Prof. Dr. N. Vasudevan

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Profile and Expertise:

Prof. Dr. N. Vasudevan served as a Professor and Director at the Centre for Environmental Studies, College of Engineering, Anna University, Chennai. He joined the Centre in 1991. Before joining Anna university, Dr. Vasudevan worked in Central Leather Research Institute and 2 Pharmaceutical Industries besides Post doctoral study in USA and Germany. He has taught for B. E. (Civil Engineering.) and M.E. (Environmental Engineering. and Environmental Management), Short Term Course in Public Health Engineering, M.Sc. (Environmental Science), M.Phil. (Environmental Science) in College of Engineering, and B.Tech. (Industrial Biotechnology) M.Tech. (Biotechnology) in A. C. Tech., Anna University.

He has conducted several Research and Consultancy Projects at the Centre. The main research areas include: Microbial byproducts, Water and Wastewater Treatment, Biogas production from waste, Biosensor development for detection of pollutants in drinking water, Wealth from waste and Soil remediation. He has expertise in patent drafting, patent filing and defense of patent applicationfor award of patent.

He has transferred a technology developed by him on the “Biological Treatment of high TDS wastewater to Pharmaceutical Industry” and this was done by the former Vice Chancellor—Dr. E. Balagurusamy, Anna University. He has guided 102 research projects for B.Tech, B.E. and M.E. students and 18 Ph.D students (which includes 2 French students). He has 10 patents awarded to his credit. He obtained the First Patent for Anna University in the year 2010 on “A PROCESS FOR THE BIOLOGICAL TREATMENT OF AN INDUSTRIAL EFFLUENT” which was filed in the year 2006 and

that was also incidentally the First Patent Awarded to Anna University. He has published more than 180 research publications and written 2 books. He was the Mentor for a UGC Post-doctoral Candidate and a Dr.D.S.Kothari Post-doctoral candidate. He has obtained i)Tamilnadu Scientist Award in Environmental Science in 2017 from theChief Minister of Govt. of Tamilnadu, ii)Devang Metha Award (2018) for Best Professor in Environmental Science, iii)Hiyoshi Think of Ecology Award (Hiyoshi Corporation, Japan), iv)Active Consultant Award (Anna University), v)UNESCO Fellowship Award for Visiting Professor in USA, vi)BOYSCAST Young Scientist Fellowship Award (DST, GoI), and several other awards.

Prof. Vasudevan also had collaborative research projects with Foreign Research Institutions --University of Leipzig, Germany, University of Witten, Germany and Institut National de la Researche Agronomique (INRA), France. He has conducted several sponsored projects from UGC, AICTE, DST, Tamilnadu Govt and Industries. He has conducted several field oriented and demonstrative (Pilot scale) projects sponsored by Government and Private sectors. He has conducted 19 sponsored research projects and more than 64 consultancy projects for Government and Private sectors including PWD, TWAD Board, CMWSSB, Municipal Admin and Water Supply Department., GoTN, Gail India Ltd, ONGC, Centre for Science & Environment, New Delhi, GMR Vasavi, Manali Petro Products, Pepsico India, SUN TV, CPCL, Hyundai etc. He has conducted Refresher Courses, Training programmes for Industry, Faculty, and Organized National and International Conferences and Workshops.

He has played a role in several Technical committees in Govt and private sectors ---A few are: i)Technical Committee Member for CMDA, ii) Domain Expert on Land Use for State Planning Commission, GoTN, iii)Technical Committee Member for Evaluation of DPR on Desalination Plants, iv)Expert Committee Member for evaluating and assessing the employability and quality of B.Tech. (Energy & Environmental Engg) Programme in AEC&RI, in TNAU in 2019. He was also instrumental for the Introduction of Equivalence of M.E. Environmental Management Programme on par with M.E. Environmental Engineering Programme to enable Employment of M.E. Environ. Manag. Students of CES in Government sector during his tenure as Director, CES.

Education:

Degree	College/University	Year
B.Sc.	New College, Chennai	1980
M.Sc.	Vivekananda College	1982
Ph.D.	University of Madras	1987

Present Position:

Presently he is working as CSIR Emeritus Scientist (teaching and research) at the Centre for Biotechnology, AC Tech Campus, Anna University, Chennai.

Countries visited for Academic Interaction, Conference, and Part of Research

Name of the Country and City	Organization/ University visited	Name of duty	Period
ITALY, Trieste	International Centre for Genetic Engineering and Biotechnology (ICGEB)	ICGEB-UNIDO Course on Environmental Applications of Genetically Modified Organisms	Dec 1992
GERMANY, Braunschweig	Geselschaft fuer Biotecnologische Forschung (GBF)	As Visiting Professor under BOYSCAST Fellowship	6 months 1994
GERMANY, Braunschweig	Geselschaft fuer Biotecnologische Forschung (GBF)	ITP Course on Industrial Biotechnology	Oct 1994
USA, Georgia	University of Georgia,	Invited Guest lecture at University of Georgia,	1994
USA, Texas-Austin	University of Texas at Austin	Invited Guest lecture at University of Texas at Austin	1994
USA, Washington DC	University of Maryland, Washington DC	Visiting Researcher under UNESCO Fellowship, Washington DC	3 months 1995
SWITZERLAND, Wadenswil		International Conference on Ecological Engineering for Wastewater Treatment	September 1995
GERMANY, Berlin	Biopract GmbH, Berlin,	Field level Research work on Soil and Ground water remediation processes	1998
THAILAND, Bangkok,		Fecilitation of learning, teaching skills, Workshop	1998
HONGKONG	Hong Kong Baptist University	GEOTROP-99 Third International Conference on Environmental Chemistry and Geochemistry in the	1999

		Tropics,	
GERMANY, Hamburg	Technische Universitat, Hamburg Harburg	Third International Congress on Extremophiles	Sep 2000
GERMANY, Leipzig	Umwelt Forschung Zentrum, University of Liepzig	Exchange Visit Under DST-DAAD programme	2003
FRANCE, Narborne	INRA, Narborne	For conducting the Viva voce of my Ph.D. student Mr. Olivier Lefebvre	Dec 2005
GERMANY,Leipzig	Umwelt Forschung Zentrum, University of Liepzig	International Symposium on Environmental Biotechnology	July 2006
MALAYSIA, Penang	University of Malaysia	International Conference on Environment	November 2006
GERMANY, Herdecke	University of Witten	Indo-Germany workshop on Septic Tank Management	2016
USA, Houston, Texas	Houston Hotel	International Symposium on Bioremediation and Sustainable Environmental Technologies,	2011
USA, Miami, Florida.	Hotel Marriot	4th International Symposium on Bioremediation and Sustainable Environmental Technologies	May 2017
GERMANY, Karlsruhe	Karlsruhe Institute of Technology (KIT), Karlsruhe	GSTP Workshop on Septic Tank Management	22 to 24 Feb 2018

International Collaborative Research Conducted

1) Umweltforschungzentrum, Univ. of Leipzig, Leipzig, Germany : This was under the DAAD Sandwich programme for research on Bioavailability and degradation of Polyaromatic hydrocarbons by bacteria.

