

SCHOOL OF SCIENCE

 	<p>Name: Dr Harengiri Gosai Designation: Assistant Professor Department: Biosciences Contact no. +91 9998171339 Email: harengiri.gosai@indrashiluniversity.edu.in; dh.haren@gmail.com</p>
---	--

EDUCATIONAL QUALIFICATIONS

- **Doctor of Philosophy (May, 2015- July, 2018)**

Department of Life Sciences, M K Bhavnagar University, Bhavnagar, Gujarat, India

PhD title: “Bacterial degradation of polycyclic aromatic hydrocarbons (PAHs) and their community dynamics from contaminated sites at Navlakhi, Gulf of Kutch”

- **Master of Science (July, 2012 - June, 2014)**

Institute of Science, Nirma University, Ahmedabad, Gujarat

Dissertation: “Microwave mutagenesis of certain lactic acid (or prodigiosin) producing bacterial strains, and effect of microwave on pigment production of various organisms”

- **Bachelor of Science (June, 2009 – May, 2012)**

Kamani Science and Prataprai Arts College, Amreli, Gujarat, India

Project title: “Protein structure determination using RASMOL”

TEACHING AND LABORATORY EXPERIENCE

- **Assistant Professor (June, 2018- At Present)**

Department of Biosciences, School of Science, Indrashil University

Subject taught: Genetic engineering, Ecology and evolution, environmental microbiology, microbial diversity and systematics, microbial genetics, molecular biology, general microbiology, environmental science

Practical instructed: Genetic engineering, Microbial diversity and systematics, environmental microbiology, microbial physiology, microbial genetics, molecular biology, enzymology, instrumentation, general microbiology

- **Visiting faculty (May, 2015-June, 2018)**

Department of Life Sciences, Maharaja Krishnakumarsinhji Bhavnagar University

Subject taught: Genetics, environmental microbiology, instrumentation and analytical techniques
Practical **instructed:** Molecular biology, microbial physiology, instrumentation, industrial microbiology and environmental microbiology

RESEARCH EXPERIENCE

- **Senior Research Fellow (May, 2017- Apr, 2018)**
Biodegradation of PAHs – MoES, New Delhi sponsored project
Department of Life Sciences, Maharaja Krishnakumarsinhji Bhavnagar University, Bhavnagar, Gujarat
- **Junior Research Fellow (May, 2015- April, 2017)**
Biodegradation of PAHs – MoES, New Delhi sponsored project
Department of Life Sciences, Maharaja Krishnakumarsinhji Bhavnagar University, Bhavnagar, Gujarat
- **Junior Research Fellow (August, 2014- April, 2015)**
Carbon sequestration - DBT, New Delhi sponsored project
Indian Institute of Advanced Research, Gandhinagar, Gujarat
- **Technical Assistant (July, 2014 – August, 2015)**
Carbon sequestration - DBT, New Delhi sponsored project
Indian Institute of Advanced Research, Gandhinagar, Gujarat

RESEARCH AREA

Over the last few decades, with an increasing global awareness about the potential adverse effects of pollutants on public health and environment, remediation and restoration of environment contaminated with hazardous materials have received increasing attention. However, due to lack of knowledge in the field of biodegradation and bioremediation using advanced biological techniques leads to the lack of successful bioremediation techniques. Thus, my current and past research focused on development of bioremediation strategies for organic pollutants present coastline of Gujarat using conventional and advanced biotechnology tools i.e. rarely used “blue biotechnology”. The research has produced many scientific publications in reputed journals with high impact factors such as environmental pollution (6.792), ecological indicators (4.490), international journal of biomacromolecules (5.162) etc. Furthermore, I am trying to develop nano-bioremediation technology using green synthesized nano particles, which could be a better solution for policy makers and stake holders to restore contaminated sites. Additionally, I am also interested to develop technology for large

scale production of industrially important chemicals using marine resources with the help of “blue biotechnology”. It will be helpful to gain interest of entrepreneurs who want to build start-ups. Thus, my main research objective for next 5 years will be translational and product based biotechnological research which can be helpful to fulfil main objective of the university.

