



**DEPARTMENT OF
GENERAL
ENGINEERING**

ABOUT THE DEPARTMENT



PROFESSOR VIVEK. R. GAVAL

Ph.D (Tech)

Professor and Head of General Engineering Department

Department of general engineering since its inception has taken care of teaching foundation subjects for under graduates but also produced distinguished alumni who occupy key positions of research, development, design, production and consultants in major plastic industries. Some of our alumni has completed their doctoral degrees and handling R&D departments of the industries successfully.

Department of general engineering was started in 1952 and right from its inception it is

engaged in teaching of general engineering subject related to mechanical engineering, civil engineering, electrical and electronic engineering. The department also carries out the equipment and infrastructure maintenance of the whole Institute. Post graduate course of Master in Plastic Engineering was started by the department from the year 1972 and has been instrumental in graduating students helping the plastic manufacturing industries of the India and abroad.

The department has facilities in engineering workshop, electrical and electronic machinery, Plastic processing and testing, CAD/ CAM & CAE facilities with licensed CAD and solid works

software. Structural mechanics laboratories, drawing class rooms, etc. catering the needs of undergraduate and post graduate students of the Institute. The department has set up a cement composites laboratory.

The faculty of the general engineering department has maintained a good rapport with plastic industries and this has helped in placement of our students. Presently students are working on the doctoral degrees in the field of Mechanical Engineering, Energy Engineering, Electrical Engineering, Plastic Engineering, and Civil engineering.



PROFESSOR VIVEK. R. GAVAL

B.E. (PROD), M.E. (Plastics), Ph.D (Tech)

Professor and Head of General Engineering Department

SUBJECTS TAUGHT

- Engg. graphics
- Advance strength of materials
- Processing of plastics
- Energy Engg
- Equipment design and drawing.

RESEARCH INTERESTS:

- Polymer Composites
- Injection mould design
- Conversion of metal parts into plastic parts

RESEARCH STUDENTS:

M.E.(Plastics engg) - 1(on going)

RESEARCH PUBLICATIONS:
International- 6 peer reviewed

CONFERENCE PROCEEDINGS/ PAPERS: 08
SEMINARS / LECTURES/ ORATION DELIVERED: 08

MASTERS AWARDED AS SINGLE/ CO-GUIDE: 22
Professional Activities (Membership of important Committees):

1. Member of Campus

accommodation for faculty committee.

2. Member of Campus maintenance and beautification committee.

3. Member of Internal quality assurance cell.

4. Training and Placement coordinator of General Engineering Department.

5. Member of Unnat Maharashtra Abhiyan committee.

6. Member of Building and Construction committee.



PROFESSOR S. P. DESHMUKH

M.E. (Prod. Engg), Ph. D. (Tech)

Professor cum workshop superintendent

SUBJECTS TAUGHT:

- Equipment Design & Drawing
- Engineering Graphics I
- CAD/CAM/CAE

RESEARCH INTERESTS:

- Renewable Energy
- Heat transfer
- Plastic composites

RESEARCH STUDENTS:

PH.D. (TECH.) – 15 (ON GOING)

M.E. (Plastic Engg.) :1

RESEARCH PUBLICATIONS:

- International- 30 peer

- reviewed
- Conference proceedings/papers: 13
- seminars / lectures/oration delivered:03
- Ph.D Awarded as single/Co-Guide:01
- Masters Awarded as single/Co-Guide: 17

SPONSORED PROJECTS:

Government: 01
h- Index: 6
Citations:65

PROFESSIONAL ACTIVITIES (MEMBERSHIP OF IMPORTANT COMMITTEES):

- Member of organizing

committee of workshops conducted by Department

- Member of IIIIE, UDCT Alumni association and VJTI Alumni Association
- Senior Member of Universal Association of Mechanical and Aeronautical Engineers



DR. D. D. SARODE

*Ph. D.(IIT Bombay), M. E.(Structures), B. E. (Civil),
P.G. D. Const.Mgt, D.C.S.T.
Associate Professor (Civil)*

SUBJECTS TAUGHT:

- Structural Mechanics to S Y Chem.Engg.
- Engineering Mechanics and Strength of Materials to S Y B Tech (all Branches)
- Process Equipment Design – I practical T Y C E

RESEARCH INTERESTS:

- Construction Chemicals, Formwork for R.C.C, Advance Concrete Technology, Anticorrosive coatings and inhibitors, Glass and Carbon fiber composites and Geotechnical Engineering, Risk Management

RESEARCH STUDENTS:

Ph.D. (Tech.) - 4 (on going)
M.E. (Plastic) - 2 (on going)

RESEARCH PUBLICATIONS:

PUBLICATIONS (PEER REVIEWED) SO FAR: 11

PATENTS: 01 (In process)

CONFERENCE

PROCEEDINGS/PAPERS: 20

SEMINARS/LECTURES/
ORATIONS DELIVERED: 24

PH.D.S AWARDED AS
SINGLE/ CO-GUIDE: 01

MASTERS AWARDED AS
SINGLE/ CO-GUIDE: 08

PROFESSIONAL ACTIVITY:

- Member of Institution of Engineers since 18th June 1992.
- Chartered Engineer (India) of Institution of Engineers (India) since 3rd Feb 1994.
- Life Fellow (LF 0456) of Indian Geotechnical Society from Jan 2011, Life member of Indian Geotechnical Society since 1993,
- Life member of Indian Society for Technical Education (LM 10865) since 1992.
- Member of Managing

Committee Member, V J T I Alumni Association.

- Member of UDCT Alumni Association

SPECIAL AWARDS/ HONOURS:

- Member of Board of Studies of Civil Engineering at Dr BabasahebAmbedkar Technology University, Lonere, Tal : Mahad, Dist : Raigad
- Member of Board of Studies of Civil & Environmental Engineering at V J T I, Mumbai 19
- Session Chair on 20th Dec 2016 of session on Sustainable Construction Materials at International Conference on Recent Advances in Mechanics and Materials at Veer SatyendraSaiUniversity of Technology, Burla, Odisha.



MRS. PRERNA GOSWAMI

B.E. (Electrical), M.E.
(Instrumentation & Control)
Assistant Professor

SUBJECTS TAUGHT:

Odd semester

- Basic Electrical Engineering and Electronics Theory (GET 1105)
- and Practicals GEP 1106 to S.Y.B.TECH.(All branches)
- Even semester
- Electrical engineering and Electronics theory(GET 1109) and Practical (

GEP1110) to

- S.Y. B.ChemEngg.:

RESEARCH INTERESTS:

Sustainable Energy, Power systems , MATLAB simulations

RESEARCH PUBLICATIONS:

PUBLICATIONS (PEER REVIEWED) SO FAR: 16

CONFERENCE

PROCEEDINGS/PAPERS: 1

SEMINARS/LECTURES/

ORATIONS DELIVERED: 4

PROFESSIONAL ACTIVITIES:

- Member of Abhyankar award committee.
- Member semester time table committee.
- Member Examination time table committee.



SHRI M.A.K. KERAWALLA

B.E.(Electrical),
M.E. (Power Systems)
Associate Professor

SUBJECTS TAUGHT:

Electrical Engineering & Electronics

RESEARCH INTERESTS:

Power Electronics applications in Power systems analysis

FELLOWSHIPS/

MEMBERSHIPS OF

PROFESSIONAL BODIES:

M.I.E.

PUBLICATIONS (PEER

REVIEWED) SO FAR: 3

SEMINARS/LECTURES/

ORATIONS DELIVERED: 2

Member of U.G. Admission Committee



DR. A. C. RAO

B.E. (Mechanical) M.E. (Mechanical with Plastic Engg.), Ph.D(Tech)
Associate Professor in Mechanical Engineering

SUBJECTS TAUGHT:

- Testing of Plastics,
- Plastic Product Design,
- Design of Moulds I,
- Design of Moulds –II,
- Design and Fabrication of Moulds and Dies.

RESEARCH INTERESTS:

- Plastic Mould and Die Design, Plastic Processing.
- Plastic Product Design

RESEARCH STUDENTS:

Ph.D. (Tech.): 1 (on going)

RESEARCH PUBLICATIONS:

International :

PUBLICATIONS (PEER REVIEWED) SO FAR: 6

PH.D.S AWARDED AS SINGLE GUIDE: 3

MASTERS AWARDED AS SINGLE GUIDE: 28

FELLOWSHIPS/ MEMBERSHIPS OF PROFESSIONAL BODIES :

- A.M.I.E.(Mech.)
- Member of Educational Committee of All India Plastics Manufacturers Association.
- Member of Educational Committee of Plast India Foundation.



