Bio-data

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Research Interest: Membrane separation process, Wastewater treatment, Forward osmosis (FO), Osmotic microbial fuel cells (OMFCs), Development of membrane, and draw agent, Polymer nanocomposite, Polymer degradation

Citations Records: Total Citation: 474, **h- index: 11**

Academics details

University	Degree	Year	Field of Specialization
Sardar Vallabhbhai National Institute Technology (SVNIT), Surat-Gujrat	Ph.D.	2009	Membrane separation technology and heavy metals removal from Wastewater
Maharaja Sayajirao University, (M.S.U.), Baroda, Gujrat	M. E.	2004	Polymer Technology
V.V.P. Engineering College, Saurastra University, Rajkot, Gujrat	B. E.	2002	Chemical Engineering

Employment Record:.

University	Designation	Period
S.V.N.I.T SURAT	Assistant Professor	13/03/ 2009 to 28/1/2019
S.V.N.I.T SURAT	Associate Professor	29/1/2019 to till date

Research projects 04 (3 Completed, **1 ongoing)**

Publications: (Total No =69)

i. Papers published in SCI/SCIE Journals: **(37)**
ii. Papers published in International Conference/Proceedings: **(29)**
iii. Papers published in National Conference/Proceedings: **(3)**

Patent Filed:- (01)

No. of Summer/Winter schools/Training programs Organized: (**5)**
No. of Seminar/Conference/Workshop/Networking programme organized: (**2)**
No. of Expert lecture Delivered: (**7)**
Membership of Technical Societies: **(4)**
Ph.D. Supervision: **(08**) Completed 3, Ongoing 5
Summer research Project Assistantship (B.Tech) (**03**)
M.E./M.Tech. Dissertations Guided: (15) Completed 14, ongoing 1
Paper Reviewer in International Journals **(12)**
Workshops/Summer Schools/ winter schools/Short term Courses attended **(24)**
Administrative Responsibilities **(17)**

Research Projects: 04

Sr. No.	Degree Registered/Project under taken	Duration		University/Sponsoring Authority	Funds Sanctioned	Present Status
		From	To			
1.	*"Application of Benthic Microbial Fuel Cell (BMFC) for powering Naval Sensors".* Principal Investigator: Dr. A. K. Mungray;**Co-Investigator; Dr. Alka A. Mungray** & Dr. K. Suresh Kumar	2014	2017	Naval Research Board (NRB), Defence Research and Development Organisation (DRDO) Bhavan, New Delhi, India	23.19 Lacs	Completed
2.	*"A revolutionary approach for regeneration of graphene based membrane and draw agent in UASB-EFO (Up flow anaerobic sludge blanket-Electric field attached, Forward Osmosis) for the production of pure water from municipal wastewater***".** **Principal Investigator: Dr. Alka A. Mungray**	2014	2016	R & D Grant of the SV NIT Institute for Assistant Professors	9.70 Lacs	Completed
3.	"*Synthesis of antifouling FO membrane from bio-route prepared nanoparticle coating*."*"* Students: Abhishek Kumar Supervisors: **Dr. Alka A. Mungray** & Dr. Suban Sahoo	2013	2014	R & D project grant of the SVNIT Institute for UG student	50,000/	Completed
4.	*"The near future air cathode Osmotic microbial fuel cell (OMFC) for wastewater treatment, electricity generation and pure water extraction".* **PI: Dr. Alka A. Mungray**	2018	2021	Science & Engineering Research Board (SERB)-DST, Government of India, New Delhi, India	28.46 Lacs	Ongoing

Full Papers Published /Accepted for Publication in SCI/SCIE Journals: (37)

Sr. No.	Name of Journal	Volume & Page No.	Year	Title
1.	**Chemical Product and Process Modeling**, (The Berkeley Electronic Press, USA / Walter de Gruyter & Co., Germany).	3 (1) 15.	2008	**Alka G. Boricha** and Z.V.P. Murthy, Prediction of nanofiltration performance by using membrane transport models for the separation of nickel salts from aqueous solutions.
2.	**Journal of Applied Polymer Science**, (Wiley-Blackwell, USA) (**Impact Factor: 1.187).**	110 (6) 3596-3605.	2008	**Alka G. Boricha** and Z.V.P. Murthy, Preparation and performance of N,O–carboxymethyl chitosan-polyether sulfone composite nanofiltration membrane in the separation of nickel ions from aqueous solutions.
3.	**Separation and Purification Technology**, (Elsevier Scientific Publication, USA) **(Impact Factor: 2.879**).	65 (3) 282-289.	2009	**Alka G. Boricha** and Z.V.P. Murthy, Preparation, characterization and performance of nanofiltration membranes for the treatment of electroplating industry effluent.
4.	**Journal of Membrane Science**, (Elsevier Scientific Publication, USA) **(Impact Factor: 4.093).**	339 (1-2) 239-249.	2009	**Alka G. Boricha** and Z.V.P. Murthy, Acrylonitrile butadiene styrene/chitosan blend membranes: preparation, characterization and performance in the separation of metal ions.
5.	**Chemical Engineering Journal,** (Elsevier Scientific Publication, USA) **(Impact Factor: 3.074).**	157(2-3) 393-400.	2010	**Alka G. Boricha** and Z.V.P. Murthy, Murthy, Preparation of N,O-Carboxymethyl Chitosan/Cellulose Acetate Blend Nanofiltration Membrane and Testing Its Performance in Treating Industrial Wastewater.
6.	**Journal of Polymer Engineering**, (Walter de Gruyter, Germany) **(Impact Factor: 0.397).**	31 (4) 333-340.	2011	**Alka A. Mungray** and Z.V.P. Murthy, Dilute Solution Viscometry Study on the Miscibility of N,O-Carboxymethyl Chitosan-Cellulose Acetate Blends.
7.	**Research Journal of Chemistry and**	15 (4) 624-628.	2011	**Mungray, A. A.**, Mungray, A. K., Kulkarni, S. V, Removal of Mercury from wastewater using micellar enhanced ultrafiltration.

