"Expertise in Science, Pharmacy,
Engineering and Technology at
Dr. Babasaheb Ambedkar Marathwada University:
A Journey towards Excellence"

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Professor M. D. Shirsat
Registrar, Dr. Babasaheb Ambedkar Marathwada
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Foreword by
Hon'ble Vice Chancellor

The education scenario across the nation is taking rapid progressive steps. Objectives of imparting education has been matured with clear conscience of the changing necessities of the society. As a prominent face of this proceeding, the efforts to bring academic endeavours and industry on the same platform is perhaps the unsurpassed futuristic step to bring a revolution for India tomorrow. These sectors, that have the highest impact on architecting economic and social portfolio of a nation, has remained at distance for long and now the time has come to break the jinx. We need to look beyond just paper collaborations and identify niches where industry and academia can become active 'take parts' in each other's material, intellectual as well as holistic development.

Dr. Babasaheb Ambedkar Marathwada University has an admired history of responsiveness to the evolving needs of students and the world. Considering the rapid rate of changes across the world, the complexity of challenges in facing the same is more critical than we have conceived ever. Therefore, it is high time that we strategically anticipate needs and opportunities and refine our institutional vision in today's perspective. At this hour of tremendous uncertainty among youth, the highest hurdle for any academic institute in India is drafted by the increasing number of unemployment and equal tragic is the fact that industries are having strict paucity of able human resource. This mismatch can only be eradicated if the academia and industries open heartedly come together, discuss each other's strength and requirements, to be the perfect supplementary in the meaningful growth of either. I am happy that Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, has taken the vow to mechanize realistic and fruitful efforts in this direction.

A comprehensive academic strategic plan was conceived in the month of June, 2014 when I took over as a Vice-Chancellor of this university, to make Dr. Babasaheb Ambedkar Marathwada University a World Class University. Among the first few steps that I took from the deep faith of my heart, was the establishment of an Incubation Center, with a dream that this center will promote faculty members and students to transform their innovative ideas into commercial products and an University-Industry Inter-linkage center, through which we can reach the industries with the strong research base and intellectual infrastructure we are having. I am happy to mention that Dr. Babasaheb Ambedkar Marathwada University is pioneering in establishing University-Industry linkages Cell. This center was established in the university campus prior to the announcement of University Grants Commission for embellishment of this kind of endeavor. Within a very short period that I had devoted in talking with various industries it was evidently found that the response was overwhelming and only sky was the limit.

University-Industry interaction being a highly collaborative process, faculty members and research scholars have to come forward to establish one-to-one linkages with Industries so that requirements of Industries could be understood and innovative ideas could be fine-tuned accordingly. In general open innovation framework via R&D and technical outsourcing activity has important effects on innovation. Therefore, significant and positive results between R&D and technical outsourcing and innovation in terms of products/services, processes and even organizational innovation will be very important.

This university has prepared a comprehensive plan to strengthen the University-Industry Interaction. Organization of University-Industry Interaction Summit on October 29-30, 2015 is one the events in the series. This summit is the key event for academics and Industry representatives to discuss various issues related to university-industry interaction, innovation and entrepreneurship.

This volume, I must say, is like a dream come true and the second crucial step in achieving our long term objectives out of meaningful University-Industry relationship. Right from my first day in the campus, I could have noticed that our University has tremendous academic potential in its in-campus departments and colleges under jurisdiction. The excellence of innovation in thoughts and processes that we have attained by surpassing all hurdles like lack of adequate infrastructure, funding and even space sometimes, can create unending verses of immortal strive towards service of the science and technology. These efforts ought to be recognized with in depth gratitude as they are the torch-bearers for generations to come.

I wish that through this volume, a large part of the society will reckon the strength of the University. Moreover, our counterparts in industries will come across the individual specialties and I am sure, that successful one-to-one linkage will be created and each page of this volume will initiate such historical footsteps.

Professor B. A. Chopade,
Vice-Chancellor,
Dr. Babasaheb Ambedkar Marathwada University,
Aurangabad – 431004 (MS)

Foreword by
Convener,
University-Industry Interaction Summit-2015

In India, universities and industry have been operating in separate domains till long. However, through a considerable span of time, the scenario is changing and India has witnessed a meaningful collaboration between Universities and Industry. Moreover, the rise of a global knowledge economy has intensified the need for strategic partnerships that should go beyond the traditional concept of seed funding of discrete research projects. World-class Universities are at the forefront of pioneering such partnerships through which they are successful in transforming the outcome of the research to tackle social challenges and drive economic growth.