DR. R.S.N. SAHAI

*B.E.(Mechanical),
M.E.(Plastics Engg), Ph.D(Tech)*
Associate Professor in Mechanical Engineering

SUBJECTS TAUGHT:

- Engg.graphics I,
- Processing of plastics- I
- Engineering graphics II
- Energy Engg,
- Equipment design & drawing -II
- Principles of plastic machinery design

RESEARCH INTERESTS

- Polymer Composites

NUMBER OF RESEARCH STUDENTS:

- M.E.(Plastics engg) -3 (on going)

RESEARCH PUBLICATIONS:

PUBLICATIONS (PEER REVIEWED) SO FAR: 8

CONFERENCE

PROCEEDINGS/PAPERS: 1

MASTERS AWARDED AS SINGLE GUIDE: 10

SUPPORT STAFF



P. R. Gaikwad
Workshop Instructor



V. B. Gorule
Engineering Assistant



P. S. Wale
Mechanic



B. R. Budhawale
Mechanic



J. M. Ghag
Boiler Attendant



P. G. Jadhav
Instrument Mechanic



R. G. Butkar
Plumber



L. D. Nunis
Carpenter



G. L. Bhagat
Carpenter



R. T. Dhudhmal
Mason & Fitter



P. K. Chavan
Lab. Attendant



D. G. Malusare
Lab. Attendant



S. D. Vengurlekar
Lab. Attendant



D. R. Tajane
Lab. Attendant



S. L. Pawar
Lab Attendant



S. N. Shelar
Lab. Attendant



D. T. Baraskar
Lab. Attendant



S.D. Patel
Lab Attendant



K.T. Gurav
Lab Attendant

DETAILS OF SPONSORED GOVERNMENT PROJECT :

Sponsor	Department of Science and Technology
Title	“Mitigation of water problems in AUSA town, Latur: Wastewater management, Gaohan lake rejuvenation, Potable water production through desalination of lake water and Training of residents in matters of sanitation and water conservation”
Duration	2 years
Total amount	Rs. 19847000/-
Principal Investigator	Dr D. D. Sarode
Co-Principal Investigator	Prof. P K Ghosh
Research Fellows	--

PUBLICATIONS

No.	Title and Authors	Journal	Vol. No.	Pages	Year
1	Polymer electrolyte membrane fuel cells for sustainable energy production, M Jamb, Y Suryawanshi, MN D'Abreo, P Goswami, Research Journal of Engineering and Technology 8 (2), 2017	Research Journal of Engineering and Technology	8(2)	89-96	2017
2	J Patel, P Mota, A Salvi, P Goswami, MAK Kerawalla, 'Infrared organic photovoltaic: A review, Research Journal of Engineering and Technology 8 (2), 159, 2017	Research Journal of Engineering and Technology	8(2)	159-164	2017
3	Emerging Photovoltaics: Organic, Copper Zinc Tin Sulphide and Perovskite-Based Solar Cells S Rao, A Morankar, H Verma, P Goswami,	Journal of Applied Chemistry	2016	http://dx.doi.org/10.1155/2016/3971579	2016
4	An Overview of Ocean Energy in the World and its Potential in India P Goswami, SP Deshmukh	Water and Energy International	59 (5)	Aug.2016	62-68
5	A.K. Bharimalla, S. P. Deshmukh, P. G. Patil, V. Prasad, N. Vighneshwaran, “Production of Nanocellulose from Cotton Linters & its Application for Reinforcement in Paper”	Cotton Research Journal	7	49-54	2016