	Environment. **(Impact Factor: 0.636).**			
8.	**Central European Journal of Chemistry.** (Springer Vienna, Poland) **(Impact Factor: 0.991).**	10 (1) 27-48.	2012	**Mungray, A. A.,** Mungray, A. K.,Kulkarni, S. V. Removal of heavy metals from wastewater using MEUF technique: A review.
9.	**Journal of Polymer Materials,** (M.D. Publications, India) **(Impact Factor: 0.134).**	29(3) 331-348.	2012	**Alka A. Mungray** and Z.V.P. Murthy, Synthesis and Characterization of a Nanofiltration Membrane and Its Performance in Separating Metal Ions.
10.	**Ionics** (Springer-Heidelberg, Germany) (**Impact Factor**: **1.288**).	18 811-816.	2012	**Alka A. Mungray** and Z.V.P. Comparative Performance Study of Four Nanofiltration Membranes in the Separation of Mercury and Chromium.
11.	**Industrial & Engineering Chemistry Research,** (American Chemical Society Publication, USA) **(Impact factor: 2.202).**	51 (32) 10557–10564.	2012	K. J . Singala, **A.A. Mungray**, A. K. Mungray, Degradation Behavior of Polypropylene-Organically Modified Clay Nanocomposites.
12.	**International Biodeterioration & Biodegradation**. (Elsevier Science Limited, England) **(Impact factor: 2.252).**	75**,** 131-137.	2012	Satish S. Rikame, **Alka A. Mungray,** Arvind. K. Mungray. Electricity generation from acidogenic food waste leachate using dual chamber mediator less microbial fuel cell.
13.	**International Journal of Polymeric Materials and Polymeric Biomaterials,** (Taylor & Francis Group Publication, USA) **(Impact factor: 1.200).**	63, 595–601	**2013**	Pankaj Pardeshi, **Alka A. Mungray**, High flux layer by layer polyelectrolyte FO membrane: Towards enhanced performance for osmotic microbial fuel cell,
14.	**Reviews of Environmental Contamination and Toxicology.** (Springer publication) **(Impact factor: 2.477).**	83-110	2013	Yadav, T., **Mungray, A.A.**, and Mungray, A. K. Fabricated Nanoparticles: Current Status and Potential Phyto-toxic Threats, A Review.

15.	**Journal of Membrane Science,** (Elsevier Scientific Publication, USA) **(Impact factor: 4.093).**	453, 202–211**.**	2014	Pankaj Pardeshi, **Alka A. Mungray**, Synthesis, characterization and application of novel high flux FO membrane by layer-by layer self-assembled polyelectrolyte,
16.	**Desalination and Water Treatment,** (Taylor & Francis Group Publication, USA) **(Impact factor: 2014: 1.173)**	1–13	2014	Zubin M. Darbari, **Alka A. Mungray** Synthesis of an electrically cleanable forward osmosis membrane"
17	**Separation and Purification Technology,** (Elsevier Scientific Publication, USA) (Impact Factor: 2014: 3.091).	150, 86-94	2015	Neha Gawande, **Alka A. Mungray**, Superabsorbent polymer (SAP) hydrogels for protein enrichment,
18	**RSC Advances,. (Impact factor: 2015: 3.840)**	5, 64421-64432	2015	Yadav, T., **Mungray, A.A**., Mungray, A. K. A comparative analysis of a TiO_2 nanoparticle dispersion in various biological extracts.
19	**Environmental Science and Pollution Research,** (Springer publication) **(Impact factor: 2014: 2.757)**	1-10	2015	Yadav, T., **Mungray, A.A**., Mungray, A. K. Effect of Multi-walled Carbon Nanotubes on UASB Microbial Consortium.
20	**RSC Advances**, **(Impact factor: 2015: 3.840)**	5 (126), 103956-103963	2015	Yadav, T., **Mungray, A.A**., Mungray, A. K. Dispersion of multiwalled carbon nanotubes in Acacia extract and it's utility as an antimicrobial agent A comparative analysis of a TiO_2 nanoparticle dispersion in various biological extracts.
21	**Chemical Engineering Research and Design (Impact factor: 2015:2.348)**	109, 215–225	2016	Pankaj Pardeshi, **Alka A. Mungray**, Arvind K. Mungray"Determination of optimum conditions in forward osmosis using a combined Taguchi-Neural approach"
22	**Separation and Purification Technology,** (Elsevier Scientific Publication, USA) **(Impact Factor: 2014: 3.091)**	168, 83–92	2016	Ramesh Nakka, **Alka A. Mungray** Biodegradable and biocompatible temperature sensitive triblock copolymer hydrogels as draw agents for forward osmosis
23	**Environmental Technology (Impact factor:**	38(4), 413-423.	2016	Yadav, T., **Mungray, A.A**., Mungray, A. K. Effect of TiO_2 Nanoparticles on UASB Biomass Activity and Dewatered Sludge