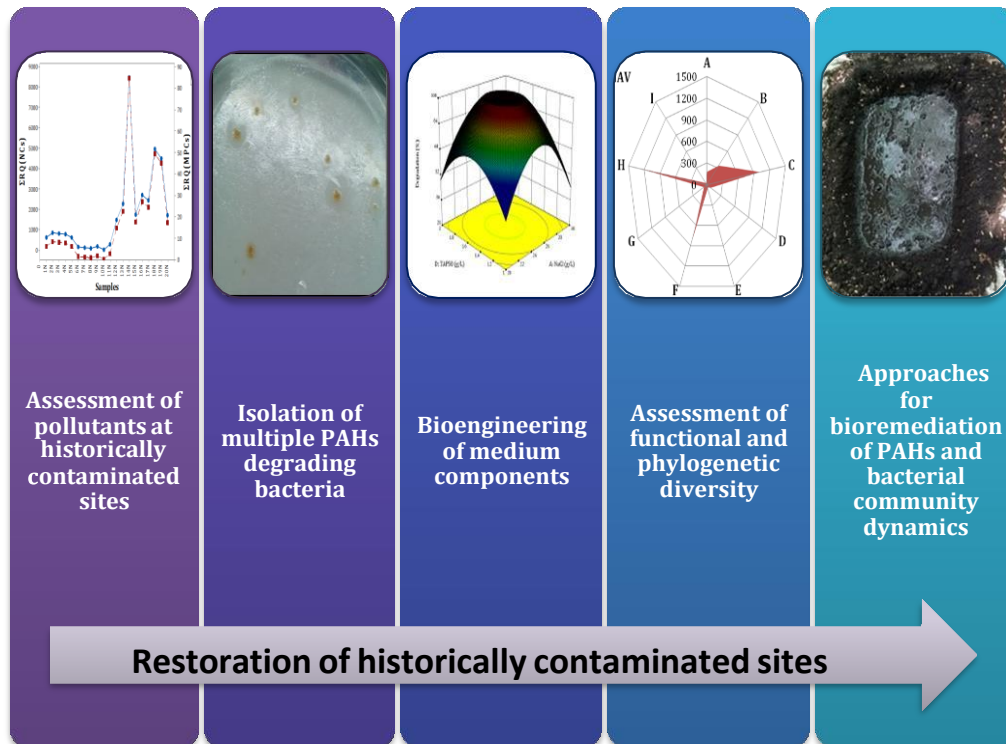


Fig 1. Development of strategies for restoration of pollutants at historically polluted sites

RESEARCH IMPACT

- Cumulative impact factor – 54.95
- Total citations – 362
- *h*-index – 9
- *i10*-index – 8

RESEARCH CORE GROUP

- Miss Payal Patel
Topic: “Studies on bacterial asparaginase and its anti proliferative activity”
- Mr Ajay Patel
Topic: “Bioconversion of cellulosic waste into nanocellulose and its application in biomedical field”

TECHNICAL SKILLS

- Basic and advanced microbiology and biotechnology techniques
- Molecular biology techniques viz. extraction, isolation and purification of biological macromolecules (DNA, RNA, protein)
- Genomics and proteomics
- NGS data analysis
- Statistical modelling and data analysis including process centric and data centric approaches

ADMINISTRATIVE ACTIVITIES :

- Member of Examination cell, Indrashil University
- Chairman of Eco club, Indrashil University
- Member of Science club, Indrashil University
- Member of anti-ragging squad, Indrashil University
- Member of timetable committee, Indrashil University
- External examiner at Maharaja Krishnakumarsinhji Bhavnagar University, Bhavnagar

KEY PUBLICATIONS

Research Articles

- Patel P.G., **Gosai H.B.**, Panseriya H.Z., Dave B.P., 2021. Development of process and data centric inference system for enhanced production of L-asparaginase from halotolerant *Bacillus licheniformis* PPD37. *Applied Biochemistry and Biotechnology* (IF – 2.926)
- Panseriya H.Z., Gosai H.B., Gavali D., Dave B.P., 2021 Assessment, Spatio-temporal Pattern and Water Quality Distribution of Surface Water in West Coast of India. *Marine Pollution Bulletin*. 170, p.112589. (IF- 5.553)
- **Gosai H.B.**, Desai N.C. Dave B.P., 2020. Digital tools to combat COVID-19 pandemic, AIU News, New Delhi, India, Vol. 58, 6-9
- Panseriya, H.Z., **Gosai, H.B.**, Sankhwal, A.O., Sachaniya, B.K., Gavali, D.J. and Dave, B.P., 2020. Distribution, speciation and risk assessment of heavy metals: geochemical exploration of Gulf of Kachchh, Gujarat, India. *Environmental Earth Sciences*, 79, pp.1-10 (IF-2.784)
- Sachaniya, B.K., **Gosai, H.B.**, Panseriya, H.Z. and Dave, B.P., 2020. Bioengineering for multiple PAHs degradation for contaminated sediments: Response surface methodology (RSM) and artificial neural network (ANN). *Chemometrics and Intelligent Laboratory Systems*, p.104033. (IF-3.491)