No.	Title and Authors	Journal	Vol. No.	Pages	Year
6	A.K. Bharimalla, S. P. Deshmukh, P. G. Patil, V. Prasad, N. Vighneshwaran, "Nanocellulose Polymer Composites for Applications in Food Packaging: Current Status, Futur Prospectus and Challenges",	Polymer Plastic Technology and Engineering,	56	805-823	2016
7	A.K. Bharimalla, S. P. Deshmukh, P. G. Patil, N. Vighneshwaran, "Micro/ Nano-Fabrilliated Cellulose from, Cotton, Linters as Strength Additives in Unbleached Kraft Paper: Experimental, Semi-emperical, and Mechanistic Studies	bioreasources.com	12(3)	5682-5696	2017
8	A.K. Bharimalla, S. P. Deshmukh, P. G. Patil, V. Prasad, N. Vighneshwaran, "Energy Efficient Production of Nano-Fabrillated Cellulose(NFC) from Cotton Linters by Tri-Dics Refining and its Characterization	Cellulose Chemistry and Technology	51	395-401	2017
9	Raji S and Dr D D Sarode Paper published on "Value addition to Temple waste : A case Study" in the proceedings of National Conference on Sustainable Advanced Technologies for Environmental Management (SATEM-2017)			70-71	
10	M. P. Deshmukh and D D Sarode "High Volume Red Mud Composites for Development of Value added products in Concrete Industry" 1st International Conference on Materials, Manufacturing and Design Engineering 2016				
11	M. P. Deshmukh and D D Sarode "Development of Steel Fiber Reinforced Red Mud Concrete by Partial Substitution of Cement with Red Mud" International Conference On Recent Advances in Mechanics and Materials				

PATENTS :

No.	Inventors	Title	Country	Funding agency
1	Dr D D Sarode, Dr. P R Nemade, Dr V H Dalvi, Dr S M Sontakke, Ra- hul Zambare, Dr N V Mukadam	“A WATER RE- SISTANT PHOS- PHOGYPSUM COMPOSITION”	Under Process in India	TEQIP

IN-HOUSE FACULTY RESPONSIBILITIES

Prof. V. R. GAVAL

- Member of Campus accommodation for faculty committee.
- Member of Campus maintenance and beautification committee.
- Member of Internal quality assurance cell.
- Training and Placement coordinator of General Engineering Department.

Prof. S. P. DESHMUKH

- Member Equivalence Committee.
- Nodal Officer.
- Member Campus Development.
- Manzer Convener.
- Member Examination Committee.
- Member RRC in General Engg. Subjects.

Dr. D. D. SARODE

- TEQIP Co-ordinator of General Engineering Department
- Co-Chair of Handbook Committee
- Member of Unfair Means in Examination and Vigilance Squad
- Member of Extensive Services

MRS. PRERNA GOSWAMI

- Time table committee,
- Abhyankar award committee

SHRI M.A.K. KERAWALLA

Member of UG admission committee

DR. RAI SUJIT NATH SAHAI

- P.G Admission committee,
- Department accreditation committee

Seminars/lectures/conferences/symposia/workshops/summer or winter training schools attended/oral or poster presentations

Prof. V. R. GAVAL

- Attended International Conference on Advances in Mechanical Sciences held at Malnad College of Engineering, Hassan, Karnataka between 3rd March to 5th March 2017.
- Invited speaker at “FILTECH 2016” held at Cologne, Germany 11-13th October 2016 for the topic “Design of High pressure filters” sponsored by TEQIP 2.
- Attended two days public training programme titled “Patent specification, drafting and international patent

filing procedure conducted by Rajiv Gandhi National Institute of Intellectual Property Management at Nagpur between 22-23rd September 2016.

DR. D. D. SARODE

- One week short term training program on Low Cost Housing – Materials and Techniques from 26th Sept to 30th Sept 2016 at National Institute of Technical Teachers Training and Research, Chandigad.
- One day Conference on “Water Audit for Today and Tomorrow” on 23rd June 2016 organised by Society for Clean Environment and Trans Asian Chamber of Commerce and Industry at Swtantra Veer Sawarkar smarak, Mumbai.
- National course on “Sustainability in Construction : Materials and Management” under TEQIP, from 30th May 2016 to 1st June 2016 at Indian Institute of Technology, Guwahati, Assam.

MRS. PRERNA GOSWAMI

- Given oral presentation on Assessment of wave energy potential along western

coast of India in Triennial National conference of Indian Women Scientists Association 2 to 4 December 2016 at IWSA Vashi, Mumbai

SHRI M.A.K. KERAWALLA

- Attended short term course on High Voltage and Partial discharge from 14 to 19 March, 2016.

DR. R.S.N. SAHAI

- Attended International Conference on Advances in Mechanical Sciences held at Malnad College of Engineering, Hassan, Karnataka between 3rd

March to 5th March 2017.

