



Birla Institute of Technology & Science, Pilani

K K Birla Goa Campus

RESUME

PERSONAL DETAILS	
Name:	Srikanth Mutnuri
Date of Birth:	19/03/1977
Nationality:	Indian
Gender:	Male
Contact Address with Ph. No:	Department of Biological Sciences, BITS Pilani K K Birla Goa campus, Goa 403726
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EDUCATIONAL DETAILS	
Ph.D (Year ,University)	2004, Anna University Research work conducted at Helmholtz Centre for Environmental Research, Leipzig Germany under DAAD Sandwich fellowship
Masters	1998, Pacchaiyappa College, Univ of Madras
Post Ph.D Exp. details till date	1.Birla Institute of Technology and Science – Pilani, K K Birla Goa campus Professor – Biological Sciences, July 2018 - Till date 2.Birla Institute of Technology and Science – Pilani, K K Birla Goa campus Associate Professor – Biological Sciences, Feb 2013 - July 2018 3.Birla Institute of Technology and Science – Pilani, K K Birla Goa campus Assistant Professor – Biological Sciences, June 2008 - Jan 2013 4.Birla Institute of Technology and Science – Pilani, K K Birla Goa campus Lecturer – Biological Sciences, June 2005- June 2008 5.Alpha Arts and Science College, Chennai Lecturer – Biotechnology, January 2005 - May 2005
CURRENT EMPLOYMENT DETAILS	
Institution:	Birla Institute of Technology and Science – Pilani, K K Birla Goa campus
Department:	Biological Sciences
Current Designation; since when:	Professor – July 2018 - Till date
Administrative Roles	Associate Dean International Programmes and Collaboration Division (2012 – 2017) Established Student Exchange with National University Singapore which is still running Established Student Exchange with Canadian Universities under Ontario India Student Exchange

	Established INRIA internships with France for Student Exchange Started Study India Programme with Texas A&M Brought ERASMUS Plus Funding for Faculty and Student Exchange with University of Tartu, Estonia
	Head of the Department, Biological Sciences (2017 – 2022) Achieved Research funding of 25 crores in last three years by the department including DBT BUILDER Brought Funding from Bill and Melinda Gates Foundation through IHE Delft Netherlands and became part of Global Sanitation Graduate School - Started ME in Sanitation Science Technology and Management - Started M.Tech in Sanitation Science Technology and Management for working Professionals - Started Minor Programme in water and Sanitation - Started PostGraduate Certificate in Non Sewered Sanitation - Started Faecal Sludge Management Laboratory and became part of Global Partnership of Laboratories for Faecal Sludge Analysis
	Dean, International Programmes and Collaboration Division (University wide) (2022 – till date)
	Under Vision 2020 of BITS Pilani Led the team for Interdisciplinary Research for Promote a culture of Interdisciplinary Research within a campus, between BITS campuses and with other institutions Create infrastructure for Interdisciplinary Research so as to support discovery, creativity for solving societal and Industrial problems
RESEARCH PROFILE	
Research Statement (within 100 words)	Sustainable Development Goal 6 (SDG 6), one of 17 Sustainable Development Goals established by the UN in 2015 calls for clean water and sanitation for all people. According to NITI Aayog's report – Twenty one Indian Cities will run out of groundwater by 2020, 40% of the annually available surface water is used every year and about 2,00,000 people are dying every year due to inadequate access to safe water (<i>'Composite Water Management Index'</i> (CWMI) <u>report</u> , June 14, 2018). My research statement is <i>"To carry out strategic and applied research in the area of Water, Sanitation and Hygiene along with capacity building for sustainable development"</i>
Sponsored Project (completed and ongoing), agency, duration and grant amount	Details Provided through Annexure I Total funding brought since year 2005 = Rs 1822.56 lakhs Research projects = Rs 1204.95 lakhs Consultancy projects = Rs 617.73 lakhs
Funding from Industry (Completed and ongoing)	Details Provided through Annexure II
R&D Consultancy	Provided through Annexure I and Annexure II

Publications (10 best)
(Provide through Annexure III the entire publication details in Journals/Conferences)

1. Hugo Olvera-Vargas, Nissim Gore-Datar, Orlando Garcia-Rodriguez, Srikanth Mutnuri, Olivier Lefebvre Electro-Fenton treatment of real pharmaceutical wastewater paired with a BDD anode: reaction mechanisms and respective contribution of homogeneous and heterogenous •OH". Chemical Engineering Journal. Accepted (2020).
2. Swapnil Punyapwar and Srikanth Mutnuri French Vertical Flow Constructed Wetland Treating Greywater. World Journal of Microbiology and Biotechnology. Accepted (2020)
3. Priya Sharma, Srikanth Mutnuri Nutrient Recovery and Microbial Diversity in human urine fed microbial fuel cell. Water Science and Technology 79 (4): 718-730 (2019)
4. Priya Sharma, Devendra Kumar and Srikanth Mutnuri. UPLC-MS/MS method validation of Ciprofloxacin in human urine: Application to biodegradability study in Microbial Fuel Cell. Biomedical chromatography (2018).
5. Guruprasad Talekar, Priya Sharma, Anant Yadav, Peter Clauwaert, Korneel Rabaey and Srikanth Mutnuri (2018) Sanitation of blackwater via sequential wetland and electrochemical treatment – Nature Partner Journal Clean water. 1, Article number: 14.
6. Anant Yadav, Florent Chazarenc, Srikanth Mutnuri (2018). Development of the "French system" Vertical flow Constructed Wetland to treat raw domestic wastewater in India, Ecological Engineering, Volume 113, 1 April 2018, Pages 88-93
7. Starlaine Mascarenhas, Srikanth Mutnuri, Anasuya Ganguly (2017) Deleterious role of trace elements – Silica and Lead in the development of chronic kidney disease. Chemosphere. Volume 177, June 2017, Pages 239–249
8. Rajesh Pasumarthi and Srikanth Mutnuri (2016). Horizontal gene transfer versus biostimulation: a strategy for bioremediation in Velsao sea water, Goa. Marine Pollution Bulletin. Vol113, Pages 271-276
9. Amal Raj, Rajesh Pasumarthi, Srikanth Mutnuri (2016). Effect of rhamnolipid on biodegradation of hydrocarbons in non aqueous phase liquid (napl). Bioremediation journal.Vol 20. Pages 183-193
10. Anant Yadav, Piyush Choudhary, Neelam Atri, Sebastian Teir, Srikanth Mutnuri (2016) Pilot project at Hazira, India, for capture of carbon dioxide and its biofixation using microalgae Environmental Science and Pollution Research pp 1-8.