- **Gosai, H.B.**, Sachaniya, B.K., Dudhagara, D.R., Panseriya H.Z. and Dave B.P., 2018. Bioengineering for multiple PAHs degradation using process centric and data centric approaches. *Chemometrics and Intelligent Laboratory Systems*, 179, 199-108 **(IF-3.491)**
- **Gosai, H.B.**, Sachaniya, B.K., Panseriya, H.Z. and Dave, B.P., 2018. Functional and phylogenetic diversity assessment of microbial communities at Gulf of Kachchh, India: An ecological footprint. *Ecological Indicators* 93, 65-75. **(IF-4.958)**
- Vala, A.K., Sachaniya, B., Dudhagara, D., Panseriya, H.Z., **Gosai, H.**, Rawal, R. and Dave, B.P., 2017. Characterization of L-Asparaginase from marine-derived *Aspergillus niger* AKV-MKBU, its antiproliferative activity and bench scale production using industrial waste. *International Journal of Biological Macromolecules*. **(IF-6.953)**
- **Gosai, H.B.**, Sachaniya, B.K., Dudhagara, D.R., Rajpara, R.K. and Dave, B.P., 2017. Concentrations, input prediction and probabilistic biological risk assessment of polycyclic aromatic hydrocarbons (PAHs) along Gujarat coastline. *Environmental geochemistry and health*, pp.1-13. **(IF- 4.609)**
- Rajpara, R.K., Dudhagara, D.R., Bhatt, J.K., **Gosai, H.B.** and Dave, B.P., 2017. Polycyclic aromatic hydrocarbons (PAHs) at the Gulf of Kutch, Gujarat, India: Occurrence, source apportionment, and toxicity of PAHs as an emerging issue. *Marine Pollution Bulletin*, 119(2), pp.231-238. **(IF-5.553)**
- Dudhagara, D.R., Rajpara, R.K., Bhatt, J.K., **Gosai, H.B.**, Sachaniya, B.K. and Dave, B.P., 2016. Distribution, sources and ecological risk assessment of PAHs in historically contaminated surface sediments at Bhavnagar coast, Gujarat, India. *Environmental Pollution*, 213, pp.338-346. **(IF-8.071)**
- Dudhagara, D.R., Rajpara, R.K., Bhatt, J.K., **Gosai, H.B.** and Dave, B.P., 2016. Bioengineering for polycyclic aromatic hydrocarbon degradation by *Mycobacterium litorale*: Statistical and artificial neural network (ANN) approach. *Chemometrics and Intelligent Laboratory Systems*, 159, pp.155-163. **(IF - 3.491)**
- Rajpara, R.K., Dudhagara D.R., Bhatt J.K., **Gosai H.B.** and Dave B.P., 2016. Plackett- Burman Design for the Screening of Media Component for Anthracene Degradation by *Sphingobium Yanoikuyae* Strain ANT3D. *International Journal of Marine Biology and Research* 1(2): 1-4.
- Rajpara, R.K., Dudhagara, D.R., Bhatt, J.K., Ghevariya, C.M., Domadiya, T.B., **Gosai, H.B.**, Vala, A.K. and Dave, B.P. Isolation and Investigation of Biodegradation Potential of Multiple Polycyclic Aromatic Hydrocarbons (PAHs) Degrading Marine Bacteria near Bhavnagar Coast, India. *Journal of Marine Biology & Oceanography*, 2015. **(IF-1.130)**
- **Gosai, H.**, Raval, S., Chaudhari, V. and Kothari, V., 2014. Microwave mutagenesis for altered lactic acid production in *Lactobacillus plantarum*, and *Streptococcus mutans*. *Current Trends in Biotechnology and Pharmacy*, 8(4), pp.402-412.

- Chaudhari, V., **Gosai, H.**, Raval, S. and Kothari, V., 2014. Effect of certain natural products and organic solvents on quorum sensing in *Chromobacterium violaceum*. *Asian Pacific journal of tropical medicine*, 7, pp.S204-S211. **(IF-1.940)**
- Raval, S., Chaudhari, V., **Gosai, H.** and Kothari, V., 2014. Effect of low power microwave radiation on pigment production in bacteria. *Microbiology Research*, 5(1).

Books

- Kothari, V., **Gosai, H.**, Raval, S. and Chaudhary, V., 2014. Natural products as potential sources of inhibitors of bacterial quorum-sensing. GRIN Verlag, Munich, Germany.
- Kothari, V., **Gosai, H.**, Raval, S. and Chaudhary, V., 2015. Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis. GRIN Verlag, Munich, Germany.