2) INRA, France: Joint collaborative research on the Treatment of soak liquor from

Tannery by using halophilic microorganisms. Guided a PhD. Student (Mr.Olivier Lefebvre) under this programme.

3) IEEM, Herdecke, Germany: A Collaborative research programme on Water Loss Management in the drinking water distribution system, a field project conducted in Thiruvannamalai district, Tamilnadu during 2014 to 2019)

4) University of Colombo, Sri Lanka, A proposal was submitted for an International Workshop under the Indo-Sri Lanka Bilateral Programme.

5)University of Maryland, Washington DC, USA--- Post doctoral research.

6)Geselshcaft fuer Biotechnologische Forschung (GBF), Braunschweig, Germany--- Post doctoral
research.

Member of Councils and Professional bodies

Post held	Organization/ University	Duration		Experience (In Years & Months)
		From	To	
Member, Board of Studies	Centre for Environmental Studies, Anna University	2012	2015	3 years
Member, Board of Studies	Biotechnology Department, Vinayaka Missions University, TN	2018	2021	3 years
Member, Board of Studies	Environmental Science Department, Goa University, Goa	2018	2021	3 years
Member, Board of Studies	Biotechnology Department, Vel Tech University, Chennai	2018	2019	2 years
Member of Academic Council	Centre for Environmental Studies, Anna University	2012	2015	3 years
Member, Board of Governor	National Environmental Engineering Research Institute, Zonal Lab, Chennai	2014	2014	1 year
Member, Board of Governor	Nandha Engineering College, Erode	2013	2015	2 years

Member	Fellow, Academy of Sciences, Chennai	1996	Till date	25 years
Joint Secretary	Academy of Sciences, Chennai	2018	2021	3 years
Life Member and Secretary	Association of Microbiologists of India, Chennai Unit	2009	Till date	12 years
Life Member	Indian Water Works Association	2000	Till date	20 years
Life Member	Society of Biological Chemists, India	1989	Till date	31 years

Sponsored Research Projects conducted

Project title	Sponsor name	Duration of project	PI or Co-PI
Solubilization and Detoxification of polyaromatic hydrocarbons by Pseudomonas sp.	All India Council of Technical Education (AICTE), New Delhi.	1998 to 2001	PI
Biotreatment of Polyaromatic hydrocarbons contaminated soil.	University Grants Commission (UGC), New Delhi.	2002 to 2005	PI
Detoxification of chlorinated aromatic substances by a Pseudomonas sp. For bioremediation of contaminated soils.	Dept. of Science and Technology, Government of India, New Delhi.	2004 to 2007	PI
Location and cloning of crude oil degradation genes from a Pseudomonas sp. to a halophilic bacterium	University Grants Commission, New Delhi	2003 to 2006	PI
Studies on adsorption capacities and leaching behaviour of heavy metals in soils used for root zone treatment plant	Ministry of Science and Technology, Government of India, New Delhi.	2005 to 2008	PI
Isolation and characterization of selected polyaromatic hydrocarbon	University Grants Commission,	2006 to	PI

utilizing bacterial strain from marine environment	Government of India, New Delhi.	2009	
Treatment of Crocodile pond wastewater	Madras Crocodile Bank, Chennai	2008	PI
Water quality Management at American School, Taramani, Chennai	American School, Chennai	3 months	PI
Feasibility studies on bioremediation of contaminated water bodies by application of Effective Microorganisms	Municipal Administration and Water Supply, GoTN	2007 to 2008	PI
Improvement of drinking water quality from surface water ponds by applying zero energy technologies,	Ministry of Rural Development, New Delhi	2011 to 2015	Co-PI
Development of Eco-friendly and cost effective method for improving the quality of secondary treated domestic wastewater	Centre for Technology Development and Transfer, Anna University	2011	PI
Removal of Phosphate from Pond water	Centre for Technology Development and Transfer, Anna Univ	2011	PI
Bioremediation of petroleum oil sludge	CPCL, Manali, Chennai	2011 to 2012	PI
Feasibility study of growing energy crops at municipal solid waste dumps	State Planning Commission, Government of Tamilnadu	2011	PI
Purification of drinking by using Ceramic membranes	VA Tech Wabag Ltd., Chennai	2011 to 2015	PI
Degradation of chlorophenols by a moderately halophilic Arthrobacter sp	University Grants Commission, New Delhi	2012 to 2016	PI
Comprehensive study on Polluted River Stretches for upstream and downstream of river Cooum	Tamilnadu Pollution Control Board	2013 to 2016	PI
Treatment of greywater for reuse using Constructed wetland system	Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB)	2018 to 2020	PI
Students Innovative Project— Comprehensive treatment of	Centre for Technology		PI

secondary treated greywater for reuse in irrigation and ground water recharge	Development and Transfer, Anna University	2019 to 2020	
Development of a platform technology to reduce the load on incinerators used for disposal of absorbent hygiene products (AHP)	Council of Scientific and Industrial Research (CSIR)	2022 to 2025	PI

National (UGC listed) /International Journals with Impact factor

Degradation of p-benzyloxy phenolby Acinetobacter sp. N. Vasudevan and A. Mahadevan. FEMS Microbiology Letters ISSN 0378-1097 (1988), 56,349. doi.org/10.1111/j.1574-6968.1988.tb03205.x (Impact factor:1.994).

Degradation of 3(o-methoxyphenoxy)1,2-propanediol (Guaiacolglyceryl)ether by Acinetobacter sp. N. Vasudevan and A. Mahadevan. Journal of Biotechnology ISSN: 0168-1656 (1989) 9,107. DOI: 10.1016/0168-1656(89)90080-1 (Impact factor:3.163).