	11. Meghanath Prabhu and Srikanth Mutnuri (2016). Anaerobic Co-digestion of Sewage Sludge and Food Waste. <i>Waste management and research</i>. 1-9. DOI: 10.1177/0734242X16628976 12. Biodegradation of Aliphatic hydrocarbons in the presence of Hydroxy Cucurbit[6]uril Rajesh Pasumarthi, Vikas Kumar, Sivaraman Chandrasekharan, Mainak Banerjee, Anasuya Ganguly, Srikanth Mutnuri. <i>Marine Pollution Bulletin</i> 88 (1), 148-154, (2014).
Patents (filed/accepted) with details	Bioremediation of red mud – patent filed
No. of Ph.D guidance: Completed and ongoing (Provide details with titles etc.in Annexure IV)	11 completed, 1 submitted and 10 ongoing Two postdocs Details in Annexure IV
Future Research Agenda (within 100 words)	My future research agenda is Waste Biorefinery for circular economy. A Biorefinery is collection of sustainable technologies or processes that utilizes a renewable biological or bio based source to produce an end product or products in a manner that is necessary for circular economy and zero waste producing . Our bio based source will be waste & Wastewater and the processes will be anaerobic digestion, wastewater treatment, microbial fuel cells, Electrochemical based treatments and dark fermentation. It is estimated that around US \$410 billion can be generated only from the world market of municipal waste recycling. However, only a quarter of this waste is recovered or recycled for the beneficial purposes (Bioresource Technology 241 (2017) 1101–1117).
TEACHING PROFILE	
Courses taught	BIOF111 - General Biology, BIOF110 - Measurement Techniques I, BIOT F243 Genetics, BIO F241 Ecology, BIOF451 - Bioprocess Technology, BIO G 671 - Bioconversion Technology, BIO G 525 - Environmental Biotechnology & Waste Management, BIOF 216 - Water, Sanitation and Solid Waste Management, BIO F217 - Laboratory for Water, Sanitation and Solid Waste Management, SAN G511 – Sanitation Technology, SAN G515 – Emergency Sanitation and Leadership
New courses developed	BIOF 216 - Water, Sanitation and Solid Waste Management, BIO F217 - Laboratory for Water, Sanitation and Solid Waste Management SAN G511 – Sanitation Technology SAN G512 – Sanitation and Public Health SAN G513 – Sanitation Governance,Behaviour Change and Advocacy SAN G514 – Sanitation Financing and Project Management SAN G515 – Emergency Sanitation and Leadership
Interdisciplinary courses taught	BIOF441 Biochemical Engineering in collaboration with Dept of Chemical Engineering

Laboratory courses created	BIO F217 - Laboratory for Water, Sanitation and Solid Waste Management This course consists of a basic science module, Laboratory experiments and a capstone project, i.e. an independent research project.
Contribution in curriculum development	BIOF 216 - Water, Sanitation and Solid Waste Management, BIO F217 - Laboratory for Water, Sanitation and Solid Waste Management The above two courses were developed with EAWAG, Switzerland SAN G511 – Sanitation Technology SAN G512 – Sanitation and Public Health SAN G513 – Sanitation Governance,Behaviour Change and Advocacy SAN G514 – Sanitation Financing and Project Management SAN G515 – Emergency Sanitation and Leadership The above courses were adapted from IHE Delft Netherlands and is part of the new programme i.e ME in Sanitation Science Technology and Management. We are part of Global Sanitation Graduate School which is funded by Bill & Melinda Gates foundation
Introduction of innovative pedagogy	• Participated in Design and Creation workshop, 31 January - 2 February 2017 at UNESCO-IHE in Delft and in February 2018 In Chennai in developing the broad course contents for the new ME programme in Sanitation Science Technology and Management. • BIO F217 - Laboratory for Water, Sanitation and Solid Waste Management – In this course capstone project was introduced with top down pedagogical approach. The top-down approach engages students in designing solutions, like products to solve open-ended societal problems.
Academic Vision (within100 words)	My Academic vision is to establish an Interdisciplinary “Centre for Water Sanitation and Hygiene” which will focus on strategic and Applied Research necessary for circular economy. This Centre will work closely with Government Agencies, NGOs and Industries wherein demonstration projects will be carried out as well as help in capacity building. International Water Association (IWA) is an association of water professionals around the world and they too predicted the requirement of professional capacity needs in Water and Sanitation. According to IWA “The gap in 2014 was 700,000 individuals, but that gap has widened with the adoption of the Sustainable Development Goals”. This Proposed Centre will play a major role in building the professional capacity.
Achievements & Awards	Provided through Annexure V
Any other information, you wish to add	Provided through Annexure VI

Names of three referees with their contact details	Dr.Michel TORRIJOS Ingénieur de Recherche / Research Engineer Développement Technologique et Innovation INRA, UR 050, Laboratoire de Biotechnologie de l'Environnement (LBE) Email: michel.torrijos@inra.fr Tél. : +33 (0)4 68 42 51 85 Fax : +33 (0)4 68 42 51 60 102, Avenue des Etangs 11 100 Narbonne France Dr. Makarand M. Ghangrekar Professor, Environmental Engineering Department of Civil Engineering, Head, School of Environmental Science and Engineering Professor In-charge, PK Sinha Center for Bioenergy Indian Institute of Technology Kharagpur Kharagpur - 721302. W.B. India +91-3222-283440 (O) E-mail: ghangrekar@civil.iitkgp.ac.in; m_ghangrekar@rediffmail.com Dr.S.Venkata Mohan, (Bhatnagar awardee) Principal Scientist Bioengineering and Environmental Sciences (BEES) CSIR-Indian Institute of Chemical Technology (CSIR-IICT) Hyderabad-500 007, India Phone: 0091-40-27191765 (O) URL: http://www.iictindia.org Email: vmohan_s@yahoo.com

Annexure I

Sponsored Project (completed and ongoing), agency, duration and grant amount

I. Ongoing Research Support

Title	Your Role (PI or Co-PI)	Program/Agency	Total Direct Cost (INR, Lakhs)	Duration
<i>Improving Washing Machine hygiene by reducing release of Microplastics, reuse of greywater</i>	<i>PI</i>	<i>IFB Ltd</i>	<i>15 Lakhs</i>	<i>2024-2027</i>
<i>Textile Industry wastewater treatment by Moving bed Biofilm bioreactor and Photocatalysis</i>	<i>PI</i>	<i>Department of Biological Sciences</i>	<i>30 lakhs (10 lakh for our Lab)</i>	<i>2023-2025</i>
<i>Hybrid Non Sewered wastewater treatment system for safe discharge and reuse.</i>	<i>PI</i>	<i>Department of Science and Technology, Government of India (DST)</i>	<i>87.02 Lakhs</i>	<i>2023-2026</i>
<i>"Developing a Wetland Photobioreactor Microbial Fuel Cell system for Household Wastewater Treatment"</i>	<i>PI</i>	<i>Department of Science and Technology, Government of India (DST) DST India and WTZ Austria</i>	<i>15 Lakhs</i>	<i>2023-2025</i>
<i>Combination of Constructed Vertical flow Wetlands, Microalgae Photobioreactor and Microbial Fuel Cell (KIT) for wastewater treatment in small pig production farms; under India-Portugal Joint Research Projects 2022</i>	<i>PI</i>	<i>Department of Science and Technology, Government of India (DST)</i>	<i>30 Lakhs</i>	<i>2022-2025</i>
<i>"Tracking the import of SARS CoV2 and its variants by surveillance of Airport wastewater"</i>	<i>PI</i>	<i>Science & Engineering Research Board (SERB)</i>	<i>40 Lakhs</i>	<i>2023-2024</i>
<i>Global Sanitation Graduate School</i>	<i>PI</i>	<i>IHE Delft & Bill & Melinda Gates foundation</i>	<i>318 Lakhs</i>	<i>2019-2025</i>