	1.560)			
24	**Desalination** **(Impact factor: 2016: 4.412)**	421, 149–159)	2017	Pardeshi, P., Mungray, A.A., Mungray, A. K. Polyvinyl chloride and layered double hydroxide composite as a novel substrate material for the forward osmosis membrane.
25	**Separation and Purification Technology** **(Impact factor: 2016: 3.299)**	177, 29-39.	2017	Rikame, S. S.,., Mungray, A.A., Mungray, A. K. Synthesis, characterization and application of hosphorylated fullerene/sulfonated polyvinyl alcohol (PFSP) composite cation exchange membrane for copper removal.
26	**Environmental Nanotechnology, Monitoring & Management (Elsevier publication)**	9, 57-59	2018	Yadav, T., **Mungray, A.A**., Mungray, A. K., Generation of TiO2 nanoparticle-based acacia saturated eggshell biocomposite for pathogen removal
27	**Journal of Environmental Chemical Engineering (Impact Factor: 1.355)**	6, 1558–1568	2018	Om Prakash, Priyakant Pushkar, Arvind Kumar Mungray, **Alka Mungray**,Suresh Kumar Kailasa, Effect of geometrical position of a multi-anode system in power output and nutritional variation in benthic microbial fuel cells
28	**Scientific Report,** 10.1038/s41598-018-36346-8. **(Impact Factor: 4.122)**	9,1-13	2019	Pardeshi, P.M., **Mungray, A.A.,** 2018. Photo-polymerization as a new approach to fabricate the active layer of forward osmosis membrane. **ACCEPED**
29	**Process Safety and Environmental Protection**. (Elsevier Publication) (Impact Factor:2018: 2.905	117, 11-21	2018	Prakash, O., Mungray, A. A., Kailasa, S. K., Chongdar, S., Mungray, A. K., Comparison of different electrode materials and modification for power enhancement in benthic microbial fuel cells (BMFCs).
30	**Electrochimica Acta,** **(Impact factor: 2017: 4.798)**	275(10), 8-17.	**June , 2018,**	Rikame, S. S., **Mungray, A.A**., Mungray, A. K. Modification of anode electrode in microbial fuel cell for electrochemical recovery of energy and copper metal.
31	**Fuel Cells - From Fundamentals to Systems** **(Impact factor:** 1.706)	18 (4) 509-517	2018	Pushkar, P., Prakash, O., **Mungray, A. A**., Kailasa, S. K., Chongdar, S.,Mungray, A. K., Evaluation of the Effect of Position and Configuration of Electrodes in Benthic Microbial Fuel Cell. Fuel Cells - From Fundamentals to Systems.
32	**Separation Science and Technology.** Accepted. (Taylor &	54(2) 213-233.	2018	Pushkar, P., Prakash, O., **Mungray, A. A**., Kailasa, S. K., Chongdar, S., Mungray, A. K., Effect of Cerium Oxide Nanoparticles

	Francis) **(Impact factor: 2015: 1.240)**			Coating On the Electrodes of Benthic Microbial Fuel Cell.
33	**Electrochimica Acta** (**Impact factor: 5.1), 2018**	295(1), 58-66	2018	Imran, M., Prakash, O., Pushkar, P., **Mungray, A.A**., Suresh Kumar, K., Chongdar, S., Mungray, A.K., Performance enhancement of benthic microbial fuel cell by cerium coated electrodes.
34	**Journal of Environmental Chemical Engineering.** (Elsevier Publication) **(Impact Factor: 1.355)**	8(2), 102757	2020	Prakash, O., Pushkar, P., **Mungray, A. A**., Chongdar, S., Kailasa, S. K. Mungray, A. K. Performance of polypyrrole coated metal oxide composite electrodes for benthic microbial fuel cell (BMFC).
35	Journal of Environmental Chemical Engineering, (Elsevier Publication) **(Impact Factor: 1.355)**	8, 103590	2020	Tiwari, A., Jain, S, Mungray, A. A., Mungray, A. K., Sharma, P., SnO_2:PANI modified cathode for performance enhancement of air-cathode microbial fuel cell.
36	Journal of Environmental Chemical Engineering, (Elsevier Publication) **(Impact Factor: 1.355)**	Accepted	June 2020	Krushangi Doshi, **Alka Mungray**, Bio-route synthesis of carbon quantum dots from tulsi leaves and its application as a draw solution in forward Osmosis
37	Chemosphere(Elsevier Publication) **(Impact Factor: 5.018)**	Accepted	June 2020	Asfak Patel, Arvind K. Mungray, **Alka Mungray**, Technologies for the recovery of nutrients, water and energy from human urine: A review

Full Papers Presented & Published in International Conferences Proceedings: (29)