Effect of a simple lignin model substrate on the growth of microorganisms from different environments. N. Vasudevan and A. Mahadevan. Current Science 59,52. (1989) (Impact factor: 0.756)

Degradation of black liquor lignin by microorganisms. N. Vasudevan and A. Mahadevan. HolzforschungISSN (Print) 0018-3830 (1989) 44,325. (Impact factor:1.78).

Vasudevan, N., G. Gurujeyalakshmi and A. Mahadevan. Microbialdegradation of lignin and tannin. William, F., K. Boominathan. (1985) Biochemical ReviewsLV,1.

Degradation of labelled lignins and veratrylglycerol-B-gugiacyl ether by Acinetobacter sp. N. Vasudevan and A. Mahadevan. Italian Journal of Biochemistry. ISSN :00212938.(1990)39,285. (Impact factor:0.39)

Diversity in the utilization of catechin by microorganisms. N. Vasudevan and A. Mahadevan Current Science.ISSN:0011-3891 (1990) 59,1323. (Impact factor:0.756)

Degradation of lignin and lignin derivatives by Acinetobacter sp. N. Vasudevan and A. Mahadevan. Journal of Applied BacteriologyISSN:0021-8847 (print) (1991) 72,169. DOI: https://doi.org/10.1111/j.1365-2672.1991.tb04444.x (Impact factor:2.683)

Degradation of indulin by Candida albicans. N. Vasudevan and A. Mahadevan. Biochemistry International.ISSN:0158-5231 (1992) 26,317.

Degradation of complex phenolic compounds by Acinetobacter sp.N. Vasudevan and A.

Mahadevan. Applied Microbiology and Biotechnology.ISSN:1432-0614 37,404. (1992)(Impact factor: 3.670)

Degradation of nonphenolic β-o-4 lignin substructure model compounds by Acinetobacter sp. N. Vasudevan and A. Mahadevan. Research in Microbiology ISSN : 0923-2508 (1992)13,333. DOI: https://doi.org/10.1016/0923-2508(92)90025-J.(Impact factor: 2.651)

Vasudevan, N. and A.Mahadevan. 1993. Degradation of indulin by Acinetobactersp. Journal of Experimental Biology. ISSN:14779145, 00220949.31,252. (Impact factor: 3.017).

Plasmid mediated degradation of hydroxylated, methoxylated and carbonxylated benzene derivatives by Moraxella sp. N.Vasudevan, N and L.S. Paulraj. Annals of New York Academy of Sciences ISSN :0077-8923 (print) (1994)721,399. (Impact factor: 4.039).

Enhancement of biosurfactant production for emulsification of hydrocarbons. K.S.M.Rahman, N.Vasudevan and P. Lakshmanaperumalswamy. Indian Journal of Environment and Pollution. (1999)6,85.

Degradation of crude oil by a bacterial consortium. Vivekanandhan, G., N. Vasudevan, and P. Lakshmanaperumalswamy. Pollution ResearchISSN:0257-8050 (1999)18,245. (Impact factor:0.31).

Treatmentofphenolicwastewaterby Moraxella sp. Vasudevan,N.andAshaLetha.Indian Journal of Environmental Protection. ISSN:0253–7141(2000) 20,88. (Impact factor: 0.09).

Degradation of 3(o-methoxyphenoxy)1,2- propanediol by bacteria. Vasudevan, N. and A. Mahadevan. Contemporary Themes in Biochemistry (1986) 6:204-205.

Bioremediation of oil sludge-contaminated soil. N.Vasudevan and P. Rajaram. Environment International ISSN: 0160-4120 (print) (2001) 26,5. DOI:http://dx.doi.org/10.1016/S0160-4120(01)00020-4. (Impact factor7.943).

Utilization of petroleum hydrocarbons by Pseudomonas fluorescens isolated from a petroleum-contaminated soil. S.Barathi. and N.Vasudevan. Environment International ISSN:0160-4120 (print)DOI:https://doi.org/10.1016/S0160-4120(01)00021-6 (2001) 26,1.(Impact factor: 7.943).

Bioremediation of crude oil contaminated soil by bioaugumentation of Pseudomonas fluorescens NSI. Barathi, S. and N.Vasudevan. Journal of Environmental Science and Health-Part-

A.ISSN:10934529,15324117.(2003)38(9),1857.DOI:https://doi.org/10.1081/ ese-120022884 (Impact factor1.536).

“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.

Changes in fatty acid composition of Chromohalobacter israelensis with varying salt concentrations. Srikanth, M., N. Vasudevan, M. Kastner and J. Heipieper. Current Microbiology ISSN :0343-8651 (Print) (2005) 50:151-154. DOI: 10.1007/s00284-004-4396-2· (Impact factor:1.665).

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Role of plasmid in the degradation of petroleum hydrocarbon by Pseudomonas fluorescens NS1. N.Vasudevan, S. Bharathi and P. Arulazhagan. Journal of Environmental Science and Health Part AISSN:1093-4529 (2007) 42,1141. DOI:10.1080/10934520701418649. (Impact factor:1.536)

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Role of nutrients in the utilization of Polycyclic Aromatic Hydrocarbons by halotolerant bacterial strain. P.Arulazhagan and N. Vasudevan. Journal Environmental Science ISSN:1001-07 (2011) 23,282. DOI :10.1016/s1001-0742 (10)60404-4 (Impact factor:3.556).

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Novel Biosurfactant Producing Bacteria amended Clay Biochar Composite Based Biomix for Biobed system to Treat Agriculture Runoff. O. Greeshma and N. Vasudevan. Journal of Environmental Management ISSN: 0301-4797 (2020). (Elsevier) (In press). (Impact factor: 4.175)

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Detection of Phthalate Esters in PET bottled Drinks and Lake water using Esterase/ PANI/CNT/CuNP based Electrochemical Biosensor. Jayshree Annamalai; Namasivayam Vasudevan. 2020. Analytica Chimica Acta, Pub Date : 2020-09-25 , DOI: 10.1016/ j.aca.2020.09.041 (Impact factor: 5.977).