Book chapters

- Kothari, R.K., Nathani, N.M., Mootapally, C., Rank, J.K., **Gosai, H.B.**, Dave, B.P. and Joshi, C.G., 2018. Comprehensive Exploration of the Rumen Microbial Ecosystem With Advancements in Metagenomics. In *Metagenomics* (pp. 215-229). Academic Press.
- Panseriya, H.Z., **Gosai, H.B.**, Sachaniya, B.K., Vala, A.K. and Dave, B.P., 2019. Marine microbial mettle for heavy metal bioremediation: a perception. *Marine Pollution: Current Status, Impacts and Remedies*, 1, pp.409-434.
- Sachaniya, B.K., **Gosai, H.B.**, Panseriya, H.Z., Vala, A.K. and Dave, B.P., 2019. Polycyclic Aromatic Hydrocarbons (PAHs): Occurrence and Bioremediation in the Marine Environment. *Marine Pollution: Current Status, Impacts and Remedies*, 1, pp.435-466.
- **Gosai H.B.**, Patel P.G., Trivedi H.B., Joshi U., 2020. Biodegradable Polymers and their Biomedical Applications in Wound-Care. Eds. Kothari V., Kumar P. In: *Wound Healing: Current Research Status and Future Directions*. Springer Nature, Singapore
- Vala A.K., Trivedi H.B., **Gosai H.B.**, Panseriya H.Z., Dave B.P., 2020. Biosynthesized silver nanoparticles and their therapeutic applications. Eds. Verma S.K., Das A.K. In: *Biosynthesized nanomaterials*. Elsevier
- Trivedi H.B., **Gosai H.B.**, Vala A.K., Dave B.P., 2020. Biosynthesized nanoparticles derived from marine habitat and their interactions with plants. Eds. Verma S.K., Das A.K. In: *Biosynthesized nanomaterials*. Elsevier

CONFERENCES AND SEMINAR

ORGANIZED

- Member of organizing committee, SynBio – 2020 conference, held at Indrashil University
- Member of organizing committee, INSPIRE program – 2020, held at Indrashil University
- Member of organizing committee, webinar series (35 webinars) on “Turning point”, held at Indrashil University during 2020-21

PARICIPATED

- **Haren B. Gosai** and Bharti P Dave, “Polycyclic Aromatic Hydrocarbons Bioremediation Approaches at Crude Oil and Coal Contaminated Sites” at International Conference on Advances In Medical and Industrial Biotechnology (ICAMIB-2019), Sathyabhama University, 20th -22 nd March, 2019 **(Oral Presentation)**
- **Haren B. Gosai**, Bhumi K. Sachaniya, Dushyant R. Dudhagara and Bharti P. Dave, “Comparison of conventional methods and artificial neural network in PAHs degradation study – A review” at 2nd National Conference on Current Trends in Biological Sciences– CTBS 2017, Sardar Patel University, Vallabhavidyanagar, Gujarat from 20th -21st, January, 2017. **(Oral presentation)**
- **Haren B. Gosai**, Bhumi K. Sachaniya and Bharti P Dave, “Sediment quality threshold: Determination of sediment quality by multi-computational approaches along Gujarat coast” at 2016 NextGen Genomics, Biology, Bioinformatics and Technologies (NGBT) conference, SciGenome Research Foundation, Cochin, India from 3rd -5th, October, 2016. **(Poster presentation)**
- **Haren B. Gosai**, Bhumi K. Sachaniya, Dushyant R. Dudhagara, Rahul K. Rajpara and Bharti P. Dave, “Detection of PAHs at contaminated sites along Gujarat coast, their source and toxicity assessment : As an aid to their biodegradation” at the 56th Annual Conference of the Association of Microbiologists of India (AMI), JNU, New Delhi, India from 7th -10th, December, 2015. **(Poster presentation)**
- **Haren B. Gosai**, Twinkle Solanki, Manhar Solanki and Dhiraj Naik, “ “Interact to thrive: Plant growth promoting bacteria improves growth performance and alter carbon allocation in seedlings of plantation forest tree *Eucalyptus globulus* subjected to drought and soil type” at ITM university, Gwalior, India. **(Oral Presentation)**
- **Haren B. Gosai**, Vimla Choudhary, Shreya Raval and Vijay Kothari, “Effect of certain natural products and organic solvents on quorum sensing in *Chromobacterium violaceum*” at National Symposium at Indian Institute of Advanced Research, Gandhinagar, India. **(Oral Presentation)**

- Workshop attended on “Marine Ecology of Gujarat Coast” organized by Department of Life Sciences, Maharaja Krishnakumarsinhji Bhavnagar University, Bhavnagar, Gujarat on 28th October, 2015.
- Attended National Conference on “ Diabetes and its complications: Search for prevention and cure “ at Nirma university, Ahmedabad, India, 2013.
- Attended National Biotechnology Symposium on “ Innovations in biotechnology : From Education to Industry” at AMA, Ahmedabad, India, 2012.
- Attended National Symposium on “Recent trends in science and technology” at Christ college, Rajkot, India, 2012.
- Participated in GSBTM sponsored crash workshop on “National competitive examinations for students of biotechnology and allied life sciences” at Shree M. & N. Virani science college- Rajkot, India.

HONOR/AWARD

CSIR Travel award – Full airfare support

BioMicroworld-2017, VII International Conference on Environmental, Industrial and Applied Microbiology, Madrid, Spain held from 18th-20th October, 2017.