II. Completed Research Support (last 5 years, or longer if you wish)

Title	Your Role (PI or Co-PI)	Program/Agency	Total Direct Cost (INR, Lakhs)	Duration
<i>WASH Digital Learning Collaboration With EAWAG Switzerland</i>	<i>PI</i>	<i>EAWAG Switzerland</i>	<i>5.75 Lakhs</i>	<i>2022-2023</i>
<i>Source Separation Toilet User Interface and wastewater Treatment –Project with EOOS Next Austria</i>	<i>PI</i>	<i>Bill & Melinda Gates Foundation</i>	<i>36 lakhs</i>	<i>2023-2024</i>
<i>Wastewater based Epidemiology and Screening for Covid 19</i>	<i>PI</i>	<i>DBT BIRAC and Bill & Melinda Gates foundation</i>	<i>83.29 lakhs</i>	<i>2021-2022</i>
<i>Co-digestion of STP secondary sludge with organic wastes in urban/peri-urban areas; process optimization, scale up and field demonstration</i>	<i>PI</i>	<i>Department of Science and Technology, Government of India (DST)</i>	<i>5 Lakhs</i>	<i>2020-2020</i>
<i>Impact of negative factors and importance of monitoring natural wetland ecosystem</i>	<i>PI</i>	<i>Conservator of Forests, Jharkhand.</i>	<i>17 lakhs</i>	<i>2020-2020</i>
<i>“Empowered septic tank as a decentralized wastewater treatment system’ - Second Phase in collaboration with Ghent University, Belgium</i>	<i>PI</i>	<i>DBT BIRAC and Bill & Melinda Gates foundation</i>	<i>151.92 lakhs</i>	<i>2020-2022</i>
<i>Recovery and purification of enzymes</i>	<i>PI</i>	<i>Zuari foods and Farms Pvt Ltd</i>	<i>7.15 lakhs</i>	<i>2019-2020</i>
<i>Programme of Open Studies on Sanitation, Water and Solid Waste Management” (POS-WASH) - Second Phase and sub title production</i>	<i>PI</i>	<i>EAWAG Switzerland</i>	<i>9 lakhs</i>	<i>2019-2020</i>
<i>Bioleaching of Limestone and clay to remove iron and other transition elements</i>	<i>PI</i>	<i>ABSTCPL</i>	<i>11.8 lakhs</i>	<i>2019-2020</i>
<i>Enzymatic pretreatment for enhancing Anaerobic Co-digestion of Sewage Sludge / Septage / Food waste / MSW for energy production</i>	<i>PI</i>	<i>Larsen & Toubro</i>	<i>12.39 lakhs</i>	<i>2019-2020</i>
<i>Bioremediation and Digital Documentation Towards the Conservation of Cultural Heritage</i>	<i>PI</i>	<i>Department of Science & Technology, Government of India</i>	<i>32.8 lakhs</i>	<i>2019-2021</i>
<i>Demonstration of River Sal cleaning by Vertical wetlands and river bed filtration</i>	<i>PI</i>	<i>Department of Biotechnology, Government of India</i>	<i>68.85 lakhs</i>	<i>2019-2021</i>

<i>On site electrochemical wastewater treatment and recycling technology</i>	<i>PI</i>	<i>Bill & Melinda Gates foundation project in collaboration with Caltech, USA</i>	<i>27 Lakhs</i>	<i>2018-2019</i>
<i>Developing Bioactive Compound-Enriched Functional Food Ingredients from Dillenia indica and valorization of its pomace</i>	<i>PI</i>	<i>DBT under North East Twinning Program in collaboration with Assam Agricultural University</i>	<i>16 Lakhs</i>	<i>2019-2022</i>
<i>"Network on Decentralized Grey/Waste Water Treatment & Recycling"</i>	<i>PI</i>	<i>Indo French CEFIPRA networking project</i>		<i>2018-2020</i>
<i>Demonstration of a waste to energy by anaerobic digestion of food waste and septage</i>	<i>PI</i>	<i>Department of Biotechnology, Government of India</i>	<i>161.6 Lakhs</i>	<i>2017-2019</i>
<i>Empowered septic tank as decentralized wastewater treatment system</i>	<i>PI</i>	<i>DBT BIRAC – Bill & Melinda Gates foundation</i>	<i>67 Lakhs</i>	<i>2017-2019</i>
<i>Anaerobic co-digestion of food waste and organic fraction of municipal solid waste for the production of biogas and concomitant use of biogas as fuel for cooking</i>	<i>PI</i>	<i>Centre of Research Excellence in waste, Water and Energy management – BITS Pilani</i>	<i>3 Lakhs</i>	<i>2017-2019</i>
<i>Pre Treatment of Nitrogenous WasteWater using Microalgae and its Utilization for Production of Biofuel and other Value added Products</i>	<i>PI</i>	<i>Centre of Research Excellence in waste, Water and Energy management – BITS Pilani</i>	<i>11 Lakhs</i>	<i>2017-2019</i>
<i>Development and Demonstration of two decentralized wastewater treatment plants</i>	<i>PI</i>	<i>Centre of Research Excellence in waste, Water and Energy management – BITS Pilani</i>	<i>31 Lakhs</i>	<i>2017-2020</i>
<i>Role of environmental toxins in kidney related diseases of Canacona Taluka, Goa – Co investigator</i>	<i>PI</i>	<i>Council for Scientific and Industrial Research</i>	<i>2 Lakhs</i>	<i>2016-2019</i>
<i>Analysis of metabolically active bacterial species in anaerobic digesters</i>	<i>PI</i>	<i>Council for Scientific and Industrial Research</i>	<i>17 lakhs</i>	<i>2016-2019</i>
<i>Biotransformation of phosphogypsum by sulphate reducing bacteria</i>	<i>PI</i>	<i>Department of Biotechnology</i>	<i>5 Lakhs</i>	<i>2015-2016</i>
<i>Biocatalytic Production of a commercial textile dye - Indigo</i>	<i>PI</i>	<i>Department of Science,</i>	<i>5 Lakhs</i>	<i>2012-2015</i>