A Method for Detecting Perfluorooctanoic Acid and Perfluorooctane Sulfonate in Water Samples Using Genetically Engineered Bacterial Biosensor. G.Sunantha and N. Vasudevan. 2020. Science of the Total Environment https://doi.org/10.1016/j.scitotenv.2020.143544. Elsevier B.V. (Impact factor: 5.589)

Synthesis of nanomaterial from industrial waste and its application in environmental pollutant remediation. Jacob Vinitha Judith and Namasivayam Vasudevan.2021. Environmental Engineering Research. https://doi.org/10.4491/eer.2020.672. (Impact factor:1.438)

Management of Phosphate in Domestic Wastewater Treatment Plants. 2021. Sumathi Malairajan and Namasivayam Vasudevan. In Environmental Biotechnology (Springer), Vol. 4, pp 68-100.

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Usharani , B. and N. Vasudevan. 2021. Pollutant removal from sewage in tropical climate by constructed wetland system: An asset for irrigatnon. International Letters of Natural Sciences 82:20-43. (April) DOI:10.18052/www.scipress.com/ILNS.82.20 (Impact factor:0.876)

Judith, J V. and N. Vasudevan. 2022. Synthesis of nanomaterial from industrial waste and its application in environmental pollutant remediation. Environmental Engineering Research 27(2):183-200. doi : https://doi.org/10.4491/eer.2020.672 (Impact factor: 2.507)

Bioaugmentation in the Bioremediation of Petroleum Products by Greeshma Odukkathil and Namasivayam Vasudevan. 2022. In Bioaugmentation Techniques and Applications in Remediation. Edited by Inamuddin, Charles Oluwaseun Adetuniji, Mohd Imran Ahamed and Tariq Altalhi. ISBN 9781032034997 by CRC Press.

Vasudevan, N., O. Greeshma and R. Gomathi. 2023. Effectiveness of cowdung and Effective microorganisms on composting of napkins and diapers. International Journal of Environment and Waste Management DOI: 10.1504/IJEWM.2023.10055303 (in press) (Impact factor: 078)

Books, and UGCClass room Videos Published/Produced

i. BOOKS

Essentials of Environmental Science—A Text Book. Publishers: Narosa Publishing House Pvt. Ltd., New Delhi (2006). (ISBN:13:978-81-7319-706-2)

Essentials of Environmental Science—International Edition: By Alpha Science Publishers, UK (2006) (ISBN:10:81-7319- 706-7)

Proceedings of the International Conference on Advances in Industrial Wastewater Treatment. Publishers: Allied Publishers Pvt. Ltd., Chennai(ISBN: 81-7764-773-3)

ii. EDUCATIONAL VIDEOS—Development of course material

A Video on Domestic Root Zone Treatment System: For UGC Countrywide Classroom Programme, Government of India, New Delhi.

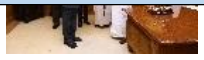
Video on Biological Treatment of High TDS Industrial Wastewater: For UGC Countrywide Classroom Programme, Government of India, New Delhi.

iii. MANUAL PREPARATION

Manual on Renovation of Traditional Village Ponds: A training manual for in- service Engineers from Tamilnadu Water Supply and DrainageBoard,Chennai (2008) (with other staff).

Awards/ Scholarship(s)/Fellowship(s), etc.,

Name of the Award(s) / Fellowship(s), etc.,	Year of Award	Awarded by whom
Devang Metha Award for Best Professor in Environmental Science	2018	Devang Metha Business School, Mumbai
Dr.C.R.Krishnamoorthy Award for Best Research Paper	2018	Anna University
Tamilnadu Scientist Award in Environmental Science (Photo: Award received	2017	Tamilnadu State Council for Science and Technology, Govt. of Tamilnadu.



from Chief Minister of TN Hon'ble Edappadi Palaniswami)		
Wenlock Prize for Best Research Publication	2017	Anna University
Dr.C.R. Krishnamoorthy Award for Best Research Paper	2017	Anna University
Dr.C.R. Krishnamoorthy Award for Best Research Paper	2016	Anna University
Active Consultant Award for contribution in the field of Environmental Sciences	2011	Anna University
Certificate of Commemoration of 25 years of unblemished service in Anna University	Anna University	2016
Hiyoshi Think of Ecology Award for Dedication and Outstanding research in the field of Environmental Conservation and Protection.	2010	Hiyoshi Corporation, Japan
Visiting Professor for Bioprocess development and Training at Bio-Pract GmbH, Berlin, Germany	1998	GIZ, Germany
DST Young Scientist Project Award for two years.	1996	Department of Science and Technology, GoI
UNESCO Fellowship Award for research at the Dept. of Microbiology (Prof. Rita R. Colwell), University of Maryland, USA.	1994	UNESCO, New Delhi
BOYSCAST Scientist Fellowship Award for research at Gesellschaft fur Biotechnologische Forschung, (GBF) Germany.(Prof. K.N.Timmis),	1993	Department of Science and Technology, GoI

Patents: i. Patent applications filed: 18 Nos.
ii. Patents Awarded till now: 10 Nos.

List of Patents Awarded so far:

Patent(s) Filed	Status	Year & Patent no

A process for the biological treatment of an industrial effluent (High TDS) N. Vasudevan	Awarded	2010 (Patent No.237603)
A process for the treatment of anaerobically digested distillery wastewater using aerobic sequencing batch reactor (N. Vasudevan and R. Kanimozhi)	Awarded	2016 Patent no. 275037
A biofilm support for the treatment of wastewater and process for preparing the same (N. Vasudevan and R. Kanimozhi)	Awarded	2016 Patent no. 273394
A method for biodegradation of chlorophenols by a halotolerant bacterial consortium under saline conditions (N. Vasudevan and K. Veenagayathri)	Awarded	2017 Patent no. 282627
A method for the treatment and recirculation of aquaculture wastewater (N. Vasudevan and V.R. Manoj)	Awarded	2018 Patent No. 295017
A process for the production of value-added products from urine of diabetic patients (N. Vasudevan, M.Sumathi and O. Greeshma)	Awarded	20.01.2021 Patent no. 356211
A process for the production of commercially important products from human urine (N. Vasudevan And M. Sumathi)	Awarded	16.08.2022 Patent no.374611
A method to manufacture copper nanoparticles by aqua-chemical reduction of copper based salts (N. Vasudevan and A. Jayshree)	Awarded	17.06.2022 Patent no. 399447
A process for treating of pesticide contaminated water (N. Vasudevan and O. Greeshma)	Awarded	21.12.2022 Patent no. 415067
A novel comprehensive process for production of biogas from used feminine sanitary napkins (N. Vasudevan and O. Greeshma)	Awarded	18.11.2022 Patent no. 411866

Gene Sequences submitted to NCBI

Seven gene sequences have been submitted to NCBI database.