- Presented paper titled “Studies on Mechanical Properties of Mica Filled PPO Composite with Coupling Agent “ at International conference on Polymer Processing and Characterization on 9-11 December 2016 at Kottayam, Kerala.
- Attended one week short term course on “ Understanding Learner Dynamics” at UGCHRD Centre University of Mumbai from 7th to 12 November, 2016.

- Attended one week course on “Wave Theory and Applications” at V.J.T.I Mumbai from 2nd to 7th January, 2017.
- Attended three days workshop on “Outcome based Assessment & Accreditation Preparation of NBA -SAR” at Shimla from 24th to 26th March 2017.
- **Events Organized :** Training session on 26th Jan 2017 to Bachat gat in Maskawad Village, Tal : Raver, Dist : Jalgaon on Reuse of Agriculture waste by making pellets by Dr.D.D.Sarode

STUDENTS' SEMINARS/PROJECTS/HOME PAPERS

POST GRADUATE STUDENT SEMINARS

No.	Name of the Student	Topic	Research guide
1	Sunny.N.Santwani	Design and Development of Coupling Fuel Pump	Prof. S. P. DESHMUKH
2	Roshan Jaiswal	Moldflow simulation for mobile cradle	DR. R. S. N. SAHAI
3	Rahul Deulkar	Studies on Electrical Properties of Mica and Fly ash filled PPO Composites.	Prof. V. R. Gaval
4	Khan Afroz Ayuub	Studies on Electrical Properties of Talc/Calcium Carbonate PPO Composite with coupling agent	Dr.R. S. N. Sahai
5	Mahesh Masurkar	Effect of Nano fillers on PVC/SEBS blend System	Dr.D.D.Sarode

UNDERGRADUATE STUDENTS

PROJECT UNDER STRUCTURAL MECHANICS LABORATORY OF S. Y C E .

SR. NO.	ROLL NO.	NAME	PROJECT TOPIC
1	15CHE1033	NINAD MHATRE	Cement, Manufacturing, Types, Testing
	15CHE1007	VIKRAM SUDARSHAN	
	15CHE1019	YASH GOKHALE	
	15CHE1068	VARUN TRIVEDI	
	15CHE1013	NISARG MANKAD	

SR. NO.	ROLL NO.	NAME	PROJECT TOPIC
2	15CHE1012	YASH KAMBLE	Asphalt and its Composites
	15CHE1022	APURVA GODBOLE	
	15CHE1038	RUSHIKESH JOSHI	
	15CHE1065	MRUNAL SONTAKKE	
	15CHE1074	SHREYA CHATTERJEE	
3	15CHE1081	DEVYANI PANDE	Cellular Lightweight Concrete
	15CHE1046	OMKAR DAPURKAR	
	15CHE1035	MAYANK GATHADI	
	15CHE1026	CHARUL THAKUR	
	15CHE1024	SHUBHAM SHARMA	
4	15CHE1017	ADITYA BASER	Microstructure analysis of Concrete
	15CHE1018	VARUN SUNDARKUMAR	
	15CHE1010	TEJ GOSRANI	
	15CHE1030	GAURAV DESHMUKH	
	15CHE1052	PRATEEK BANSAL	
	15CHE1060	RUSHABH SHAH	
5	15CHE1056	SHREYA THAKKAR	Chemically Bonded Ceramics
	15CHE1044	SUPRIYA PRAKASH	
	15CHE1067	TEJASWINI DESHPANDE	
	15CHE1077	NEHA PADWAL	
6	15CHE1064	DEVESH BADSEWAL	Duralumin
	15CHE1041	TANMAY CHAUDHARI	
	15CHE1032	VAIDIK SHAH	
	15CHE1021	RIDDHESH PATEL	
	15CHE1005	ROSHAN SHETTY	
7	15CHE1023	ASHUTOSH TRIVEDI	Polymer based Additives for Concrete
	15CHE1040	RAHUL PANDARE	
	15CHE1062	SAGAR LAKHWANI	
	15CHE1066	GAURAV YEWALE	
	15CHE1080	BADAL LODAYA	
8	15CHE1076	PRATIK AROSKAR	Fly ash, Blast Furnace slag, Rice husk ash and its use in Blended cements
	15CHE1069	SARVESH SARDA	
	15CHE1057	PRATHAMESH PAWAR	
	15CHE1020	VISHAL SHERKAR	
	15CHE1016	SHIVTEJ PARSHARAM	
9	15CHE1083	ADITYA BIYANI	Non Destructive Testing of Materials
	15CHE1079	RISHIKESH JAISWAL	
	15CHE1051	ABUSAIF KHAN	
	15CHE1072	YOGESH KALNE	
	15CHE1009	SHUBHAM BODEMWAD	