		Technology & Environment, Goa		
<i>Survey of microbial in-situ PAH degradation activity based on Southern hybridization using gene probes</i>	<i>PI</i>	<i>International Biodeterioration and Biodegradation Society's bursary scheme</i>	<i>0.25 Lakhs</i>	<i>2012-2012 (6 months)</i>
<i>Anaerobic Digestion of food waste in a horizontal plug flow reactor</i>	<i>PI</i>	<i>University Grants Commission, Government of India.</i>	<i>11 Lakhs</i>	<i>2011-2014</i>
<i>Expression of cyclodextrin glucosyl transferase gene in hydrocarbon degrading bacteria for enhancing bioremediation</i>	<i>PI</i>	<i>Department of Biotechnology</i>	<i>21 Lakhs</i>	<i>2011-2014</i>
<i>Genetic diversity of polyaromatic hydrocarbon degrading bacteria and their role in biodegradation</i>	<i>PI</i>	<i>Department of Science and Technology, Government of India</i>	<i>9.9 Lakhs</i>	<i>2011-2013</i>
<i>Experimental pilot scale horizontal plug flow reactor for anaerobic digestion of food waste</i>	<i>PI</i>	<i>Goa Energy Development Agency & BITS</i>	<i>10 Lakhs</i>	<i>2010-2013</i>
Cunsaltancy Project				
Pilot testing to capture performance data with commercial partner engagement for Cranfield University developed Reinvented the toilet Unit	<i>PI</i>	<i>Cranfield University, UK and Gates Foundation</i>	<i>57 lakhs</i>	<i>2024</i>
<i>Generation 2 Reinvented Toilet (G2RT) third phase</i>	<i>PI</i>	<i>Georgia Tech, Bill and Melinda Gates foundation</i>	<i>211.56 Lakhs</i>	<i>2022-2023</i>
<i>Utilization of Palm oil effluent and solid sludge for protein production so as to use it as feed additive for animals</i>	<i>PI</i>	<i>Godrej Agrovet Ltd</i>	<i>15.23 Lakhs</i>	<i>2021-2022</i>
<i>Generation 2 Reinvented Toilet (G2RT)</i>	<i>PI</i>	<i>Georgia Tech, Bill and Melinda Gates foundation</i>	<i>74.22 Lakhs</i>	<i>2020-2021</i>
<i>Mobile Treatment Unit (MTU) Field Study" with Water, Sanitation and Hygiene Institute (WASH Institute)</i>	<i>PI</i>	<i>WASH Institute</i>	<i>10 Lakhs</i>	<i>2020-2022</i>
<i>Reviewing the course Developing Resource Recovery and Reuse (RRR) business options in the sanitation sector</i>	<i>PI</i>	<i>International Water Management Institute</i>	<i>3.62 Lakhs</i>	<i>2019 (21 days)</i>
<i>Screening of Coliforms and Helminthes eggs in some of the samples of sludge that are treated using their technology</i>	<i>PI</i>	<i>Tide Technocrats Pvt Ltd</i>	<i>0.5 Lakhs</i>	<i>2019 (15 days)</i>
<i>Recovery and Purification of enzymes from Spent Mushroom Substrate</i>	<i>PI</i>	<i>Zycon Biosciences Pvt Ltd</i>	<i>7.15 Lakhs</i>	<i>2019 - 2020</i>
<i>Vitamin D increase in Mushrooms by exposing to UV light</i>	<i>PI</i>	<i>Tropical Mushrooms private limited</i>	<i>3.06 Lakhs</i>	<i>2018 (6 months)</i>
<i>"Resource recovery from the spent mushroom substrate.</i>	<i>PI</i>	<i>Zuari Foods & Farms Pvt. Ltd</i>	<i>0.6 Lakhs</i>	<i>2016 (2 months)</i>
<i>Technical advice on construction of biogas plants.</i>	<i>PI</i>	<i>DeerTree Technologies Pvt Ltd</i>	<i>0.75 Lakhs</i>	<i>2013 -14</i>

<i>Knowledge transfer, technical support, research, development as well as for dissemination and commercialization of the Sequencing Batch Reactor.</i>	<i>PI</i>	<i>Tide Technocrats Pvt Ltd</i>	<i>4.9 Lakhs</i>	<i>2017 -2018</i>
<i>To establish COD(Cr) quality testing method for sea water</i>	<i>PI</i>	<i>Hitachi India Pvt Ltd</i>	<i>27.41 Lakhs</i>	<i>2013 -2016</i>
<i>Hybrid Electrochemical-MFC Waste Processing: Functional blocks for low energy disinfection and denitrification of human waste streams.</i>	<i>PI</i>	<i>Bill & Melinda Gates foundation project sub contracted by RTI international</i>	<i>27 Lakhs</i>	<i>2017-2018</i>
<i>Analytics Sensor Test-Kit for Advanced Process Control</i>	<i>PI</i>	<i>Bill & Melinda Gates foundation project in collaboration with Cranfield University, UK</i>	<i>85 Lakhs</i>	<i>2016 – 2018</i>
<i>Pilot study, testing the use and production of Terra Preta and other soil improving products like Struvite / PROM</i>	<i>PI</i>	<i>German Technical Cooperation</i>	<i>55 Lakhs</i>	<i>2016 -2017</i>
<i>Bioleaching of Limestone and clay to remove iron and other transition elements (titanium, chromium, manganese, nickel and zinc).</i>	<i>PI</i>	<i>Aditya Birla Science and Technology Pvt Ltd</i>	<i>10 Lakhs</i>	<i>2019 - 2020</i>
<i>Bioremediation of red mud using acidogenic fermentation and by Biopiling</i>	<i>PI</i>	<i>BITS Pilani and Aditya Birla Science and Technology Pvt Ltd</i>	<i>71.5 Lakhs</i>	<i>2018 - 2020</i>
<i>Waste to Energy Project in Nashik</i>	<i>PI</i>	<i>German Technical cooperation</i>	<i>10.23 Lakhs</i>	<i>2011</i>

Total funding brought = Rs 1822.56 lakhs

Research projects = Rs 1204.95 lakhs

Consultancy projects = Rs 617.73 lakhs

Annexure III - Publications

Journals

1. Degradation of anthracene and pyrene supplied by microcrystals and by non-aqueous phase liquids - Srikanth Mutnuri, N.Vasudevan and Matthias Kaestner*, Applied Microbiology and Biotechnology, Vol. 67 (2005), pp. 569 - 576
2. Changes in Fatty Acid Composition of *Chromohalobacter israelensis* with varying Salt Concentrations - Srikanth Mutnuri, N.Vasudevan, Matthias Kaestner and Hermann Heipeiper*. Current Microbiology, Vol. 50 (2005), pp. 1–5.

3. Influence of bioaugmentation with wheat bran on bioremediation of anthracene contaminated soil - Srikanth Mutnuri, N.Vasudevan* and D.Beck, Asian Journal of Microbiology, Biotechnology and Environmental Sciences, 2005.
4. Biocatalytic production of a commercial textile dye (Indigo) from a xenobiont – Srikanth Mutnuri*, Chanakya Bandi and Anasuya Ganguly, Research Journal of Microbiology, Vol 4, Is 3 (2009), pp 82 – 88.
5. Effect of caffeine and saponin on anaerobic digestion of food waste – Vidhya Prabhudesai, Anasuya Ganguly and Srikanth Mutnuri* “Annals in Microbiology” Vol 59, Is 4 (2009), pp 643 – 648.
6. Biodegradation of hydrocarbons in the presence of cyclodextrins - Sivaraman C, Anasuya Ganguly and Srikanth Mutnuri* "World Journal of Microbiology and Biotechnology" Vol 26, Is 2 (2010), pp 227 - 232.
7. Biogas Generation Potential by Anaerobic Digestion for Sustainable Energy Development in India – P.Venkateswara Rao, Ranjay Dey, S.S.Baral and Srikanth Mutnuri. Renewable and Sustainable Energy reviews Volume 14, Issue 7, September 2010, Pages [2086-2094](#).
8. Isolation of Hydrocarbonoclastic bacteria from Bilge oil contaminated water - Sivaraman C, Anasuya Ganguly, Marcell Nikolausz and Srikanth Mutnuri. Accepted in International Journal of Environmental Science and Technology Vol 8, No.3, Summer 2011. (Impact factor 3.157)
9. “Cloning and expression of catechol 2, 3 dioxygenase and cyclodextrin glucanotransferase gene in *E.Coli* and its role in biodegradation” C.Sivaraman, Anasuya Ganguly and Srikanth Mutnuri “International Journal of life Science and Pharma Research” Vol 2/Issue 3/Jul-Sept 2012 pp L10 – L19.
10. Role of Cyclodextrin Glucanotransferase Enzyme in Biodegradation C.Sivaraman, Anasuya Ganguly and Srikanth Mutnuri “Advances in Environmental Research” (2012), Vol. 1, No. 2 pp97-108.
11. Study of a Marine Microbial Fuel Cell on a Pilot Scale. G. Chithralekha and Srikanth Mutnuri, “Chemical Sciences Transactions”., 2013
12. Biochemical Methane Potential of Agro Wastes," Vidhya Prabhudesai, and Srikanth Mutnuri Journal of Energy, vol. 2013, Article ID 350731, 7 pages, 2013.
13. Role of additional carbon substrate on biodegradation of 1,4 dioxane using bacterial consortium enriched from industrial sludge P.Arulazhagan, I.T. Yeom, Sivaraman C, Srikanth Mutnuri and Rajesh Banu, accepted in Advances in Environmental Biology (2013).

