Organized by
Environmental Audits for sustainability	10th October 2021	IIT Bombay and SAGE
Water Management by reuse of wastewater	21st October 2021	Akone Services and Consultancy
Affordable Technology Solutions for Efficient Farming	30th June2020	KIIT-TBI BRTC
HiTech farming	22nd Sept, 23rd Sept 2020	CSR box IIT Bombay
Nanotechnology for Energy and Environment	5th Jan 2017	SPCE

Projects undertaken

Sr. no	Work Name	Client	Designation	Project Cost (Cr)	Start Date	Completion Date	Country
1	Redevelopment of an effluent treatment plant for a cluster of 500 industries (mostly consisting of dye and dyestuff) of Ankleshwar, Panoli and Jhagadia. I	Paramount Consultants	Trainee Engineer	20	20-06-2002	20-12-2002	India
2	Treatability studies for pharmaceutical wastewater and dye and dyestuff wastewater industries using physicochemical and biological treatment.	Paramount Consultants	Environmental Engineer	50	14-01-2003	17-07-2003	India
3	Preparation of EIA reports for Highways	Paramount	Environmental Engineer	100	14-01-2003	17-07-2003	India

		Consu ltants					
4	Trouble shooting at different water and wastewater treatment plants consisting of Activated sludge process, Biotowers and UASB (Namely: Bayer, Baroda; IOCL, Baroda)	Param ount Consu ltants	Environ mental Engineer	32	14- 01- 2003	17- 07- 2003	India
5	Testing and consultancy related to soil, air, water and wastewater treatment and design	Sardar Patel Colle ge of Engin eering	Associat e Environ mental Expert	0	15- 08- 2003	12- 10- 2005	India
6	Appointment of Project Management Consultant for establishment of PSO Office for access controlled Nagpur-mumbai Supercommunication Expressway in the state of Maharashtra	MSR DC	Environ ment cum Social Expert	55,00 0.00	10- 03- 2019		India
7	Appointment of Project Management Consultant for establishment of PSO Office for access controlled Konkan Expressway in the state of Maharashtra	MSR DC	Environ ment cum Social Expert	70,00 0.00	10- 03- 2021		India

References

Name	Prof. Suparna Mukherji	Prof. Anuradda Ganesh	Dr. Rama Bangera
Designation	Professor, CESE	Professor, ESE	Senior Genetist
Organization/Institute	IIT Bombay	IIT Bombay	Akvaforsk Genetics
Mailing Address	Centre for Environmental Sc. And Engg., IIT Bombay, Powai, Mumbai-76	Energy Science and Engineering Department IIT Bombay, Powai, Mumbai-76	Auragata 3, 6600, Sunndalson

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