Sr. No.	Name of Conference/Seminar	Month/Year	Venue	Title
1.	Young Researchers' Conference-2007" Organized by UICT, Mumbai and	March 29th -31st, 2007.	Dr. Babasaheb Ambedkar Technological University, **Loneri, Maharashtra**,	Synthesis of N,O–carboxymethyl chitosan (NOCC)-polyether sulfone (PES) composite nanofiltration membrane and effect of operating variables for the separation of nickel ion from aqueous wastewater.
2.	Environmental Management: Scenario	26^{th} -27^{th} December	**Ujjain, M.P.** India,	Adsorptive Treatment of Distillery Spentwash Using Non-Crosslinked and

	and Strategies to 2020	2007.		Crosslinked Chitosan Membranes
3.	International congress of Chemistry and Environment ICCE 2009	21st-23rd January 2010.	**Ubon Ratchathani, Thailand**	Separation behavior of N,O carboxymethyl chitosan (NOCC)/cellulose acetate (CA) blend nanofiltration (NF) membrane for copper removal.
4.	5th International congress of Chemistry and Environment (ICCE 2011)	27th–29th May, 2011	**Malaysia**	Removal of Mercury from wastewater using miceller enhanced ultrafiltration. at during
5.	World Congress on Engineering and Computer Science 2011 (WCECS 2011) - International Conference on Chemical Engineering 2011	19th -21st, October 2011	**San Francisco, USA**	Preparation and Characterization of Acrylonitrile Butadiene Styrene and Trifluoroacetylethyl Cellulose Blend Nanofiltration Membrane and Performance in the Separation of Mercury, Paper presented at the ", held at the University of California, Berkeley, ,
6.	International congress of Environmental Research (ICER 2011)	15th-17th December , 2011	**SVNIT Surat, India**	Performance of Dynamic Membranes in Anaerobic Membrane Bioreactor: A Review.
7.	International congress of Environmental Research (ICER 2011)	15th-17th December , 2011	**SVNIT Surat, India**	Removal of Heavy Metal from Wastewater Using Surfactant by Ultrafiltration
8.	CHEMCON-2012	December 27-30, 2012.	**Jalandhar, Punjab**, India,	Kulkarni, S. V., **Mungray, A. A.,** Mungray, A. K., TiO2 nanoparticle Coated PES Membrane for separation of mercury from wastewater by using micellar enhanced ultrafiltration
9.	6th International congress of Chemistry and Environment (ICCE 2013)	8th -10th July, 2013.	**Antwerp, Belgium**	Yadav, T., Mungray, A. A**., Mungray, A. K**. Nanotoxicity in Microbial Population and its Utility in Pathogen Removal.
10.	6th International congress of Chemistry and Environment (ICCE 2013)	8th -10th July, 2013.	**Antwerp, Belgium**	Pankaj Pardeshi, **Alka A. Mungray**, Arvind Mungray, Preparation, characterization and application of zero-valent iron nanoparticle immobilized sulfonated (polyvinyl alcohol/clay) nanocomposite forward osmosis membrane
11	International congress on Global Challenges: Sustainable wastewater treatment and resource recovery	28th to 30th Oct. 2014.	**Kathmandu, Nepal**	Dharmadhakari, S., Pankaj Pardeshi, **Alka A. Mungray**, Arvind Mungray,., Mungray, A. K. Modification, characterization and application of proton Exchange Membrane in microbial Fuel Cell.

12	International congress on Global Challenges: Sustainable wastewater treatment and resource recovery	28th to 30th Oct. 2014.	**Kathmandu, Nepal**	Yadav, T., Mungray, A. A**., Mungray, A. K**. Modification, characterization and application of proton Exchange Membrane in microbial Fuel Cell. International congress on Global Challenges: Sustainable wastewater treatment and resource recovery
13	International Conference on Membrane based separations (MEMSEP 2015)	21-25 March 2015	**M.S. University Baroda**	Yadav, T., and Mungray A.A., Mungray, A. K., Application of nanoparticles for pathogen removal during waste water treatment.
14	International Conference on Membrane based separations (MEMSEP 2015)	21-25 March 2015	**M.S. University Baroda**	Ramesh, N., and **Mungray, A. A.,** Temperature sensitive biodegradable and biocompatible block copolymer hydrogels preparation and application in forward osmosis.
15	International conference on Ecology of Soil Microorganisms	29th Nov. 29 to 3rd Dec., 2015	**Prague, Czech Republic**	Yadav, T., **Mungray, A. A**., and Mungray, A. K., Effect of Cosmetic Based Nanowaste on Sludge and Soil Microflora.
16	CHEMCON-2015	December 27-30	**Guwahati**	Yadav, T., **Mungray, A. A.,** Mungray, A. K., Nano technological Approach for Pathogen Removal from UASB WW
17	CHEMCON- 2016	December 27-30,2016	**Chennai**	Satish Rikame, **Alka A. Mungray**, Arvind Mungray, Bioremediation of copper metal using single chamber microbial fuel cell.
18	Industrial Chemistry and Water Treatment	22-23 May, 2017	**Las Vegas, USA**	**Alka A. Mungray,** Arvind K. Mungray, Application of Ultrasound to control and Enhance Performance of Dynamic Membrane in Anaerobic Bioreactor
19	International Conference on Nanotechnology Applications: Chemical, Energy and Environment (NACEE-2017),	22- 23 March 2017	SVNIT Surat, India	Om Prakash, Priyakant Pushkar, Mohammad Imran, Suresh Kumar Kailasa,, **Alka Mungray**, Arvind Kumar Mungray, Effect of cerium oxide nanoparticles coating on the electrodes of benthic microbial fuel cell (BMFC)
20	Recycle 2018	22-24 February 2018	IIT Guwahati	Pankaj Pardeshi and **Alka A. Mungray**, Polyvinyl Chloride and Layered Double Hydroxide Composite as a Novel Substrate Material for the FO Membrane: Thermodynamic study
21	4th Asia Pacific – International Society of Microbial Electrochemistry and Technology (AP-ISMET) Meeting with special focus on	13 -16 November 2018	Birla Institute of Technology & Science - Pilani, K K Birla Goa campus, Goa, India.	Pardeshi, P.M., **Mungray, A.A**. Osmotic microbial fuel cell: Performance of photo- polymerized active layer forward osmosis membrane"