14. Biodegradation of crude oil by *Pseudomonas aeruginosa* and *Escherichia fergusonii* isolated from Goan coast. Rajesh Pasumarthi, Sivaraman Chandrasekharan, Srikanth Mutnuri. Accepted in Marine Pollution Bulletin 76(1-2):276-82 (2013).
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47. "Diversity and Functional Annotation of Microorganisms in French Vertical Flow Constructed Wetland Treating Greywater", World Journal of Microbiology and Biotechnology.(2020) 36(10)148 Swapnil Punyapwar and Srikanth Mutnuri
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50. Electrochemical removal and recovery of ammonia and phosphates from blackwater and wetland passed blackwater Guruprasad Talekar and Srikanth Mutnuri Sustainable Energy Technologies and Assessments **47** (2021) [101374](#)
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52. [Recovery of Lignocellulolytic Enzymes and Valorization of Spent Mushroom Substrate, Anumeha Vats, Anuj Sangam Kurade and Srikanth Mutnuri Environment and Natural Resources Journal \(2021 accepted\)](#)
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- 63 Comparative study on performances of modified vertical flow constructed wetlands for treatment of domestic wastewater: A Case Study Rajashree R. Yaragal; Srikanth Mutnuri Journal of Environmental Engineering (2022) accepted.
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Granular activated charcoal column along with in-situ electrochlorination disinfection" **Journal of Water, Sanitation and Hygiene for Development** (2024)14 (1): 1–14. **Impact factor 1.7**

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72. [Morten Kam Dahl Dueholm](#), [Kasper Skytte Andersen](#), [Anne-Kirstine C. Korntved](#), [Vibeke Rudkjøbing](#), [Madalena Alves](#), [Yadira Bajón-Fernández](#), [Damien Batstone](#), [Caitlyn Butler](#), [Mercedes Cecilia Cruz](#), [Åsa Davidsson](#), [Leonardo Erijman](#), [Christof Holliger](#), [Konrad Koch](#), [Norbert Kreuzinger](#), [Changsoo Lee](#), [Gerasimos Lyberatos](#), [Srikanth Mutnuri](#), [Vincent O’Flaherty](#), [Piotr Oleskowicz-Popiel](#), [Dana Pokorna](#), [Veronica Rajal](#), [Michael Recktenwald](#), [Jorge Rodríguez](#), [Pascal E. Saikaly](#), [Per Halkjær Nielsen](#) *MiDAS 5: Global Diversity of Bacteria and Archaea in Anaerobic Digesters*, *Nature Communications*. **15**.: 5361 (2024)

73. [Gajanan L Sawargaonkar.](#), [Rajesh Pasumarthi](#), [Santosh Kale](#), [Pushpajeet Choudhari](#), [Srikanth Mutnuri](#), [Ajay Singh](#), [Harikishan Sudini](#), [Manasa Ramaraju](#), [Ramesh Singh](#) and [Mangi L Jat](#). Valorization of Peanut Shells through Biochar Production using Slow and Fast Pyrolysis and its Detailed Physicochemical Characterisation. *Frontiers in Sustainability* (2024)

74. [Shaikh Aatiya Nishaat](#), [Srikanth Mutnuri](#)
Chapter Title : Study of Anaerobic Digestion Mediated Micropollutant Degradation by UPLC-MS/MS Book: Biological and Hybrid Wastewater Treatment Technology.
DOI : 10.1007/978-3-031-63046-0.(2024)

75. [Mamta Kodarkar](#) and [Srikanth Mutnuri](#) (2024) Isolation of chymopapain from Carica papaya latex and Its application in bioremediation of paper. "Journal of Environmental Science & Engineering"

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Book Chapters

“Hydrocarbonoclastic capability of a *Bacillus sp.* Isolated from marine waters” Srikanth Mutnuri and Vasudevan Namasivayam Published in Water and Environment Management Series.2003. Ed. by Rema Devi and Naved Ahsan. IWA publishing, Pg No 691 – 694.

“Biosurfactant production by an extremely halophilic bacterium” Srikanth Mutnuri Vasudevan Namasivayam and Matthias Kästner Published in Water and Environment Management Series.2003. Ed. by Rema Devi and Naved Ahsan. IWA publishing, Pg No 761 – 768.

Conferences

- *Invited Key note Speaker at [17th International Conference on Wetland Systems for Water Pollution Control](#) Lyon, France 6th - 10th November 2022*
- Invited speaker to our 16th World Conference on Anaerobic Digestion (AD-16) to be held in Delft, the Netherlands, between June 23-27, 2019.
- Chair for the Session: Innovative Treatment Technologies & Applications - Control and applications of biological processes and Poster Presentation “Single household greywater recycling using Constructed wetland in developing countries” at 12th IWA International Conference on Water Reclamation and Reuse, being held on June 16 -20, 2019 in Berlin, Germany
- Oral presentation titled **“Vertical Wetland in combination with an Electrochemical system for septic tank wastewater treatment”** at **The 16th IWA International Conference Wetland Systems for Water Pollution Control (ICWS2018)**, being held on 30 September to 4 October 2018, in Valencia, Spain.
- **Invited talk “A Online based Certificate Course between EAWAG and BITS Pilani” in conference titled “Going digital in research & education partnerships: opportunities, challenges, risks Organized by Swiss universities Development and Cooperation Network (SUDAC). 1 December 2017 at Swiss National Science Foundation in Bern.**
- **Oral Presentation “Empowered septic tank as decentralized treatment system” and poster presentation “Pilot study of testing the use and production of Terra Preta and Phosphate Rich Organic Manure (PROM) for improving agricultural productivity” at The IWA S2Small2017 Conference on Small Water & Wastewater Systems and Resources Oriented Sanitation, Nantes, France, October 22 -26, 2017.**
- **Oral Presentation “Resource Recovery from Wastewaters for Sustainable Development” at INTERNATIONAL CONFERENCE On Contemporary Issues in Integrating Climate-The Emerging Area of Agriculture, Horticulture, Biodiversity, Forestry; Engineering Technology, Applied Science and Business Management for Sustainable Development (AGROTECH-2017) Kalimpong Science Centre, Kalimpong, 8th May till 12th May 2017.**
- **Oral Presentation Biodegradation of Paracetamol from Industrial wastewater by *Pseudomonas mendocina*. at 13th IWA Specialized Conference on Small Water and Wastewater Systems and of the 5th IWA Specialized Conference on Resources Oriented Sanitation, September 14- 16, 2016 Athens, Greece.**
- **Invited talk “Empowered septic tank for decentralized wastewater systems” at Transformative Technologies portfolio, July 18 -22, 2016, Seattle, USA, organized by Bill and Melinda Gates foundation**
- **Invited talk "Terra Preta sanitation and digestate from biogas digestors for soil nutrient management and productivity", in the National Seminar on “Soil Pollution and Paradigms for Sustainable Soil Management” organised by the Dept. of Environmental Sciences, University of Kerala, Thiruvananthapuram, December 4th 2015.**