SR. NO.	ROLL NO.	NAME	PROJECT TOPIC
10	15CHE1027	TALHA KAPADIA	Biocalcification& its use in Cement Composites
	15CHE1036	MAITRI VORA	
	15CHE1037	BHARGAV PATEL	
	15CHE1058	ARJUN SHAH	
	15CHE1075	AASHNA JALAN	
11	15CHE1078	ATHARVA CHIKHALKAR	Glass Fibre Reinforced Polymer Composites
	15CHE1063	DARSHAK GANDHI	
	15CHE1054	NINAD KUMBHOJKAR	
	15CHE1055	AADITYA JOSHI	
	15CHE1034	SACHIN JOG	
12	15CHE1073	VAIBHAV TINGHASE	Phosphogypsum/ Plaster of Paris
	15CHE1025	CHINMAY KHINDI	
	15CHE1002	PRAJWAL GITE	
	15CHE1003	AMOL KULMETHE	
	15CHE1004	ADITYA POL	
13	15CHE1082	PARESH AGRAWAL	Wood Polymer Composite
	15CHE1084	SUNNY PAWAR	
	15CHE1049	LALIT LAKHEKAR	
	14CHE1062	ROHAN PARLIKAR	
14	15CHE1001	AKSHAY SHAH	Value Addition to Municipal Solid Waste
	15CHE1070	RAJ VALIA	
	15CHE1071	DHANANJAY SWAMY	
	15CHE1085	YESHWANT KUMAVAT	
	15CHE1086	MANSI SHARMA	
15	15CHE1045	KAIVALYA PAI	Stress Strain behaviour of different materials and Strain measuring Devices
	15CHE1047	SHIVANI CHATLAWAR	
	15CHE1042	MRUGAL RANGARI	
	15CHE1050	SAMADARSHI MAITY	
	15CHE1008	SAI VIVEK PRABHALA	
16	15CHE1011	SAKSHI WASNIK	Anti Corrosive Coating
	15CHE1014	NIHAN SHEIKH	
	15CHE1028	SAKSHI ANATWAR	
	15CHE1059	ANVITA RAMTEKE	
	15CHE1061	SHIVANI BALLA	

Ph.D. STUDENTS' RESEARCH PROJECTS:

No.	Research scholar	Previous institution	Project	Supervisor
1	Mr. Ashok Kumar Bharimalla	CIRCOT, Mumbai	Production of Nanocellose by Chemo-Mechanical process and its Polymer composite for Applications in Agricultural Packing	S. P. Deshmukh
2	Mr. Peter D'souza	VJTI Mumbai	Use of Microchannel Heat Sink in Refrigerator to enhance the Heat Transfer rate to Enhance COP.	S. P. Deshmukh
3	M. Dipak H. Kokate	MSDCL Mumbai	Resource Conservation Through Energy Monitoring & training Agricultural Water Pumps	S. P. Deshmukh
4	Mrs. Prerana P. Goswami	ICT Mumbai.	Optimization in Power systems	S. P. Deshmukh
5	M. Mohad Khalid A.	Saboo Sidhique College of Engg. Mumbai	Investigation on Phase Change Due to Heat Transfer in Micro-channel / capillaries	S. P. Deshmukh
6	Mr. Vikramsinha S. Korpale	ICT, Mumbai	Optimization of Solar Assisted Dryer for Thermal Power Reneration.	S. P. Deshmukh
7	Mr. Kavhale Nagnath B.	Vartak Polytechnic, Vasai	Design and Analysis of Solar Chimney Power Plant	S. P. Deshmukh
8	Mr. Vishnu G Arude	CIRCOT	Design and development of lintel processing machine	S. P. Deshmukh
9	Mr. Deepankar Biswas	HBNIT	Design and optimization of Concentrated Solar Thermal Systems	S. P. Deshmukh
10	Mrs. Prasannti A Kulkarni	Bharati Vidypeeth	Optimize the Performance of Traditional Solar cell Using Embedded PV Converter.	S. P. Deshmukh
11	Mr. Prakash V Shirsat	MCGM	Development of Efficient Treatment System for Reuse of Municipal Wastewater	S. P. Deshmukh
12	Mr. Mahammadayub A. Gulbarga	Shivaji Engg. College panvel	Design & Development of Processes for Making Natural Fibre-Polypropelene Bio – composite pellets, up scaling manufacturing, & Veritable Process optimization	S. P. Deshmukh