Consultancy projects Completed

Name of the Client / Organization	Nature of Consultancy	Duration of assignment
IL & FS	Tirupur Integrated Area Development Programme—EnvironmentalAssessment (Under World Bank Assistance)	1997
TWAD Board	Detailed bacterial analysis of Cauvery river, Tirupur	1997
Hyundai Motor Engineering Pvt Ltd, Irrungattukottai	Environmental Impact Assessment for Hyundai Car Project at Irrungattukotai, Tamil Nadu	1998
TWAD Board	Environmental Impact Assessment for drinking water supply at Hoeggenakal, Tamil Nadu	1999
GoTN	Environmental Impact Assessment of Manali Industrial Area for Incineration facility for Hazardous Waste Disposal	1999
M/s Shanthimalai Trust, Tiruvannamalai	Design of Root Zone Treatment plant for treatment of domestic wastewater from maternity home at Shanthimalai trust, Tiruvannamalai	2000
Tamil Nadu Petroproducts, Ltd.	Environmental Impact Assessment of LAB plant at Tamil Nadu Petro Products, Ltd.	2000
GMR Vasavi Power Corporation, Chennai	Rapid Environmental Impact Assessment for GMR Vasavi Power Corporation, Chennai	2000
Indian Institute of Chemical Technology, Hyderabad	Laboratory Design and Development for Indian Institute of Chemical Technology, Hyderabad	2001-2002
M/s Noveon Diamalt Pvt. Ltd., Chennai	Treatability Studies of high TDS Process Water for M/s Noveon Diamalt P. Ltd., Chennai	2001-2002
IL & FS	Water quality assessment of Cauvery river in Tamilnadu	2002
TWAD Board,	Environmental Impact Assessment for the	2000

GoTN	disposal of textile sludge in Tirupur	
TWAD Board	Assessment of Ecological/ Environmental damages in Noyyal and Amaravathy river basins	2003
M/s Noveon Diamalt Pvt. Ltd., Chennai	Scale up treatability studies of high TDS Process water for M/s Noveon Diamalt P. Ltd., Chennai	2002-2003
M/s Pharmazell India Ltd., Chennai	Final Scale up of treatability studies of high TDS process water for M/sNoveon Diamalt Pvt. Ltd., Chennai	2003
Gail India Limited	Feasibility for the treatment of Produced water from Petroleum oil productionfacility, Rajahmundhry,India.	2004
Gail India Limited	Pilot scale treatment of Ravva Produced water from Petroleum oil productionfacility, Rajahmundhry,India.	2004
TWAD Board,Tamilnadu	Treatability studies of Combined effluent of domestic and textile dyeingwastewater, TWAD Board,Tamilnadu.	2005
M/s Shasun Chemicalsand Drugs Ltd., Pondicherry	Comprehensive environmental impact assessment of M/s Shasun Chemicalsand Drugs Ltd., Pondicherry	2006-2007
CMWSSB	Characterization of drinking water from the city distribution system ofCMWSSB	2007
Department of RuralDevelop-ment, GoTN	Tsunami Emergency Assistance Project, Tamilnadu—Renovation of Tanks, Deptof RuralDevelopment	2006
TWAD Board	Environmental and Social Impact Assessment for Selected Habitation Projects inthe Tsunami Affected Districts	2006-2007
CMWSSB	Characterization of STP sludge samples of CMWSSB	2007
Orchid Drugs and Chemicals	Rapid Environmental Impact Assessment for Orchid Drugs and Chemicals	2007
PichandikulamForest Consultants, Pondicherry	Adyar Poonga Ecological Restoration P	2007

Alpha Enviro Systems, Chennai	Analysis of Marine water	2007
CMWSSB	Characterization of drinking water from the Chennai city distribution system	2009
CRRT, Chennai	Ecological Monitoring of Adyar Poonga	2010
TWAD Board	Rapid Environmental Impact Assessment for Government MedicalCollege, Villupuram,TN	2009-2010
PublicWorks Department, GoTN	Rapid Environmental Impact Assessment for Block II of TamilnaduLegislative Assembly	2010
TWAD Board, GoTN	ImpactofFloodcarriercanalbyinter-linkingTamiraparani,Karumeniyaran d Nambiar Rivers in Tamilnadu	2010
Madhavaram Municipal Corporation	Preparation of DPR for the composting of Municipal Solid Waste forMadharavaram, Tamilnadu	2010-2011
CMDA	Environment Management Plan for IT Corridor, Chennai	2010-2011
M/s VGN Developers Pvt Ltd.	Evaluation and validation of existing STP and WTP plant	2013
Mahendra World City	Performance of 2 MGD sewage treatment Plant at Mahendra World City	2013
India Dyeing Mills P Ltd	Audit and Safety, Health and Environmental compliance regarding handling and usage of chlorine gas	2013
Raja Charity Trust, Rajapalayam	Vetting of proposed STP and KWIK composter KC500 in Ramco Institute of Technology, Rajapalayam	2013
Kallikadu CETP Pvt Ltd, Tirupur	Vetting of revised DPR for Kallikadu CETP	2013
M/s Kasipalayam CETP Pvt Ltd, Tirupur	Evaluation of ZLD in Kasipalayam CETP – Increasing processing capacity from current operation of 30% to 50% of design capacity based on the DPR on Revised Process Scheme to achieve ZLD in CETPs by direct reuse of treated brine in the textile dyeing	2013
M/s Chinnakarai CETP Pvt Ltd,	Evaluation of ZLD in Chinnakarai CETP— Increasing processing capacity from current operation of 30% to 50% of design capacity	2013