- Invited talk “**Decentralized biogas digesters for waste management**” in the ISTE workshop on “Engineering Management Strategies for Sustainable Development” at **Don Bosco College of Engineering, Goa** on 10th May 2016.
- Invited talk “**Types of hazardous wastes, their treatment and disposal**” **One- Day Seminar on Hazardous and Medical Waste organized by Goa Chamber of Commerce and Industry on 19th February 2016.**
- Invited talk on “Anaerobic co digestion of different substrates” at **2nd National Biogas Convention 2015: Current and Emerging Trends in Indian Biogas and Bio-Fertilizer Development, Sep 15 – 16th 2015** at IIT New Delhi, India
- Invited talk on **ANAEROBIC DIGESTION OF SEPTAGE AND FOOD WASTE – A WASTE TO ENERGY PROJECT IN NASHIK** *AD Technology and Microbial Ecology for Sustainable Development 3-6 February, 2015, Chiang Mai, Thailand*
- Oral Presentation Biodegradation of Paracetamol from Industrial wastewater by *Pseudomonas mendocina*. at **12th Specialized Conference on Small Water and Wastewater Systems & 4th Specialized Conference on Resources Oriented Sanitation, November 2- 4, 2014** Muscat, Sultanate of Oman
- Invited talk “**Bioelectrochemical systems for nutrient recovery from wastewaters**” at **2nd AP-ISMET held at National University of Singapore, 21- 24th July 2014.**
- Invited talk “**Bioremediation as a possible solution for oil spills**” at **3rd Oil spill India conference, Goa, India 18 -20th September 2014.**
- Key note lecture titled “**Terra Preta as an Alternative for the Management of Sludge from Waste Water Treatment Plant**” at **1st International Terra Preta Conference** at Hamburg University of Technology, 29 – 30 August 2013
- Poster presentation titled “Microbial diversity in a pilot scale horizontal plug flow reactor set up for anaerobic digestion of food waste” at Elsevier’s Water Research conference held during 20th January 2013 – 23rd January 2013 at Singapore Expo, Singapore.
- Oral presentation “Anaerobic digestion of septage and food waste – A waste to energy project in Nashik” at National Convention on “**Current and Emerging Trends in Indian Biogas and Bio-fertilizer Development**” during **15-16 September, 2012** at **IIT Delhi**
- Oral presentation “Biomethanation potential of cashew apple waste” at International conference on Agricultural Biotechnology in Sustainable Development” Colombo, SriLanka from March 12 – 13th 2012.
- Oral Presentation at the 3rd International Conference on Ecotoxicology and Environmental Sciences held during 28-30 November, 2011.at Miramar Residency, Miramar, Panji, Goa. *Organized by INSTITUTE OF ECOTOXICOLOGY AND ENVIRONMENTAL SCIENCES* titled Purification and Characterization of Cyclodextrin Glucanotransferase Enzyme and Its Role in Biodegradation of Diesel Oil Contaminated Soil
- Oral presentation “Anaerobic co digestion of sewage and food waste” at 1st International conference on Biogas Microbiology” held at Leipzig, Germany from September 14 – 16th 2011.
- Presented a poster titled” Role of cyclodextrin glucanotransferase in enhancing biodegradation” at the Gordon Research Conference on Applied and Environmental Microbiology - Functional Interactions from Molecules to Biomes” held at Mount Holyoke College, South Hadley, Massachusetts, July 10-15, 2011.
- Presented a poster titled “Biomethanation potential of agro wastes” at The 3rd Asia Pacific Young Water Professionals Conference November 21 – 24, 2010, Singapore.
- Participated in 1st International Terra Preta Sanitation organized by Technical University, Hamburg during 26 – 29th September 2010
- Poster Presentation at FLOURESCENCE 2009, An International Conference of Fluorescence in Biology March 16th - 19th 2009 – Mumbai, India titled “**ROLE OF FLUORESCENCE IN STUDYING MICROBIAL DIVERSITY**”
- Poster Presentation at 14th International Symposium on Biodeterioration and Biodegradation (IBBS-14), October 6th - 11th 2008– S. Alessio Siculo (ME, Italy) titled “**ISOLATION OF HYDROCARBONOClastic BACTERIA (MSK1) FROM BILGE OIL CONTAMINATED WATERS**”
- Oral Presentation at Golden Jubilee of Indo-German Cooperation in Higher Education on September 8-9 2008 titled “**MICROBIAL FUEL CELLS**”

- Poster Presentation at 8th IWA Specialized Conference on Small Water and Wastewater Systems and 2nd IWA Specialized Conference on Decentralized Water and Wastewater International Network, February 05 - 09, 2008– Coimbatore, India titled “ANTHRACENE DEGRADATION BY BACTERIA PRESENT IN BILGE OIL”
- Poster Presentation at 48th Annual conference of Association of Microbiologists of India during 18th December – 21st December 2007 – Chennai, India titled “ISOLATION OF A BACTERIAL STRAIN WITH BIODEGRADATION AND BIODESULPHURIZATION CAPABILITY”
- Oral Paper presentation at National seminar on New trends in Biotechnology during 11th & 12th January 2007 - Goa, India titled “EFFECT OF VARYING SALT CONCENTRATIONS ON CHROMOHALOBACTER ISRAESENSIS WITH VARYING CONCENTRATIONS OF PHENOL”.
- Oral Paper presentation at National Conference on Environmental Conservation during 1st September till 3rd September 2006 - Pilani, India titled “MINERALIZATION OF ANTHRACENE AND PYRENE IN THE PRESENCE OF BIOAVAILABILITY MODIFYING COMPOUNDS”.
- Poster Presentation at International conference on Environmental Biotechnology during 9th July till 13th July 2006 – Leipzig Germany titled “MINERALIZATION OF ANTHRACENE BY SPHINGOMONAS XENOPHAGA BA2 IN THE PRESENCE OF SOLUBILITY MODIFYING COMPOUNDS”.
- Oral Paper presentation at International Conference on Water and Wastewater perspectives of Developing countries during 11th December till 13th December 2002 – New Delhi, India titled “HYDROCARBONOCLASTIC CAPABILITY OF A *BACILLUS SP.* ISOLATED FROM MARINE WATERS” and “BIOSURFACTANT PRODUCTION BY AN EXTREMELY HALOPHILIC BACTERIUM”.

Annexure IV

No. of Ph.D guidance: Completed and ongoing (Provide details with titles etc.)