No.	Research scholar	Previous institution	Project	Supervisor
13	Mr. Mr. Rajesh K Behara	Thakur College of Engg.	A Holistic Relation between Key Performance Indicators & Their Influencing Factors for Sustainability in Manufacturing for Small and Medium Scale Enterprises in Indian Scenario.	S. P. Deshmukh
14	Mr. Jitendra S. Thombre	Parshwanath College of Engg. Thane	Experimental and Numerical Analysis of Heat Distribution for Solidification of Polypropylene inside the Barrel of Vertical Injection Moulding machine	S. P. Deshmukh
15	Ms. Pragya Jain	Thakur College of Engg.	Cost effective Inverter With Improved Efficiency & Increased Stability by Cascading DC-DC Converter with Multilevel Inverter	S. P. Deshmukh
16	Mr. Deshmukh Manoj Prakash	SPCE	Development of Fibre reinforced cement composite with industrial waste	Dr. D. D. Sarode
17	Ms Raji S	I I T Bombay	Value Addition to Biomadd waste as Alternate Fuel	Dr. D. D. Sarode
18	Mr. Rohan S. Oak	I I T Bombay	Design and Application of Biochar for Improving Soil Fertility	Dr. D. D. Sarode
19	Mr. Avinash N. Phirke	M G M, Navi Mumbai	Industrial Wastes for Development of Cement Composites Materials for Low Cost Housing	Dr. D. D. Sarode

DETAILS OF POSTGRADUATE/PH.D. STUDENTS WHO PASSED OUT:

Sr.	Name	Course	Title	Research Guide
1	Rahul Deulkar	M.E. (Plastic Engg)	Studies on Electrical Properties of Mica and Fly ash filled PPO Composites.	Dr. V. R. Gaval
2	Khan Afroz Ayyub	M.E. (Plastic Engg)	Studies on Electrical Properties of Talc/Calcium Carbonate PPO Composite with coupling agent.	Dr. R. S. N. Sahai

SHORT ABSTRACT ON SALIENT FEATURES OF RESEARCH WORK:

M. E. (PLASTIC ENGINEERING):

Rahul Deulkar : M. E. Plastic Engg.

Research Guide: **Prof.V.R.Gaval**
Project Title : **Studies on Electrical Properties of Mica and Fly ash filled PPO Composites.**

Polyphenylene oxide (PPO) is an engineering amorphous polymer with good dimension stability is widely used in the automotive and electrical industry. Application of PPO is very restricted because its price is high as compared to the other thermoplastic polymer. Mica and Fly ash both are inorganic natural filler and are widely used as filler materials in polymer composite, since they are cheaper filler and easily available and save the final cost of the composite. Mica and fly ash enhances the mechanical properties and electrical properties like tensile strength, impact strength, and flexural strength, break down voltage, volume and surface resistivity, arc resistance and other properties like heat resistance capacity, heat deflection temperature and insulating properties concluded by the many researchers. In the present research work, Mica and Fly ash filled PPO composite of different concentration loading of filler which is 5% to 25%, were prepared by using untreated and surface treated of mica and fly ash with silane coupling agent. Mica and fly ash filled PPO

composite with silane coupling agent and without coupling agent was compounded in single screw extrusion. For various compositions and test, samples were prepared from the compression molded sheet and injection mold these samples were tested for mechanical properties. The result shows enhancement in the Melt flow index, impact strength, tensile strength, arc resistance break down voltage surface and volume resistivity, improvement in the mechanical properties as well as electrical properties are seen when Mica and fly ash are treated with 3-aminopropyl tri ethoxy silane as compared to untreated Mica and fly ash filled PPO composite.