	Bioelectrochemical and electrochemical approaches for decentralized sanitation,			
22	RECYCLE 2018, International Conference and Waste Management, ,	22-24 Feb., 2018	IIT, Guwahati.	Prakash, O., Patel., N., **Mungray, A. A**., Mungray, A. K. Performance of dual metal oxide coated anodes for benthic microbial fuel cell reactor for bio-electricity generation.
23	4th Asia Pacific-International Society of Microbial Electrochemistry and Technology (AP-ISMET) Meeting on Bioelectrochemical and electrochemical approaches for decentralized sanitation	13-16 November , 2018	BITS Goa Campus, K. K. Birla Goa Campus, Goa, India.	Tiwari, A., **Mungray, A. A.,** Mungray, A. K. Polyaniline/SnO_2 composite electrode for the enhancement of oxygen reduction reaction in Microbial fuel cell.
24	International conference on "Energy and Environmental Technologies for Sustainable Development	Feb 14-16, 2020	MNNIT Allahabad	Tiwari, A., Jain, S., **Mungray, A. A**., Mungray, A. K. Palladium nanoparticles as oxygen reduction catalyst in air cathode microbial fuel cell."
25	International conference on "Energy and Environmental Technologies for Sustainable Development	Feb 14-16, 2020	MNNIT Allahabad	Doshi, K., Mungray, A. A. Characterization and application of high flux forward osmosis membrane by layer by layer self-assembled polyelectrolytes.
26	International conference on "Energy and Environmental Technologies for Sustainable Development	Feb 14-16, 2020	MNNIT Allahabad	Monali, C., **Mungray, A. A**., Mungray, A. K. Effect of oxygen presence on the cathodic recovery of copper in the microbial fuel cell
27	Indo-Belgium Workshop on Upscaling and field scale application of bioelectrochemical systems for wastewater treatment and bioenergy recovery	26- 27 February 2020.	IIT Kharagpur	Patel A., Mungray, **A. A., M**ungray, A. K. Performance enhancement of Microbial fuel cell using forward osmosis technology: A Review.
28	Indo-Belgium Workshop on Upscaling and field scale application of bioelectrochemical systems for wastewater treatment and bioenergy	26- 27 February 2020.	IIT Kharagpur	Monali C., Mungray, A. A., **Mungray, A. K**. Performance of constructed wetland system integrated with microbial fuel cell for greywater treatment and bioelectricity generation.

	recovery			
29	Indo-Belgium Workshop on Upscaling and field scale application of bioelectrochemical systems for wastewater treatment and bioenergy recovery	26- 27 February 2020.	IIT Kharagpur	Doshi, K. Mungray, A. A. Performance of air cathode microbial fuel cell integrated with forward osmosis membrane using a novel draw solution.

Full Papers Presented & Published in National Conferences Proceedings: (3)

Sr. No.	Name of Conference/Seminar	Month/Year	Venue	Title
1.	Annual Conference of Indian Association for Environmental Management	30th November 30– December 1, 2007.	Ankleswar, Gujarat, India.	Alka G. Boricha and Z.V.P. Murthy, Metals removal capability of chitosan from Wastewaters: an overview
2.	Conference on Technological Advancement in Chemical and Environmental Engineering (TACEE-2012),	23-24 March 2012,	Chemical Engineering Department, BITS Pilani, India.	Kanan, K. P., **Mungray, A. A., Mungray, A. K**. Performance of Anaerobic Dynamic Membrane Bioreactor Treating Domestic Municipal Wastewater.
3.	Conference on Technological Advancement in Chemical and Environmental Engineering (TACEE-2012),	23-24 March 2012,	Chemical Engineering Department, BITS Pilani, India.	Rikame, S. S., **Mungray, A. A., Mungray, A. K**. Power Generation from Food Waste Leachate in Microbial Fuel Cell.

Patent Filed:- (01)

Title of the Invention: "PPEA/MAA active layer containing Forward osmosis membrane and a method of preparing thereof"

Patent Application no.: 201821003182

Applicants: **Dr. Alka A. Mungray**
Pankaj M. Pardeshi

Date of Filing: January 29, 2018

No. of Summer/Winter schools/Training programmes Organized: (05)