S.No	Name	ID No.	Title	Ongoing / completed	Date of completion / Date of registration
1	Sivaraman Chandrasekaran	2008PHXF009G	Biodegradation Of hydrocarbons by using cyclodextrins	Completed	2012
2	Vidhya Prabhudessai	2010PHXF440G	Anaerobic Digestion of food waste in a horizontal plug flow reactor	Completed	2015
3	Meghanath Shambhu Prabhu	2011PHXF012G	Resource recovery from wastewaters for sustainable development	Completed	July 2016
4	Rajesh Pasumarthi	2010PHXF433G	Hydrocarbonoclastic bacteria and the strategies for improving biodegradation	Completed	Sep 2016
5	Vaishnavi Unde	2008PHXF005G	Biocatalytic production of commercial textile dye - Indigo	Completed	Sep 2016

6	Guruprasad V Talekar	2015PHXF0402G	Design and Development of Electrochemical system for decentralized wastewater treatment and energy recovery	Completed	Date of registration: Dec 2016
7	Rajashree Yaragal R.	2018PHXF0419G	Constructed wetlands for the treatment of micropollutants from wastewater and establishing circular economy	Completed	Date of registration: Jan 2019
8	Ravikiran K	2017PHXF0406G	Demonstration of waste to energy by anerobic co-digestion of food waste and septage	completed	Date of registration: Jan 2018
9	Ram Chavan	2014PHXF0406G	Treatment of wastewater by using microalgae and its utilization for the production of value added products	Completed	Date of registration: Jan 2014
10	Ravindra G .Mane	2015PHXF0027G	Struvite formation and it's use as an alternative to chemical fertilizers for crop production	Ongoing	August 2015
11	Swapnil Punyapwar	2017PHXF0401G	Development of Sustainable Greywater recycling methods	Completed	Date of registration: Jan 2018
12	Prajakta Patil	2017PHXF0405G	Development of appropriate techniques for detection and control of Helminth eggs in wastewater	Completed	Date of registration: January 2018
13	Anant Yadav	2014PHXF0407G	Development and demonstration of constructed wetlands as decentralized wastewater treatment	Completed	Date of registration: January 2015

			system		
14	Priya Sharma	2015PHXF0003G	Microbial Diversity and Nutrient Recovery using Microbial Fuel Cell	Completed	Nov 2020
15	Anumeha Vats	2015PHXF0004G	Developing bioactive compound enriched functional food ingredients from <i>Dillenia indica</i> and valorization of its pomace	Completed	Date of registration: August 2015
16	Shaikh Aatiya		Methanosarcina based Anaerobic digestion	Ongoing	Date of registration: August 2019
17	Jayant Gogoi		Integrated wastewater treatment system	Ongoing	Date of registration: October 2020
18	Mamta Kodarkar		Bioremediation of Heritage sites	Ongoing	Date of registration: October 2020
19	Sanam Prabhudessai		Bioremediation of Heritage sites	Ongoing	Date of registration: October 2020
20	Prabhu Shamik Chodenekar		Grey water treatment	Ongoing	Date of registration: October 2020
21	Keyur Namdev		Faecal Sludge Management	Ongoing	Date of registration: August 2021
22	Sanvidh Narkhede		Covid 19 surveillance in wastewater	Ongoing	Date of registration: August 2021

Research Associates

S.No	Name	Title	Ongoing / completed
1	Dr Vidhya Prabhudessai	Limestone Bioleaching	Completed
2	Dr Mansur Elahi	Bioremediation of Red mud	Completed
3	Dr Lalita Baragi	Impact of negative factors and importance of monitoring natural wetland ecosystem	Completed
4	Dr Priya Sharma	“Empowered septic tank as a decentralized wastewater treatment system’ - Second Phase	Completed
5	Dr Guruprasad Talekar	Generation 2 Reinvented Toilet (G2RT)	Completed
6	Dr RaviKiran Shet	Hywats	Ongoing
7	Dr Rajashree Yaragal	Hywats	Ongoing

Achievements & Awards

- Received Belgian Committee of the International Water Association's Water Development Collaboration award for the year 2018 along with Prof. Korneel Rabaey, Ghent University, Belgium
- Reinvent the Toilet Challenge Grant recipient 2014 from DBT BIRAC and Bill & Mellinda Gates foundation.
- Member of Goa University's "Internal Quality Assurance Cell"
- Appointed by the Government of Goa as the Member of Expert committee constituted for technical evaluation of bids for the Municipal solid waste (MSW) processing facility going to be set up at Bainguinim, North Goa.
- Mentor for Sustainable Biosolutions LLP , a BITS incubate company and they have won 1st prize of 50 K at "TiE 50K Big Idea Business Plan Competition" final round held on 22nd May 2013 at TiE Hubli. The business plan was on an organic fertilizer developed in my lab (Applied and Environmental Biotechnology).
- Two month fellowship from German Academic Exchange Service (DAAD) under reininvitation programme for DAAD alumni. Worked with Dr.Marcell Nikolausz, Bioenergy department, Helmholtz Centre for Environmental Research, Leipzig, Germany from 20th May 2012 till 18th July 2012.
- Recipient of American Society for Microbiology & Indo US Science and Technology Forum (ASM IUSSTF) Indo US Research Professorship October 2010 . Carried out Stable isotope probing at Rutgers University in the summer (June – July 2011).
- Appointed as nodal officer by the Goa Government for monitoring Pollution in Comba well waters.
- Two month fellowship from German Academic Exchange Service (DAAD) under reininvitation programme for DAAD alumni. Worked under Prof. Matthias Kastner, Bioremediation department, Helmholtz Centre for Environmental Research, Leipzig, Germany from 20th May 2008 till 20th July 2008.
- Received FEMS young Scientist award to present paper at the 14th International Biodeterioration and Biodegradation symposium 2008.
- Helmholtz association's junior scientist award to present a poster at International conference on Environmental Biotechnology, Leipzig, Germany. 2006
- Best paper award at National conference on Environmental Conservation, 2006 held at BITS-Pilani.
- Recipient of German Academic Exchange Service (DAAD – UGC) sandwich model fellowship for the year 2001 – 2002 and 2002 – 2003. Under this fellowship carried out laboratory work at UFZ – Centre for Environmental Research, Germany and obtained Ph.D degree from Anna University, India.

- Scientific Panel member for Alcoholic Beverages - Food Safety and Standards Authority of India (FSSAI)
- Member of the Syllabus Sub Committee for framing the Curricula and Syllabi for B.E Environmental Engineering, Anna University, Chennai

Annexure VI

Additional Information

Three start ups from my lab

- Sustainable Biosolutions LLP by my former ME students. Area of focus is Sequencing Batch Reactor (SBR). Significant project of theirs among many is the installation of SBR for the biggest Mall in Goa at Mall de Goa, Porvorim.
- BacTreat Environmental Solutions LLP – My own start up focusing on Resource Recovery from Septage and wastewater treatment - Implementing constructed wetland based treatment systems in 6 schools in Goa. Demonstrated Resource Recovery from Septage at Baina Sewage Treatment plant, funded by DBT BIRAC.
- 15% stake in Zycon Biosciences Pvt Ltd which is focusing on Enzyme production and Purification.