In response to growing complexity of the education and business environment today, universities and industry have to come closer. Universities not only contribute in providing skilled human resources and intellectual support to business, but in various unexplored formats that needs consideration. The intersecting needs and mutually interdependent relationship requires identifying means of further strengthening academia-industry partnerships.

When Industries and universities work in tandem to push the frontiers of knowledge, they become a powerful engine for innovation and economic growth. Silicon Valley is wonderful example of such joint venture. With such success models in vision, through an interactive and collaborative arrangement, the Academia- Industry Interface should work for the achievement of certain mutually inclusive goals and objectives.

This volume was decided to be brought to daylight through the platform of University-Industry Interaction Summit -2015. Such a decision has its objectives deep rooted at the same genesis of the summit. Through this volume, the research potential of our University will find a solid foundation to reach to the hands of enthusiasts and this will definitely open pathway for bidirectional opportunities. Many of our ideas carrying economic importance from some or other angle that we have missed to conceive may reach proper hands through this volume. Or, while for going through the research achievements, some enthusiastic mind may opt for exercising the same for economically driven initiatives. In both the ways, the research efforts will attain their due integrity. Definitely, our local industries may also come across a ready platform of innovation in sectors of their interest, through the volume

Our University has immense potential and the same has been acquired through incessant thrive for revealing the secrets of nature for humane betterment. The efforts of decades altogether; taken by faculties, research scholars, post graduate and graduate students of the departments of the University and its affiliated colleges have drafted a glorious history of research, development and innovation. We have fought with several odds to for establishing our research platform to today's stature. Such efforts ask for honor and this volume is a salute, not to any individual but a collective retrospect of the service to Mother Science.

Professor M. D. Shirsat,
University- Industry Interaction Summit-2015
Dr. Babasaheb Ambedkar Marathwada University,
Aurangabad – 431004 (MS)

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Microbiology, Bioinformatics

Dr. Babasaheb Ambedkar
Marathwada University

Professor B.A. Chopade

From 04/06/2014 Vice-Chancellor, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Maharashtra

Earlier Professor of Microbiology and Head, Department of Microbiology, University of Pune 1994, 1996-2000 and 2003-2006; Coordinator, University of Potential Excellence Programme (UPE Phase I & II) of UGC in Biotechnology at University of Pune 2006-2012

Director of Institute of Bioinformatics and Biotechnology (IBB), University of Pune 2006-2012

Established and developed IBB as a unique national institute and as a centre of excellence in research, innovation and teaching in biotechnology in India

Successfully established an innovative benchmarking of publications in peer reviewed international journals of repute by undergraduate students at IBB

Areas of Interest: Microbial and Molecular genetics, Biotechnology and Nanomedicine and Virology

Awards and Recognitions:

- Government of India Scholar at the University of Nottingham, England 1983-1986
- Fogarty International NIH Research Fellowship Award from Govt. of USA for Post-Doctoral Research at the University of Illinois at Chicago (1994-1996) in genetic engineering.
- International Union of Microbiological Societies' International Award in Microbiology 1986
- Coordinator of ALIS link programme between British Council London and Department of Microbiology, University of Pune (1994-1997)
- Visiting Scientist, Pasteur Institute, Paris, France and King's College, University of London 1990
- Pradnya Bhushan Dr. Babasaheb Ambedkar Award (2014) Aurangabad
- Bronze Medal, International Genetically Engineered Machines (iGEM), Massachusetts Institute of Technology (MIT), USA (2009)
- Pradnyavant Award (2011) Undalkar Foundation, Karad. Maharashtra
- Best teacher award, Pune Municipal Corporation (1993)
- Best research paper awards in microbial and molecular genetics (1988 & 2002) by Association of Microbiologist of India
- Wadia Oration award (2008) by Institution of Engineers, India
- Best research paper award in Bioinformatics (2009) by SBC, India
- Summer Fellowship of Indian Academy of Sciences, Bangalore (2001)
- American Biographical Institute, USA (2000) and International Biographical Centre Cambridge (1991)
- Member, American Society for Microbiology, USA and Society for General Microbiology, England 1984
- Marcus's Who's Who in Science and Engineering U.S.A. (2001), Marcus's Who's Who of the World, U.S.A. (2000), Marcus's Who's Who in Medicine, U.S.A. (2002), Marcus's Who's Who in Education, U.S.A. (2002).