Sr. No.	Name of Faculty Member	Name of the associated Faculty Members	Name of Programme	Dates of Programme
1.	**Dr. (Mrs.) Alka A. Mungray** (Co-Coordinator)	**Coordinators** Dr. N. J. Mistry , Dr. Arvind Kumar Mungray **Co-coordinators** Dr. Z. V. P. Murthy, Dr. M. Chakraborty	AICTE approved STTP on Treatment and Disposal of Wastewaters	One week from 5th-9th October, 2009
2.	**Dr. (Mrs.) Alka A. Mungray** (Co-Coordinator)	**Coordinators** Dr. Z. V. P. Murthy, Dr. A. K. Mungray **Co-coordinators** Dr. N. J. Mistry, Dr. M. Chakraborty	AICTE approved STTP on Anaerobic Digestion of Wastewaters	One week from 22th– 27th February, 2010
3	Dr. Alka A. Mungray **(Coordinator)**	Dr. Arvind Kumar Mungray **(Coordinator)**	Self- Sponsored one week STTP on " Waste to Wealth: Fundamentals and Hands on Experience	One week from 26th Sept. – 30th Sept., 2016
4	Dr. Alka A. Mungray **(Coordinator)**	Dr. Arvind Kumar Mungray **(Coordinator)**	TEQIP-II Sponsored one week STTP on Advances in Membrane Developments & Hand on Experience"	One week from 17th to 21st October 2016
5	Dr. Alka A. Mungray **(Coordinator)**	Dr. Arvind Kumar Mungray **(Coordinator)** Dr. V.N.Lad **(Coordinator)**	TEQIP-III Sponsored one week STTP on Waste to Energy: Fuel Cell and Electrochemical Techniques	One week from 17th to 21st June 2019

No. of Seminar/Conference/Workshop/Networking programme organized: (02)

Sr. No.	Name of Faculty Member	Name of the associated Faculty Members	Name of Programme	Dates of Programme
1.	Dr. Alka A. Mungray **(Coordinator)**	Dr. Arvind Kumar Mungray **(Coordinator)** Dr. Z. V. P. Murthy **(Coordinator)**	TEQIP-II Sponsored Workshop on " Nanotechnology and its application"	Three days from 19th to 21st April, 2013
2.	Dr. Alka A. Mungray **(Coordinator)**	Dr. Arvind Kumar Mungray **(Coordinator)** Dr. Z. V. P. Murthy **(Coordinator)**	TEQIP-II Sponsored Workshop on " Advances on wastewater treatment and energy generation"	One week from 30th Sept. – 04th Oct., 2013

No. of Expert lecture Delivered: (07)

Sr. No.	Details of Lectures
1	Workshop on **"Nanotechnology Applications in Engineering and Technolgy"** conducted by Chemical Engineering Department, NIT, Nagpur during February 15th- 17th, 2013.
2	**Advances on Wastewater Treatment and Energy Generation"** conducted by Chemical Engineering Department, SVNIT, Surat during 30th Sept. – 04th Oct., 2013.
3	**"Nanotechnology Applications In Engineering & Technology"** Conducted by Chemical Engineering Department, VNIT, Nagpur during February 15th -17th , 2013
4	**"Carbon neutral energy sources"** conducted by Department of Chemical Engineering, SVNIT, Surat, during 9th to 13th May, 2016.
5	**"Advances in Separation Technology** " conducted by Department of Chemical Engineering, SGGSIE&T, Nanded during 8th -13th January 2018.
6	"**Smart and sustainable cities: A mission toward smart India**" Expert lecture on "Advances on membrane technology" at Civil Engineering Department under AICTER-ISTE approved STTP on from 4 to 9 June 2018 at Sandip Institute of Engineering & Management, **Nashik.**
7	TEQIP-III Sponsored one week STTP on **Waste to Energy: Fuel Cell and Electrochemical Techniques** Expert lecture on "Osmotic microbial fuel cell : basic to advances" conducted at 17th to 21st June 2019 at SVNIT, Surat.

Memberships in professional bodies: (04)

- Membership of the International Water Association (IWA) having membership number: 01036031.
- Life associate Member in "The Institution of Engineers (India)" (AM1004630).
- Fellow Membership (F.I.C.C.E.) in "International Congress of Chemistry and Environment" FW/A/5055.
- Member of Indian Institute of Chemical Engineers (LM-46916).

Ph.D. Supervision: (08) Completed 3, Ongoing 5

Sr. No.	Name of Student	Year of registration	Topic	Supervisor	Co-Supervisor (if any)	Status
1	Mr.Tushar Yadav (FIR) (D12CH001)	July, 2012	Effects of nanoparticles on anaerobic microbial activity found in UASB sludge	Dr. Arvind Kumar Mungray	**Dr. Alka Mungray**	**Completed**
2	Mr. Satish Rikame (PEC)	July, 2013	Electricity generation and metal recovery from wastewater using microbial fuel cell	**Dr. Alka Mungray**	Dr. Arvind Kumar Mungray	**Completed**
3	Mr. Pankaj pardeshi (FIR) (DS13CH002)	December, 2013	Novel modifications in osmotically microbial fuel cell (OMFC).	**Dr. Alka Mungray**	----------	**Completed**
4	Mr. Alok Tripati (FIR) (D17CH007)	August, 2017	Development of electrode materials for MFC/OMFC	**Dr. Arvind Kumar Mungray**	Dr. Alka Mungray	**On-going**
5	Patel AsfakYunus (FIR)(D18CH002)	July, 2018	New development of draw agents for osmotic microbial fuel cell	**Dr. Alka Mungray**	Dr. Arvind Kumar Mungray	**On going**
6	Bhagat Mandar Suresh (FIR) (D18CH008)	July, 2018	New architectural design of osmotic microbial fuel cell	**Dr. Alka Mungray**	Dr. Arvind Kumar Mungray	**On going**
7	Doshi Krushangi Pankaj (PPF) (D18CH004)	July, 2018	The near future air cathode Osmotic microbial fuel cell (OMFC)for wastewater treatment, electricity generation and pure water extraction"	**Dr. Alka Mungray**	Dr. Arvind Kumar Mungray	**On going**
8	Chhatbar Monali Mahendrabhai	July, 2018	Microbial electrolysis cell (MEC) for hydrogen production	Dr. Arvind Kumar Mungray	**Dr. Alka Mungray**	**On-going**