Key words-Polyphenylene oxide (PPO), Mica, Fly Ash, silane coupling agent and PPO composite.

Name of the student : **Abhijeet Aher**

Research Guide:

Dr. D. D. Sarode

Project Title : **Optimization of cost by recycling of LLDPE for manufacturing pipes for Drip Irrigation**

During the manufacturing of any plastic product, mostly a virgin grade of the plastic is used. It is preferred because a virgin grade of particular plastic is in its pure form which means there are no foreign contaminations, physical and other properties are also good. But at the same time it is obvious that the cost of virgin material is more

compared to recycled material of same plastic. This research aims to study the composition of the virgin/reprocessed or recycled LLDPE blend. It is observed that such blends have comparatively good weathering and mechanical properties at low cost compared to virgin material. Such blended material can be used to manufacture pipes for irrigation purpose in rural areas.

Name of the student : **Khan Afroz Ayyub**

Research Guide: **Dr.R.S.N.Sahai**
Project Title : **Studies on Electrical Properties of Talc/ Calcium Carbonate PPO Composite with coupling agent.**

Abstract Polyphenylene oxide (PPO) is an engineering polymer with high amorphous and good dimension stability widely used in the automotive and electrical industry. Application of PPO is very restricted because its price is high as compare to the other thermoplastic polymer. Talc and Calcium carbonate both are inorganic natural filler and are widely used as filler materials in polymer composite, since they are cheaper filler and easily available and save the final cost of the composite. Talc and calcium carbonate enhances the mechanical properties like tensile strength, impact strength, and flexural strength and other properties like dielectric strength, heat resistance capacity, heat deflection temperature and

insulating properties concluded by the many researchers. Improvement in mechanical properties and thermal stability of the composite is achieved by use of inorganic filler in polymer composite. In the present research work Talc and Calcium carbonate filled PPO composite of different concentration loading of filler which is 5% to 25%, were prepared by using untreated and surface treated of Talc and Calcium carbonate with silane coupling agent. Talc and Calcium carbonate filled PPO composite with silane coupling agent and without

coupling agent was compounded in single screw. Extruder, for various compositions and test samples were prepared from the compression moulded sheet. These samples were tested for Electrical properties. The result shows enhancement in the dielectric strength, surface resistivity and volume resistivity. Improvement in dielectric strength are seen when talc and calcium carbonate are treated with 3-aminopropyl triethoxy silane as compared to untreated talc and calcium carbonate filled PPO composite.

MAJOR ACCOMPLISHMENTS :

Successfully written a proposal to DST for funding under Technology Mission – Water Technology Initiative. Presented the proposal at IIT Delhi in front of the committee and DST officials by Dr.D.D.Sarode.

AWARDS & HONOURS

- Invited speaker at "FILTECH 2016" held at Cologne ,Germany 11-13th October 2016 for the topic "Design of High pressure filters" sponsored by TEQIP 2.



Prof. V. R. Gaval



Dr. A. C. Rao



Group photograph with research students .



Form left: 1) Peter Desouza, 2) Khalid Usmani, 3) Prerana Goswami, 4) S. P. Deshmukh, 5) V. N. Palas-
kar, 6) Ashok Bharimalla, 7) Nagnath Kavhale, 8) V. S. Korpale

Any other relevant additional information :

Visit of Ph D Students was organized from 23rd Jan to 26th Jan 2017 to Agricultural University, Akola, Thermal Power plant at Bhusawal, Madhukar Sugar factory at Faizpur, Tal : Yawal, Dist : Jalgaon and to the agriculture fields to know more details on Crops, Fertility of Soil, water demand and yield of the crops. Also to gather information of Agriculture waste and its management.



Training session by Ph D students to Bachat Gat on Recycling of Agriculture waste 26th Jan 2017



Visit of Ph D students to agriculture fields to collect information on crops and crop waste 26th Jan 2017



Visit of Ph D Students to Madhukar Sugar Factor, Faizpur, Tal : Yawal, Dist : Jalgaon, on 25th Jan 2017



Visit of Ph D students to Punjabrao Krishi Vidyapeet, Akola on 24th Jan 2017



Visit of Ph D Students to Agriculture Waste Processing Unit, at Khiroda, Dist : Jalgaon on 25th Jan 2017