Tirupur	based on the DPR on Revised Process Scheme to achieve ZLD in CETPs by direct reuse of treated brine in the textile dyeing	
M/s Petro Araldite Pvt Ltd., Chennai	Pollution load assessment of Proposed change in product mix	2013
Park CETP, Tirupur	Performance evaluation of Park CETP	2014
TANGEDCO, Chennai	Study of heavy metals (continuous monitoring) in and around Ask Dykes of North Chennai Thermal Power Station and Ennore Thermal PowerStation, Ennore	2012-15
Kunangal-palayam CETP	Evaluation of proposed chlorination oxidation system for colour removal of the secondary treated textile effluent and brine solution based on DPR	2014
M/s GRP Limited, Erode	Analyzing the emission and ambient air quality in and around M.s GRP limited premises at Perundurai	2015
M/s Murugam-palayam CETP Co Ltd., Tirupur	Evaluation of the Murugampalayam CETP for increasing the processing capacity to 50% from the current operation of 30% of its design capacity based on the DPR on “Revised Process Scheme to achieve ZLD in te DETPs by direct reuse of treated RO brine in the textile dyeing.	2015
India Dyeing Mills Pvt Ltd, Erode	Vetting of bacterial development and salts recovered from Effluent Treatment Plant in India Dyeing Mills Pvt Ltd, Erode	2015
M/s Selene Estate Ltd., Chennai	Approval of 850 KLD and 200 KLD STP at India Bulls Greens, Sholinganallur Tk, Kancheepuram Dist.	2016
SUN TV Nework Limied, MRC Nagar, Chennai	Approval of 120 KLD STP at SUN TV New work Limited, MRC Nagar, Chennai	2016
Eastern CETP, Tirupur	Assessment of Performance of Eastern CETP, Tirupur for 70% flow oftextile effluents	2016
Arulpuram CETP	Evaluation of gas chlorination in the treatment of textile effluents inArulpuram CETP.	2015-2016
Rayapuram CETP.	Evaluation of gas chlorination in the treatment of textile effluents inRayapuram	2015-2016

	CETP.	
Chinnakarai CETP	Evaluation of gas chlorination in the treatment of textile effluents inChinnakarai CETP.	2015-2016
Kasipalayam CETP, Tirupur	Assessment of Performance of Kasipalayam CETP, Tirupur for 70% flow oftextile effluents	2016
Kallikadu CETP, Tirupur	Assessment of Performance of Kallikadu CETP, Tirupur for 70% flow oftextile effluents.	2016
JACOBS, New Delhi	Environmental Impact Assessement of Buckingham Canal from Thiruvanmiyur to Kalpakkam, Tamilnadu	2015-2016
Integral Coach Factory, Perambur	Audit of Water and Waste Management at Integral Coach Factory, Perambur	2015- 2016
TANSTIA, Chennai	Composting of Leather Waste in Tannery for TANSTIA	2019
Pepsico India Ltd, Tamilnadu	Audit in Pepsico India Ltd, Tamilnadu	2018-2019
Manali Petro Chemicals,Chennai	Assessment of the Performance of the Wastewater	2019
Sri Saravana Mills, Dindugul	Evaluation of Wastewater treatment in and Assessment of ground water contamination in and around the industry	3 months (2020)
ABC Enviro Labs, Chennai	Proposed widening and Desilting the Adayar River from mouth to d/s of Thiru Vi Ka Bridge Chainage 0 m to 1963 m (42600 m to 40637 m) in Chennai district (for CRRT)	2021
ABC Enviro Labs, Chennai	Proposed widening and Desilting the Adayar River from mouth to d/s of Thiru Vi Ka Bridge Chainage 0 m to 1963 m (42600 m to 40637 m) in Chennai district (for CRRT)	2021
ABC Enviro Labs, Chennai	Proposed Construction of Training Walls for permanent stability of Bar mouth at Pulicat Village, Ponneri Taluk, Thiruvallur DistrictProject Proponent: Fisheries Dept	2021

ABC Enviro Labs, Chennai	Construction of Training walls (Groynes) in the Northern and Southern sides of Kosasthalaiyar River Mouth and Deepening the Ennore Creek behind the River mouth (South side of M/s KPL) for sustainable opening of Kosasthalaiyar River mouth in Thiruvottiyur Taluk, Thiruvallur district	2021
ABC Enviro Labs, Chennai	Construction of Training Walls for permanent stability of Bar mouth at Pulicat Village, Ponneri Taluk, Thiruvallur District Site visit: After the meeting a Site visit was arranged to the Bar mouth at Pulicat village followed by a Public meeting with villagers in the area	2021
ABC Enviro Labs, Chennai	Proposed fish landing Centre and Shore protection works at Thazhanguda village in Cuddalore District Project Proponent: Fisheries Dept, Cuddalore	2021
ABC Enviro Labs, Chennai	Proposed Fish landing Centre and Shore protection works at Chinnamedu village, Tharangambadi Taluk, Mayiladuthurai District (for Fisheries Dept)	2021
ABC Enviro Labs, Chennai	Keezhathottam inn Pattukottai in Thanjavur--Proposed Fish landing Center (for Dept of Fisheries, Thanjavur)	2022

Ph.D., Research Scholars supervised/guided

Name of the Scholar	Year of admission	Year of Award of Degree	Title of PhD Thesis
S. Bharathi	1998	2003	Biodegradation of petroleum hydrocarbons and bioremediation of contaminated soil by Pseudomonas fluorescens
M.Srikanth	1999	2004	Biodegradation of polyaromatic hydrocarbons by increasing their bioavailability
R. Jayashree	2002	2006	Survey and bioremediation of chemical pesticide contamination in agricultural soils of Thiruvallur District, Tamilnadu

P. Arulazhagan	2003	2009	Biodegradation of polycyclic aromatic hydrocarbons by a bacterial consortium from marine environment
Olivier Lefebvre (under Indo-France Collaborative Programme)	2002	2005	Application of halophilic microorganisms in the treatment of soak liquor from Tannery
R.Kanimozhi	2004	2010	Integrated biological and chemical treatment of anaerobically digested distillery wastewater
S.Sudha	2002	2010	Treatment of saltwater crocodile pond wastewater using constructed wetland system
K.Veenagayathri	2004	2010	Studies on the degradation of phenolic compounds by a moderately halophilic bacterial consortium
V.R. Manoj	2005	2010	An integrated study on the biological treatment of nitrate nitrogen laden aquaculture wastewater
O.Greeshma	2009	2014	Bioremediation of Endosulfan and other pesticide residues in agricultural soil
M.Sumathi	2014	2019	Phosphae removal from secondary treated municipal wastewater by Stephylococcus aureus
B.Usharani	2015	2019	Sewage treatment through constructed wetland system tailed by nanocomposite clay filter
G.Sunantha	2015	2019	Genetically engineered bacterial biosensor system for detection of PFOA and PFOS in water samples
A.Jayshree	2015	2019	Assessment of drinking water and beverages and development of an enzyme based biosensor for detection of phthalate esters
K.Murugan	2015	2019	Biodegradation of polychlorinated biphenyls by a bacterial consortium isolated from contaminated soil
M.Ramya	2015	2020	Treatment of pyrethroid pesticide industry wastewater by halotolerant bacteria using anaerobic-post aerobic sequencing batch reactor
R.K. Brinda	2015	2020	Mitigation of methane in municipal dumpsite and paddy fields using methanotrophs
V. Judith	2016	To	Synthesis of tannery sludge template