	(FIR) (D18CH006)					

Summer research Project Assistantship (B.Tech) (completed) (03)

Sr. No	Student Name & Semester	Assistanship TEQIP / GATE / Other	Category Teaching / Research	Duration	Topic
1	Zubin M. Darbari,(U11CH090)4th semester, second year (Completed) (2013)	Other	Summer research fellowship programme	2 Month Completed	Synthesis of an electrically cleanable forward osmosis membrane (One paper is published)
2	Maurya D. Dave (U16CH007) (2018)	Other	Summer Research Internship	Completed (one Month)	Anode Modification in Osmotic Microbial Fuel cell
3	Hetanxi Singadia (U14CH106) (2018)	Other	Student Startup and Innovation Policy (SSIP)	Completed	Wastewater Treatment and Desalination through electrical field attached forward osmosis-reverse osmosis (EFO-RO) hybrid system

M.E./M.Tech. Dissertations Guided: (15) Completed 14, ongoing 1

Sr. No.	Name of Student	Year of Completion	Thesis Title	Supervisor	Co-Supervisor (if any)
1	Jayant Singh	2010	Preparation, characterization and performance of polymeric membranes for nanofiltration and pervaporation.	Dr. Z. V. P. Murthy	Dr. Alka Mungray
2	Shrirang V. Kulkarni	2011	Removal of heavy metals by micellar enhanced ultrafiltration	Dr. Arvind Kumar Mungray	Dr. Alka A. Mungray
3	Swarup	2011	Post treatment of UASB effluents by sand	Dr. Arvind Kumar	Dr. Alka A.

	Biswas		and activated carbon based	Mungray	Mungray
4	Manoj J. Kanade	2012	Treatment of combined textile and domestic wastewater in an Up-flow anaerobic sludge blanket (UASB) reactor	Dr. Alka A. Mungray	Dr. Arvind Kumar Mungray
5	Satish S. Rikame	2012	Electricity generation from acidogenic food waste leachate using dual chamber mediator less microbial fuel cell	Dr. Alka A. Mungray	Dr. Arvind Kumar Mungray
6	K. P. Kannan	2012	The effect of ultrasound on the performance of anaerobic dynamic membrane bioreactor treating municipal wastewater	Dr. Alka A. Mungray	Dr. Arvind Kumar Mungray
7	Pankaj Pardeshi	2013	Development of novel membrane and its application in Osmotically microbial fuel cell (OMFC).	Dr. Alka A. Mungray	----------
8	Kamlesh J.singala	2013(M.Tech Research)	Studies on synthesis and degradation of polypropylene-clay nanocomposite	Dr. Alka A. Mungray, Dr. Arvind K. Mungray	----------
9	Miss Neha Gawande	2014	Enhanced water flux in forward osmosis process with fast swelling superabsorbent polymer hydrogels	Dr. Alka A. Mungray	----------
10	Sandeep Dharmadhikari	2014	Preparation, characterization and application of proton exchange membranes in microbial fuel cell	Dr. Alka A. Mungray, Dr. Arvind Kumar Mungray	----------
11	Nakka Ramesh	2015	A revolutionary approach for regeneration of graphene based membrane and draw agent in UASB-EFO (Up flow anaerobic sludge blanket-Electric field attached, Forward Osmosis) for the production of pure water from municipal wastewater.	Dr. Alka A. Mungray	----------
12	Niddhi	2017	Septic tank integrated with MFC	Dr. Alka A. Mungray Dr. Arvind Kumar Mungray	_____
13	Mohammad Imran	2018	Electrode modification in MFC	Dr. Arvind Kumar Mungray Dr. Alka A. Mungray	_____
14	Pranit	2019	Air cathode OMFC	Dr. Alka A. Mungray	_____

15	Tushar Bamane	ongoing	Bio- draw agent preparation and its use in FO	Dr. Alka A. Mungray	

Paper Reviewer in International Journals (12)

(1) Desalination and Water Treatment Science and Engineering (**3**).

(2) Polymer Engineering & Science, John Wiley & Sons Inc.. (**3**).

(3) South African water science and technology journal, (Water *SA*) (**1**)

(4) IONICS, Springer **(1)**

(5) Separation and Purification Technology (SPT) **(1)**

(6) Environmental Technology (**1**)

(7) Journal of membrane science (**3**)

(8) Brazilian Journal of Chemical Engineering (1)

(9) Journal of the Taiwan Institute of Chemical Engineers, Elsevier (1)

(10) Journal of Renewable and Sustainable Energy (1)

(11) Journal of Membrane Science (1)

(12) Open Access Journal of Science (1)

Workshops/Summer Schools/ Winter schools/Short term Courses attended: (24)

1. Participated in 59th Annual session of "**CHEMCON-06",** GNFC, Bharuch, 27th-30th December, 2006

2. Participated in National conference on "**Hydraulics and water resources**" from 21st - 22nd December, 2007, SVNIT, Surat.