Patents: 2 USA and 8 Indian patents

External Funding Received: Successfully completed 32 major research projects from various National and International funding agencies, obtained research grants and funding of more than rupees 10 crores, Developed a new herbal medicine "Infex" which is manufactured by Shrushti Herbal Pharma Ltd., Bangalore.

Research Publications: 115 (The total impact factor of his research is more than 265, with h-index 26 and i10-index 54; work is cited more than 2101 times, work also cited by Nobel Laureate Professor Arthur Kornberg, University of Stanford, California, USA, pioneering work on e-DNA and Acinetobacter vesicles cited thrice by "Nature" London, England, work cited in 3 textbooks of microbiology published from USA and Europe)

Dr. Vandana Hivrale
Professor and Head, Department of Biochemistry
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad
E mail: vandanahivrale@hotmail.com, vandanahivrale@gmail.com Mobile: +91-8805942748

Areas of Interest and Expertise: Plant pest interaction/Therapeutic use of protease inhibitors

Targeted Industries: Agricultural and drug industries

Awards and Recognition :

- Singh- Obama fellowship, Oklahoma State university, USA 2013-2014
- Post doctoral fellowship, Max Planck Institute for Chemical Ecology, Jena, Germany 2006-2007
- Young Scientist Research Grant, Department of Science and Technology, New Delhi, India 2008
- Vidyapeeth Shikshak Pratibha (Best Teacher) award Department of Mass Communication, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad 2007
- Graphical abstract of a research paper selected for 'Cover Image' of the journal Pesticide Biochemistry and Physiology, Pesticide Biochemistry and Physiology Pesticide Biochemistry and Physiology, Volume 105, Issue 2, Feb 2013

External Funding received:

- Identification and characterization of peptide and non-peptide inhibitors of RAS cascade from medicinal plants Dept of Science and Technology, New Delhi 2008-2013 Rs 22,40,000/-
- Molecular cloning and identification of novel plant amylase inhibitor for antibiosis against storage pests Callosobruchus andTribolium, Univ Grants Comm, New Delhi 2008-2011 Rs 12,00,000/-
- Investigation of small molecular weight plant proteinaceous and non proteinaceous inhibitors of enzymes involved in blood clotting' Univ Grants Comm, New Delhi 2000-2002 Rs 1,00,000/-
- Peptide and Non peptide inhibitor of factor Xa and thrombin, (Co-PI), Indian Council of Medical Research New Delhi, 2006-2009 Rs 32,00,000/-
- Evaluation and characterization of protease inhibitor proteins for antibiosis against H. armigera, the dreaded polyphagous pest of cotton, chickpea and pigeonpea, (Co-PI) University Grants Commission, New Delhi 2003-2005. (Co-PI) Rs 10,00,000/-

Infrastructure Available : HPTLC, PCR, Blood clotting analyser, Microplate reader

Collaborators Till Date: NCL, ICRISAT, Max Planck Institute for Chemical Ecology, Jena Germany, Department of BMB, Oklahoma State University, USA, Iowa State University, USA

No. of publications: 25 (Total number of citations: 152; h- index: 07; i10 index: 06)

Sensors and Actuators

Dr. Babasaheb Ambedkar
Marathwada University

Dr. Mahendra D. Shirsat,
Professor, Department of Physics
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S.) 431 004 INDIA
E-mail:mdshirsat@gmail.com, mdshirsat.phy@bamu.ac.in
Phone No.: 0240-2403386, Cell: +91-9422291987

Areas of Interest and Expertise:

- Functional Materials (Viz. Organic Conducting Polymers, Carbon Nanotubes, Porphyrins, Metal Organic Frame work (MOF) etc.;
- Sensors: VOC sensors, Biosensors, Optical fiber sensors, Heavy Metal Ion Sensors;
- Organic Field Effect Transistors
- Non Linear Optical (NLO) Material Crystals

Targeted Industries: Chemical Industries, Polymer Industries, Automobile Industries

Awards and Recognition:

- Ideal Teacher Award by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S.) INDIA in 2014
- BOYSCAST Fellowship (DST, Govt. of India : University of California, Riverside, USA in 2007)
- **Visiting Scientist :** (National Institute of Health USA and University of California, Riverside USA, 2008-09)
- Visiting Principal Fellow (University of Wollongong, NSW, Australia)
- UGC Teacher Fellow (UGC, New Delhi, 2006-07)
- Fellow of Institute of Electronics and Telecommunication of Engineers (IETE), New Delhi, India
- Member of AUC, Inter University Accelerator Centre, New Delhi, India
- Member of NAAC peer Team, Bangalore, India

External Funding received:

Research Project and Infrastructural Grants: Rs 10.89 Crores

Infrastructural Grants (04): Rs. 8.68 Crores

- UGC –DDU KAUSHAL Kendra : Rs. 4.0 Crores
- UGC: B.Voc : Rs 1.85 crores
- Incubation Centre : Rs. 1.50 Crores)
- UGC-Community College : Rs. 83 lakhs
- UGC-SAP : Rs. 50.00 lakhs

  Research Projects: Rs. 2.309 Crores

  Ongoing Research Projects (03) : Rs : 65.09 Lakhs
- Heavy Metal Ion Sensor: Chelating Ligand Modified Carbon Nanotubes CNTs)- Conducting Polymer (CP) Composite Structure. Funded by DST, New Delhi, India Rs 51.29 Lakhs
- Optoelectronics (NLO) Crystal Growth and Characterization Funded by UGC, New Delhi 16.49 Lakhs
- Effects of SHI Irradiation on SWNT/ Organic Conducting Polymer (OCP) Nanocomposite : Sensitive Detection of Heavy Metal Ions Funded by IUAC, New Delhi, India Beam Time + Rs 6.70 Lakhs

  Completed Research Projects: (09) : Rs 1.56 Crores

- Nanosensor Array based on Conducting Polymer Functionalized SWNTs for Real-Time Monitoring of Toxic Air, TSD, DST, New Delhi Rs 44.65 lakhs
- Nanosensor Array based on Metalloporphyrins Functionalized SWNTs for Real-Time Monitoring of Toxic Volatile Organic Compounds (2009-2013). Nano Mission, DST, New Delhi, India Rs 49.08 Lakhs
- A Pursuit towards Highly Selective Toxic Vapour Nano Sensor Array: Investigation on Effect of Metal Ion Irradiation on Pristine and Conducting Polymer Functionalized SWNTs (2010-2013) IUAC, New Delhi, India Beam Time + Rs 6.70 Lakhs
- Synthesis and characterization of conducting polymer / carbon nanotubes Nanocomposite for hazardous gas sensor applications CSIR, New Delhi, India. (2007-2010) Rs 16.58 Lakhs
- Fabrication Of Carbon Nanotubes (CNTs) and Metal Oxide Nano Particles Modified Chemically Sensitive Field Effect Transistors (CHEMFETs) for the Development Of Hazardous Gas Sensors. UGC, New Delhi, India during. (2008-2011) Rs 12.0 Lakhs
- Development of Biosensors for biomedical applications with special reference to antibiotic biotransformation.University Grants Commission, New Delhi, India 2003-2006 Rs 5.5 Lakhs
- Computer Aided Design tools to Study Excitation Mechanism of Human Heart. University Grants Commission, New Delhi, India 2000-2001 (Minor Research Project) Rs 1.2 Lakhs
- Study of Radial profiles in the Copper Vapour Laser Discharge. University Grants Commission, New Delhi, India 1999-2000 (Minor Research Project) Rs 1.2 Lakhs
- DST INSPIRE (2 camps) : 19.52 Lakhs

Infrastructure Available :

- Indigenously Developed Chemical Vapour Deposition System for growth of Carbon nanotubes
  Established a Microsystem Technology Laboratory (clean room of class 10000) with state-of-art equipment viz.
- Probe Station (Ecopia EPS-1000),
- Wire Bonder (West Bond -7476D),
- DC Source –Measure Unit (Keithley- 2400),
- Thermal and e-beam coater (Hind Hivac- BC300),
- Spin coating system,
- 16 channel DAQ (National Instruments),
  Established a Sophisticated Analytical Research Laboratory with state-of-art equipments viz.
- UV-Visible spectrophotometer,
- FTIR spectrometer (Bruker- Alpha),
- Atomic Force Microscope (AFM) and Scanning Tunneling Microscope (STM)

Collaborators Till Date:

- University of California, Riverside, CA, USA
- Hanyang University, Seoul, South Korea
- University of Wollongong, Wollongong, Australia
- University of Tokushima, Japan
- University of Paris, France
- Bhabha Atomic Research Centre (BARC), Mumbai, India
- Inter University Accelerator Centre (IUAC), New Delhi, India

No. of publications: 121(Total number of citations: 984; h- index: 17; i10 index: 27)

DNA Analyses

Dr. Babasaheb Ambedkar
Marathwada University

Gulab D Khedkar
Director, Paul Hebert Centre for DNA Barcoding and Biodiversity Studies,
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad

Areas of expertise / specialization: Molecular systematics, Population genetics, trait mining, molecular ecology

Awards and Recognition:

- Recipient of CREST Award Fellowship 2013
- John A. Berns School of Medicine, University of Hawaii at Manoa, Hawaii, Honululu, USA and Department of Biotechnology, Govt. of India, New Delhi 2013
- Recipient of UGC Research Award-2011
- University Grants Commission, New Delhi &Paul Hebert Centre for DNA Barcoding and Biodiversity Studies, Aurangabad, 2011
- Commonwealth Academic Staff Fellowship-2007.
- Institute of Aquaculture, University of Sterling, Pathfoot Building, Stirling FK9 4LA, Scotland 2007
- BOYSCAST Fellowship-2008
- Faculty of Agricultural, Food & Environmental Quality Sciences, Rehovot Campus, The Hebrew University of Jerusalem, Israel& DST, New Delhi 2007
- Dr. Babasaheb Ambedkar Marathwada University Teacher with potential Award-2007
- Department of Mass Communication and Journalism,Dr. BabasahebAmbedkar Marathwada University, Aurangabad 2006
- Fast Track Young Scientist Award Project-2007
- Department of Science & Technology, Ministry of Science &Technology, New Delhi. 2006
- ZSI Young Scientist Award(Consolation) Zoological Society, Bodh Gaya, India 2005
- Department of Biotechnology, Govt. of India Travel fellowship to attend IMBC, 2005
- Department of Biotechnology, Ministry of Science &Technology, New Delhi. 2005
- Marie Curie Fellowship 2007
- CORDIS FP7 programme& Hosted by Ben Gurion University, Beer Seva, Israel. 2007
- UNO Fellowship, Israel 2007
- for attending Aquaculture Production and management course. 2007
- Fellow, NSLS Fellow, National Society of Life Sciences (2006), Satna. 2006
- UNITAR Fellowship (United Nations Institute of Training and Research), Hiroshima, Japan.
- Visiting Fellowship, 2009.
- United Nations University and UNITAR Fellowship, Tokyo, Japan Visiting Fellowship, 2010
- Travel Fellowship to visit University of Adelaide, Australia
- Genome Canada, Canada 2010
- Travel Fellowship for visiting University De Mixico, Mexico City, Mexico
- Genome Canada, Canada 2011

Targeted Industries: Agriculture and seed industries, Biofertilizer production industries, Food processing and testing industries, Pharmaceutical industries, Quality control for Catering services of star hotels

Research Innovations:

- Developed STR consortia for genetics screening of Catfish populations used in aquaculture productions

- Developed procedural protocols and molecular probes for genetic evaluation of food ingredients.
- Validated meat and fish species used in international trade
- Evaluation of nutraceuticals using DNA barcoding
- Food forensics using DNA barcoding
- Wildlife forensics using DNA barcoding
- Development of Genetic sterile fish (ongoing)
- Gut microbiome analysis and physiological health correlations (ongoing)
- Hunting draught regulatory genes in G. max.

Details of transfer of technology to industry :

- Use of plastic lined ponds for aquaculture practices.
- Validated meat and fish species used in international trade.
- Food forensics using DNA barcoding.
- Wildlife forensics using DNA barcoding
- Variety/breed tagging (molecular) (under process)
- Provided consultancy services to Aurangabad Municipal Corporation for development of Master layout plan and development of master plan for Siddharth Zoo worth Rs. 1.00 lacs and successfully completed. This master plan is approved by Central Zoo Authority during January 2015.
- Provided consultancy services to Conservation of Forest, Maharashtra Government in studying NathSagar Wetland habitat and successfully completed during 2007. This consultancy service earned Rs. 49000/-. Maharashtra Government accepted report.
- Various consultations are provided for Forest Department and Police department for Forensic samples analysis. Altogether these consultancy services costs Rs. 2.5 lacs.