		finish in 2023	nanocomposite for heterogeneous photocatalytic degradation

List of Post-graduate (B.Tech., M.E., M.Sc. &M.Phil.) theses supervised

Name of the candidate	Month and Year	Title of the Thesis
Arunachalam, V (B.Tech.)	1998	Biomethanation of wastewater from a vegetable tannery
Palanisamy, N (M.Phil.)	January 1991	Studies on Phenol degradation by Moraxella sp.
Krishnaveni, N	July 1991	Occurrence and Detection of viruses in water
Yalavarathi Madhavi	July-1992	Studies on petroleum refinery waste water treatment process
Thuhina, I	June 1992	Treatment of Phenolic Wastewater using Moraxella sp.
Sheik Mujibur Rahman, P.K.	July 1993	Biosurfactant production of Pseudomonas sp. MR-3
Paulraj, L.S. (M.Phil.)	July 1993	Degradation of hydroxylated, methoxylated and carbonxylated benzene derivatives by Moraxella sp.
Mushtaq Ahmed A (M.Phil.)	Aug-1996	Pollution of coastal waters .A case study in Rameshwaram island
Logakanthi, S. (M.Sc.)	July 1999	Bioremediation of soil contaminated with Chlorophenols
Prabhu, V	July 2000	Design and construction of Pilot scale Vertical and Horizontal Root Zone Treatment Systems
Ramya U	Dec-2000	Studies on the removal of nutrients and coliforms in vertical bed root zone treatment system at Sholinganallur
Nithya R	Jan-2000	Performance of Root zone treatment system at Sholinaganalur
Anand (B.Tech.)	2001	Biosurfactant production by Pseudomonas fluorescens
Vidhya G	April 2001	Pharmaceutical wastewater pretreatment for membrane

		technology applications
Priyanka, M. (M.Sc.)	April 2001	Phytoremediation of salinated soils
Priya, N. (M.Sc.)	April 2001	Removal of Polycyclic aromatic hydrocarbons (PAHs) from crude oil contaminated marine water by a halophilic bacterium (HHW2)
Hemavathy T	April-2001	Effect of organic loading rates on the performance of root zone treatment systems with different filter media
Mithu Saha	April-2002	Isolation and characterization at bacteria from municipal solid waste dumpsite in Chennai
Anuradha U (M.Sc.)	April-2002	Studies on treatment of Crocodile wastewater by root zone treatment system
Arulazhagan P (M.Sc.)	April-2002	Recovery of hydrophobic substances from soil using surfactants
Ramesh V	April -2002	Biodegradation of hydrocarbons in petroleum contaminated saline wastewater
Swarnalatha, B.	April 2003	Removal of nutrients (nitrogen and phosphorus) from crocodile wastewater using constructed wetland with Arundo donax .
Sujatha B (M.Sc.)	May- 2003	Biological treatment at petroleum oil sludge
Simi S (M.Sc.)	May-2003	Identification of anti-mutagenic substances in food wastes
Saras Chand, V.R.	December 2003	Evaluation of anaerobic filters performance for sewage treatment using natural and synthetic media.
Gomathi K R	May-2003	Biosurfactant production by Pseudomonas sp.
Andrew Jackson Antony E	June -2004	Assessment of physicochemical characteristics and heavy metals distribution profile in ground water around an open dumb site
Delphine Doucede (From France under collaborative Research Programme	July-2004	Biological treatment in aerobic SBR reactor of two industrial saline effluents pharmaceutical and textile

between INRA and CES)		
Surekha M	May-2005	Treatment of tannery soak liquor by anaerobic and combined process
Bhavani, C.P.	May 2005	Treatment of crocodile pond wastewater with specific reference to nitrogen and phosphorus removal using constructed wetland.
Supriya P	May-2006	Denitrification of nitrogenous using upflow anaerobic packed bed columns
S.Sandhya	May 2006	Biooxidation of triethylamine in different biofilter media
Sowmya J	June-2006	Adsorption of nickel on sand and its leaching in a constructed wetland system
Sivaraman C	Nov-2006	Pilot scale studies on adsorption and leaching of nickel In a constructed wetland system
Sivaraman C	June-2007	Pilot scale studies on adsorption and leaching of nickel in a constructed wetland system
Haja Najbudeen, S	Nov 2007	Removal of Chromium in a constructed wetland
Elangovan S	June-2007	Design of sewerage system for Thiuthuraipoondi municipality inThiruvarur district
Padmavalli	May-2007	Report on in plant training at CWSSB water treatment plant and sewage treatment plant
Rajeshwari M K	Dec-2007	Treatment of tannery wastewater with halophilic bacteria
Uma Mageshwari S	June-2007	Conservation of fly ash into zeolite x and its adsorption of heavy metals
Poornima P	June -2008	Management of phosphorus I'm wastewater
Padmavathy R	June- 2008	Production of Polyhydroxy Alkanoate by Pseudomonas putida
Shishusri Pradhan	June-2007	Bioremediation of petroleum oil contaminated soil
Muthuraman K	June-2008	Environmental management plan for polur town in Thiruvannamalai district