3. Participated in a workshop on "**Opportunities in catalysis and adsorptive separation**", at Department of Chemical Engg., SVNIT, Surat during 7th -11th May 2007.

4. Participated in a national conference on "**Emerging trends in Chemical Engineering-Global scenario**" under TEQIP conducted by Chemical Engineering Department, SVNIT, Surat, from 7t^{h} –8th May, 2008.

5. Participated in s**hort-Term Course** "**Pedagogy & Research Methology for newly recruited faculty members**." One week from 3rd-7th May, 2009 SVNIT, Surat.

6. Participated in a **short-term course** on "**Sustainable Water and Waste management Techniques**", conducted by Civil Engineering Department, SVNIT, Surat, from 27t^{h} – 31st July, 2009.

7. Participated in a **short-term course** on "**Advanced Instrumental Methods of Analysis**" at Department of Chemical Engg., SVNIT, Surat during 24th-28th August 2009.

8. Participated in a **short-term course** on "**Advanced in Condensed matter Physic**:" conducted by Applied Physics Department, SVNIT, Surat, from 31st–4th September, 2009.

9. Participated in the **3rd INDO-GERMAN** workshop on "**Management of Water Supply and Wastewater System**" at IIT Bombay during 19-20 November 2009.

10. Attended **INDO-Australian** workshop on "**Recent Advances in Wastewater Treatment**" at Institute of Chemical Technology, Matunga, Mumbai during 16th-17th December 2009.

11. Participated in a **short-term course** on "**Recent developments and future trends of nanotechnology in modern science**", conducted by Applied Chemistry Department, SVNIT, Surat, from 21st -25th December, 2009.

12. Participated in "**twenty seventh national convention of environmental engineers**" held at mangalore during 24-25 January 2012.

13. Participated in a one day workshop on "**six sigma & statistical analytical tools**"**,** organised by Department of Chemical Engineering, SVNIT, Surat, held on 22nd March, 2013.

14. Participated in a one week **Short-term course** on **"Mathematical Statistics for Researchers, Engineers and Scientists (MSFRES)",** conducted by Department of Applied Mathematics & Humanities, SVNIT, Surat, during 2nd – 6th September, 2013.

15. Participated in a one week Short-term course on "**Recent Trends in Nanomaterials Synthesis, Characterization and Applications**", conducted by Department of Chemical Engineering, SVNIT, Surat, during 14 th– 18 th October, 2013.

16. Participated in a one week **Short-term course** on **"Nanoscale Integration, Fabrication and Characterization",** conducted by Department of Electronics Engineering, SVNIT, Surat, during 21st – 25th October, 2013.

17. Participated in a one week **Short-term course** on **"Green Chemistry and Engineering: Towards a Sustainable Future",** conducted by Department of Chemical Engineering, SVNIT, Surat, during 18 th – 22th November, 2013.

18. Participated in a one day workshop on "**COMSOl multiphysics modeling**"**,** organized by Department of Chemical Engineering, SVNIT, Surat, held on 6th December, 2013.

19. Hindi karyshala on Rajbhasha niyam and software trining, organized by SVNIT, Surat, held on 9th -13th, June, 2014.

20. Participated in a one week **Short-term Training programme** on **"Advances in waste management Techniques",** conducted by Department of Civil Engineering, SVNIT, Surat, during 23rd-27th, June, 2014.

21. Participated in a one week **Short-term Training programme** on **"Design of experiment and artificial neural network",** organized by Department of Chemical Engineering, SVNIT, Surat, during 22nd-26th, June, 2015.

22. Participated in a one week TEQIP-II Sponsored STTP on **Interfacial Engineering and Nanotechnology for Sustainable Environment**, Conducted by Department of Chemical Engineering, SVNIT, Surat, during 10 to 14 August, 2015.

23. Participated in a one week TEQIP-II Sponsored STTP on **carbon neutral energy sources**, Conducted by Department of Chemical Engineering, SVNIT, Surat, during 9th to 13th May, 2016.

24. Participated in a one week TEQIP-II Sponsored STTP on **Particle Technology: Characterization and Modeling of Particulate Materials,** Conducted by Department of Chemical Engineering, SVNIT, Surat, during 01 to 05 August, 2016.

Administrative Responsibilities:- (17)

1. Member of registration committee (B.Tech. III year) (2010 to 2015).
2. B. Tech. 3rd Year Faculty advisor (2010 to till 2015).
3. B.Tech registration committee member for convocation (2010 to till date).
4. Hostel anti-ragging committee member (2010 to till date).
5. Departmental student's grievance committee member (2010 to 2015).
6. Lab Incharge of "General chemical technology (GCT) laboratory.
7. Committee member (Assistant Professor cadre) for implementation of the four-tier structure in NITs.
8. M.tech (Research) and Ph.D. selection committee member
9. Committee member in various Ph.D. Research Progress Seminar (RPS) committees
10. Member of scrutiny committee to scrutinize the application forms of the assistant professors in the computer department.
11. Institute Day Care In-Charge.
12. Department time table and work load Committee (2010 to 2015).
13. Department representative for National Institutional Ranking Framework (NIRF)
14. In charge of Contact Angel Instrument
15. Departmental In charge of Monthly and Annual report preparation
16. Department representative of web site upload
17. Fee remission committee for 1st year students, 2018,2019

Date:-

Place:- **Dr. Alka A. Mungray**