External Funding Received:

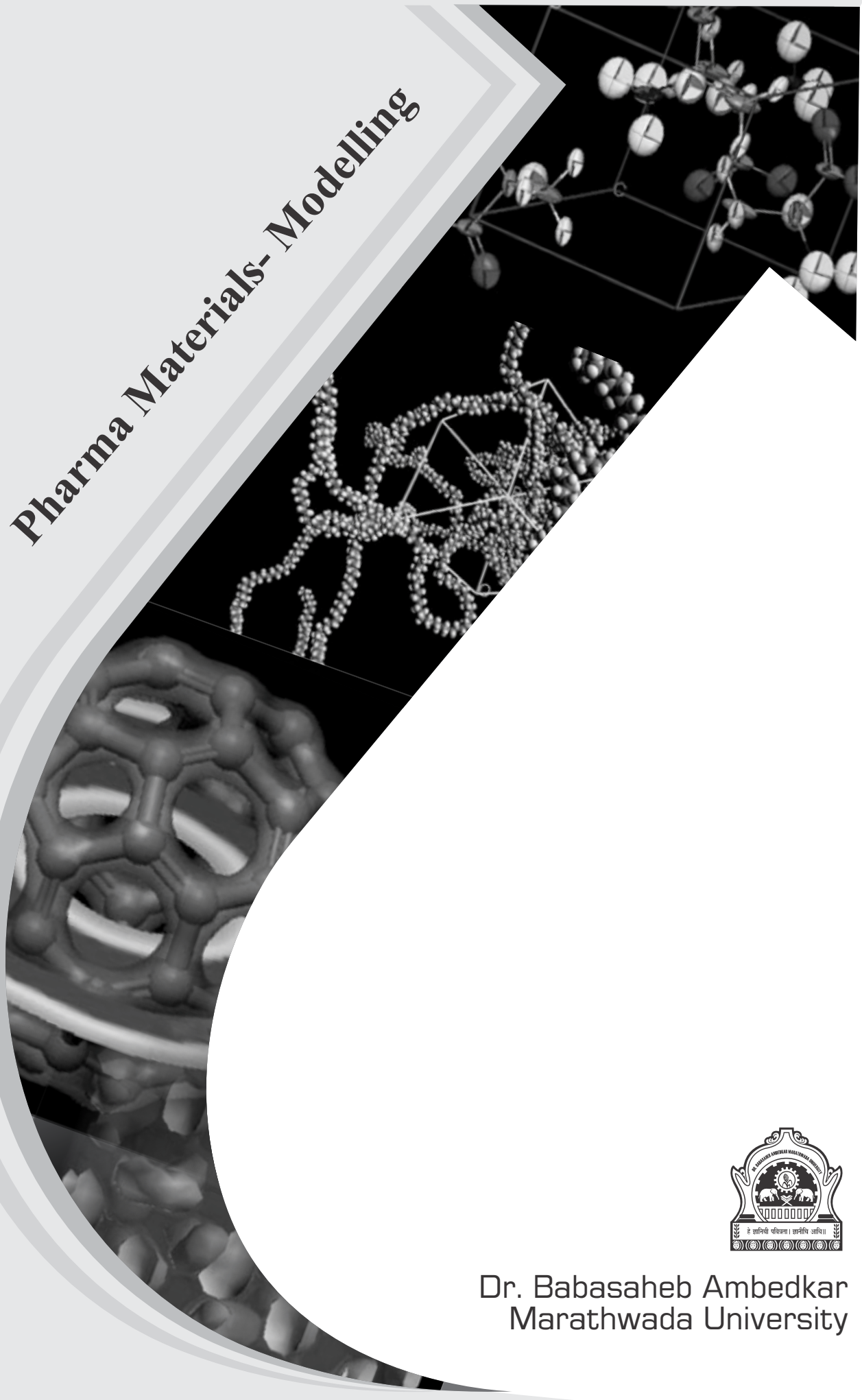
- Validation of nutraceutically important plant resources in India by DNA barcoding using various gene markers, Ministry of food processing industries, New Delhi .Rs 147.2 Lacs
- Molecular approach in understanding the insect pest diversity from economically important crop systems in Maharashtra for better crop management, DST,GOI, New Delhi. Rs47.50 lacs
- Genetic diversity analysis and first generation linkage map of Clariasbatrachus DBT Rs 43 lacs
- Mapping the genetic biodiversity of fishes from river Godavari using mitochondrial DNA, Cytochrome Oxidase- I gene UGC, New Delhi. Rs 9.581 lacs
- Validation of economically important fish species from India using DNA barcoding using Mt. DNA COX-I gene Ministry of food processing industries, New Delhi. Rs 221.20 lacs
- Sustainable Rural Livelihood Security through Integrated Approach in Hingoli and Nanded District of Maharashtra NAIP, ICAR, New Delhi. Rs 68.11 lacs
- Studies on some chemotherapeutic agents of plant origin in relation to their cytotoxic nature in cancer control DST. GOI, New Delhi. Rs 11.78 lacs
- Studies on pharmacological and biomedical properties of epidermal secretions of air-breathing fishes from Marathwada region of Maharashtra, UGC, New Delhi Rs 8.10 lacs
- Demonstration and use of Biotechnical tools for freshwater aquaculture development, DBT-DST New Delhi Rs 24.679 lacs
- Demonstrations and training on some novel techniques of Magur farming practices for SC/ST and weaker section from Aurangabad region, DBT GoI New Delhi. Rs 11.337 lacs