Workshops / Conferences organized

- India Benin ...
- Convenor of workshop **NSA 2017: “Novel Sanitation approaches and emerging trends in Wastewater treatment system”** from **19-21 of December, 2017** in association with Bill & Melinda Gates foundation and UNESCO IHE, Delft, Netherlands
- Convenor of International conference on “Terra preta sanitation and decentralized wastewater systems” in collaboration with Technical University Hamburg, Harburg, Germany, November 19 – 20, 2015
- Convenor of National conference “Decentralized biogas digesters and their slurry management” in collaboration with Institute of Agricultural and Urban Ecological Projects affiliated to Berlin Humboldt-University (IASP), Department of Biogene Resources, Berlin, Germany, during November 20 – 21, 2014
- Short course on Wastewater Treatment october 11 - 13 2011 for public works department, Goa in collaboration with Dr.Michel Torrijos Laboratoire de Biotechnologie de l’Environnement, INRA, Narbonne, France.
- Convenor of International Water Association’s international conference on “Microbes in Wastewater & Waste Treatment, Bioremediation and Energy Production”. This conference is scheduled during January 24 – 27, 2011 at Birla Institute of Technology and Science – Pilani, Goa campus, Goa, India.
- Convenor of American Society for Microbiology sponsored International Workshop on Bioremediation. Jan 4 – Jan 16th 2010 in association with Prof. Max Haggblom, Rutgers University, USA
- Convenor of Conference on Anaerobic Digestion and Renewable Energy through Microbes Jan 13 – 15 2009
- Editorial member of Asian Journal of Microbiology, Biotechnology and Environmental Sciences
- Chief Editor of International Journal of Anaerobic digestion and Renewable Energy
- Reviewer of International Journal “ Bioresource Technology”
- Reviewer of “International Journal of Environmental Science and Technology
- Reviewer of “Journal of Petroleum Technology and Alternate Fuels”
- Reviewer of “World Journal of Microbiology and Biotechnology”
- Faculty in charge for Institute’s Biological Sciences club called “SYMBIONTS”

International Research Collaborations

- Collaboration with Caltech USA and Bill & Melinda Gates Foundation on testing on site electrochemical wastewater treatment and recycling technology.

- Collaboration with German Technical Cooperation, Technical University Hamburg, Harburg and International Water Management Institute, Colombo, Srilanka on Pilot scale studies of Terra Preta Sanitation.
- Collaboration with Prof. Willy Verstraete and Prof. Korneel Rabaey, Ghent University on Reinvent the toilet Challenge project.
- Collaboration with German Technical Cooperation, Technical University, Hamburg and Hamburg Wasser on GTZ-BMU – Waste to Energy project – ongoing. Currently appointed as consultant who will provide scientific back up. Total consultancy cost (Rs 10 lacs)
- Sustainable energy production from solid food waste of a small community – Collaboration with Dr. Michel Torrijos, Laboratoire de Biotechnologie de l'Environnement, INRA, Narbonne, France. Under this collaboration funded by French Embassy, Ms.Vidhya Prabhudesai my PhD student will stay nine months in France to start the characterization of the various fractions of the wastes and to measure the methane potentials. Period : May 2009 – Jan 2010.
- Isotope biogeochemical concepts to characterise the fate of organic chemicals in the environment with Dr.Hans Hermann Richnow, Head, Isotope Biogeochemistry, Helmholtz Centre for Environmental Research, Leipzig, Germany under bilateral cooperation in Science and Technology funded by International Bureau of the Federal Ministry of Education and Research. Period : Jan 2009 – July 2009.

Member of Professional Societies

- American Society for Microbiology
- Society for Applied Microbiology
- Association of Microbiologists of India
- International Biodeterioration and Biodegradation Society
- International Solid waste Association
- International Water Association
- Biogas Forum India

Following demonstration units through my projects

Horizontal Plug Flow Anaerobic Digester for food Waste (one ton per day)



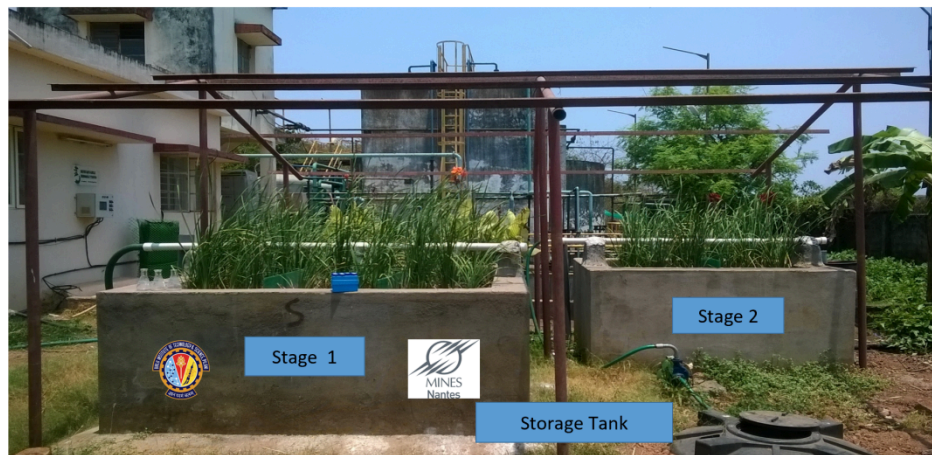
Sequencing Batch Reactor (250 cu.m)



- 1- Size of the tank**
- size of the tank = 4.5 m x 9.2 m diameter
 - Total volume = 300 m³
 - Working volume = 250 m³
 - Minimum ht between the water level and the top of the tank = 0.74 m
 - Surface of the tank = 64 m²
- 2- Loading conditions**
- Hypothesis:
- Volumetric loading rate = 0.35 kg of BOD₅/m³.d
 - VSS concentration = 4 g/l
 - Quantity of BOD₅ treated in 250 m³ = 87.5 kg BOD₅/d



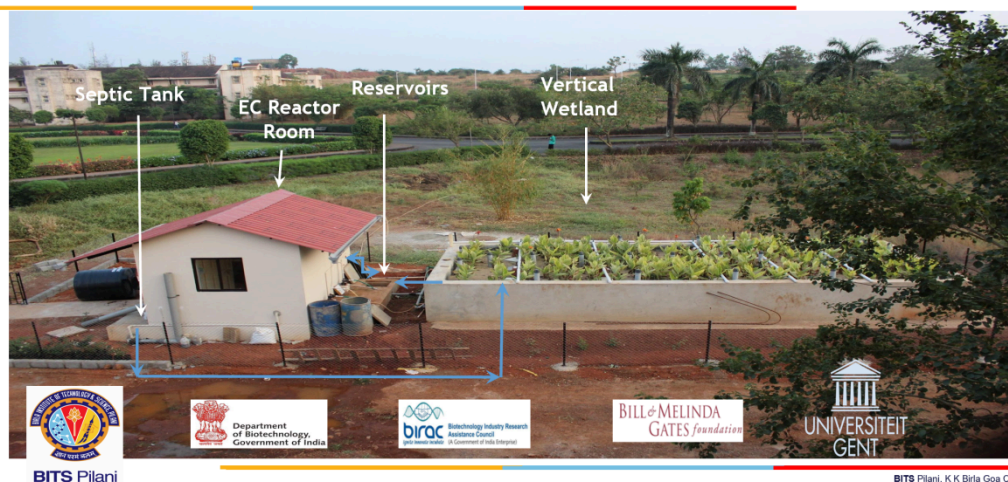
Vertical Flow Constructed Wetland (French system) for single household (6 -8 people)



Single Household Empowered Septic tank plant



100 people equivalent Empowered septic tank plant



BITS Pilani, K K Birla Goa Campus

Open raceway pond for microalgae cultivation



BITS Pilani, K K Birla Goa Campus

TERRA PRETA & PROM for improving agricultural productivity



giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH



TUHH

Technische Universität Hamburg-Harburg

BITS Pilani, K K Birla Goa Campus

Wastewater treatment (10cu.m per day) for Hegdewar School, Cujira



BITS Pilani, K K Birla Goa Campus

Anaerobic digestion of food waste (5 tons) and Septage solids (1 ton) - @ Sada, Goa under construction



BITS Pilani, K K Birla Goa Campus

River Cleaning by Vertical wetlands (500 sq.m) Under construction



BITS Pilani, K K Birla Goa Campus

Start Up – www.bactreat.com



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