Hayanasbudean S	June-2008	Adsorption of Chromium by sand amended with organic additives
Lakshmi M	June 2009	Removal of heavy metals from Municipal Solid Waste Leachate using Phytoextraction and Rhizofiltration
Veeraraghavan, S. (M.Sc.)	Nov 2009	Performance of DEWATS with specific reference to Planted gravel filter
Divyalakshmi, A	June 2009	Feasibility of growing Fuel and Ornamental crops on stabilizing Municipal Solid Waste
Suresh Subramaniam	June 2010	Energy conservation plan for Multistoried commercial buildings
Arivukkodi, G	June 2010	Wind Energy Technology and Global Environment
Natarajan S	May-2011	Composting of municipal solid waste using external microbial catalyst
Aaron Jusin Prakash Samuel R	May-2011	Performance evaluation of sewage treatment systems in Tamilnadu
Sindu R	June-2012	Feasibility study of growth of economically important crops on dump waste soil
Sugapriya P	June-2012	Reduction of phosphorus from STP water using natural adsorbent
Manikandan V	June -2012	Biodegradation of oil ok petroleum oily sludge
Arulazhagan P	April-2012	Recovery of hydrophobic substance from soil using surfactants
Parakvi D	June 2012	Climate change mitigation potential and their feasibility towards clean development mechanism in tea process unit
Nachan A	June-2012	Refuse deriving fuel from municipal solid waste for energy generation
Sree Prathimadevi	June-2012	Evaluation of effective microorganisms in the removal of pathogens in secondary treatment domestic wastewater
Sivakumar D	June-2013	Treatment of pharmaceutical industrial effluent using aerobic membrane bioreactor
Narthana, J K	June 2012	Arsenic removal by Alkalimnicola

		ehrlichii strain MLHE 1
Keerthana S	Aug-2013	Production of surfactant by microalgae
Raja Narasimhan D	May 2013	Carbon sequestration potential of Tagetes erecta
Shajahan S	June-2013	Development of a conversation plan for Pallikaranai wetland
Sally Rachel, A	June 2013	Study on Reverse Logistics for E-Waste Management in information Technology Sector
Swarnalatha B	May-2013	Removal of nutrients (nitrogen and phosphorus) from crocodile wastewater using constructed wetland with Arundo donax
Prem Kumar	Dec-2013	Horizontal plug flow anaerobic digester for treating food waste
Jayanthi G	Nov-2014	Performance evaluation of STP in multistoried building
Kalaipakshirajan, N	May 2015	Treatment of textile industry wastewater
Premkumar V	Aug-2015	Domestic evaluvation of industrial and domestic waste water treatment plants
Latha M	May-2015	Treatment of septic tank overflow with anaerobic baffled reactor and planted gravel filter
Ramya V	Nov-2016	Performance of constructed wetland system for domestic wastewater treatment
Prabhakaran v	Nov-2016	Performance evaluation of grey water treatment using horizontal flow constructed wetland system
Raj M P	June-2016	Reuse of textile and tannery sludge in concrete fine aggregates
Vijayashree R	June-2016	Treatment of irrigation runoff water by a constructed wetland system
Sudharsri S	May-2017	Treatment of system for sewage by treatment system at different organic loading rate
Senthil, S	May 2017	Comparison of Air pollution Tolerance Index (APTI) of selected Plant species in Industrial and Non-Industrial areas

Leena kumary S	Dec-2017	Evaluation of different in root zone treatment for wastewater treatment
Ramprasath V M.E.	June 2017	Sequestration of carbon dioxide from generator exhaust using Spirulina sp.
Valvilori R P	May-2018	Assessment of drinking water requirements and water less system in water distribution system in Kunnathoor village
Kuppuswamiraju V	April-2018	Assessment and improvement to green building concept in multistoried building
Mario Vino Lincy C	June-2018	Nanoparticles in health care products and their impacts on the environment
Mary Jhansi M	June-2018	Biogas production form fibrous plant materials
Rajasekar A	June -2018	Assessment of surface and ground water resources in Villupuram district Tamilnadu using remote sensing and gas
Jayasurya D	Nov-2018	Disinfection of treated grey water from constructed wetland system. For removal of pathogens.
Vinodhini S	June 2018	Reduction of chromium from tannery sludge using chemical methods
Pavithra P K	May-2018	Landfill leachate treatment using electrochemical oxidation
Shabeera R	June-2018	Removal of nutrient and pathogens form grey water using constructed wetland system and composite nanoparticles
Shanmuga Priya R	May-2019	Characterisation and treatment of aquaculture pond sediments
Reshma Jahan	May 2019	Impact of cosmetic products on Guppy species
Charanya Ponmani I	May-2019	Performance of constructed wetland in the treatment of agricultural runoff water
Gomathi R	May-2019	Development of an alternative disposal method for absorbent hygiene products
Nani	May 2019	Influence of nitrogen amendments

		on crop productivity
Ananth I	May-2019	Disinfection of secondary treated sewage for removal of pathogens
Jayasurya	May 2019	Comprehensive disinfection of grey water from Wetland treatment system
Ramesh, P	April 2020	Treatment of partially treated Distillery effluent by Constructed wetland system
Prasanth, M.	April 2020	Disinfection of Constructed wetland treated Greywater using Copper Nanoparticles
Gokul, C.V.	April 2020	Extraction of oil using surfactants and reuse of Petroleum sludge
Balaji, V	April 2020	Study of Organic Micropollutants in Drinking water
Munishwaran, K	July 2023	Assessment and remediation of petroleum hydrocarbon polluted agricultural soil

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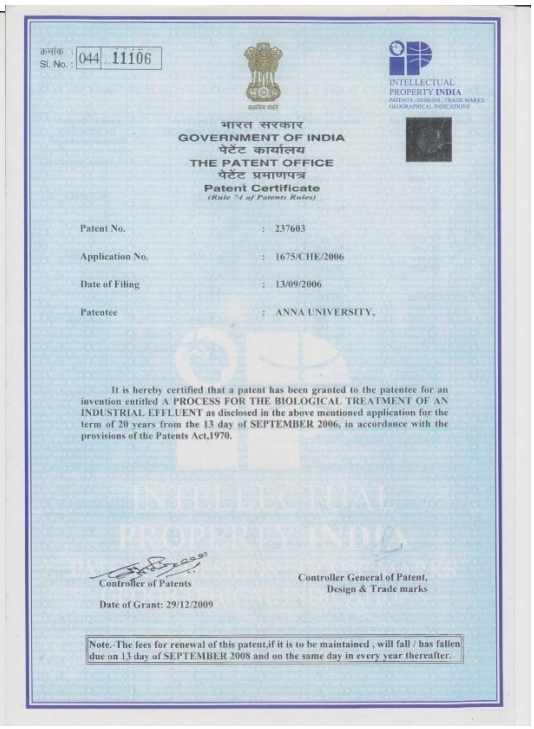

Technology Transfer First Patent of Anna University (N.Vasudevan)

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