International Collaborators: University of Guelph, Guelph, Canada; University of Hawaii, Honolulu, USA; The Hebrew University of Jerusalam, Israel

Infrastructure Developed: DNA Sequencer (2nos) [ABI 3130 (2009), 3130xl (2013) Mermade4, USA (2009)]; Oligo Synthesizer [Biorad (2009) ABI verity (2010)]; RT PCR [Biorad (2009)]; Gradient PCR-02 [ABI verity (2010), Thermo E-24(2009]; Ultra centrifuge-02 [Eppendorf (2013), Biorad (2009) Biorad (2008]; Chef Mapper with chiller; Gel Doc system; Ultra-pure water system; Incubator shaker Elisa plate washer; Deep freezers -86, -20, LN2 containers Laminar air flow; Auto pipetters Multiscan spectrum, Hybridization oven, Inverted Microscope with Image analysis system, Robotic liquid handling system

Research Publications : 18 (Total number of citations: 99; h index: 6; i10 index: 5)

Pharma Materials- Modelling



Dr. Babasaheb Ambedkar
Marathwada University

Dr. Ms. Anna Pratima G. Nikalje
Professor and Head, Department of Pharmaceutical Chemistry,
Y.B. Chavan College of Pharmacy, Aurangabad.

Areas of Interest and Expertise: Drug Design & Drug Discovery, Green Chemistry, Novel Synthetic Strategies, Stereochemistry, Synthesis of Anticonvulsants, Analytical Method Development.

Targeted Industries: Bulk drug, Pharmaceuticals.

Awards and Recognition :

- R.V. Patel National Innovative Thesis Best research Guide Award, Troikaa Pharmaceuticals Ltd. & Rajanibhai V. Patel Trust, 2011.
- Dr. P.D. Sethi Annual National Award for Best Research Paper on HPTLC, Anchrom Enterprises & Dr. P.D. Sethi Foundation, 2009 & 2012.
- Travel grant, Indian National Science Academy, 2007.
- Best Paper presentation Award, Indian Councial of Chemists, 2002.
- Samata Darshan Prize for securing highest number of marks amongst successful woman candidates, Samata Darshan Foundation, 1987.
- Benzonji Fardonji Jalnawala prize for securing highest number of marks in the subject of chemistry, Samata Darshan Foundation, 1987.
- Late Seth Biharilal Bhakkad, Gold Medal for University Topper Position at B.Sc. examination, Seth Biharilal Bhakkad Trust, 1987.
- Smt.Padmaja Choubal Prize for securing highest number of marks at B.Sc. examination, Seth Biharilal Bhakkad Trust, 1987.
- Late Shri. Jagannathrao Nomulwar prize for having stood first at B.Sc. examination in Biology, Seth Biharilal Bhakkad Trust, 1987.
- National Merit Scholarship for achieving higher position in the list of meritorious students at SSC examination, Government of India,1981.
- PEIN Research Excellence Fellowship 2014, ERASMUS-EUPHRATES University of Santiago de Compostela, Spain, 2014.
- Scholarship of 500 Euro, 31st International Symposium on HPLC, 2007, Ghent University-Association of liquid Chromatographists, Belgium. Short training course on “High Efficiency Enantiomeric Separation”,2007.

External Funding Received:

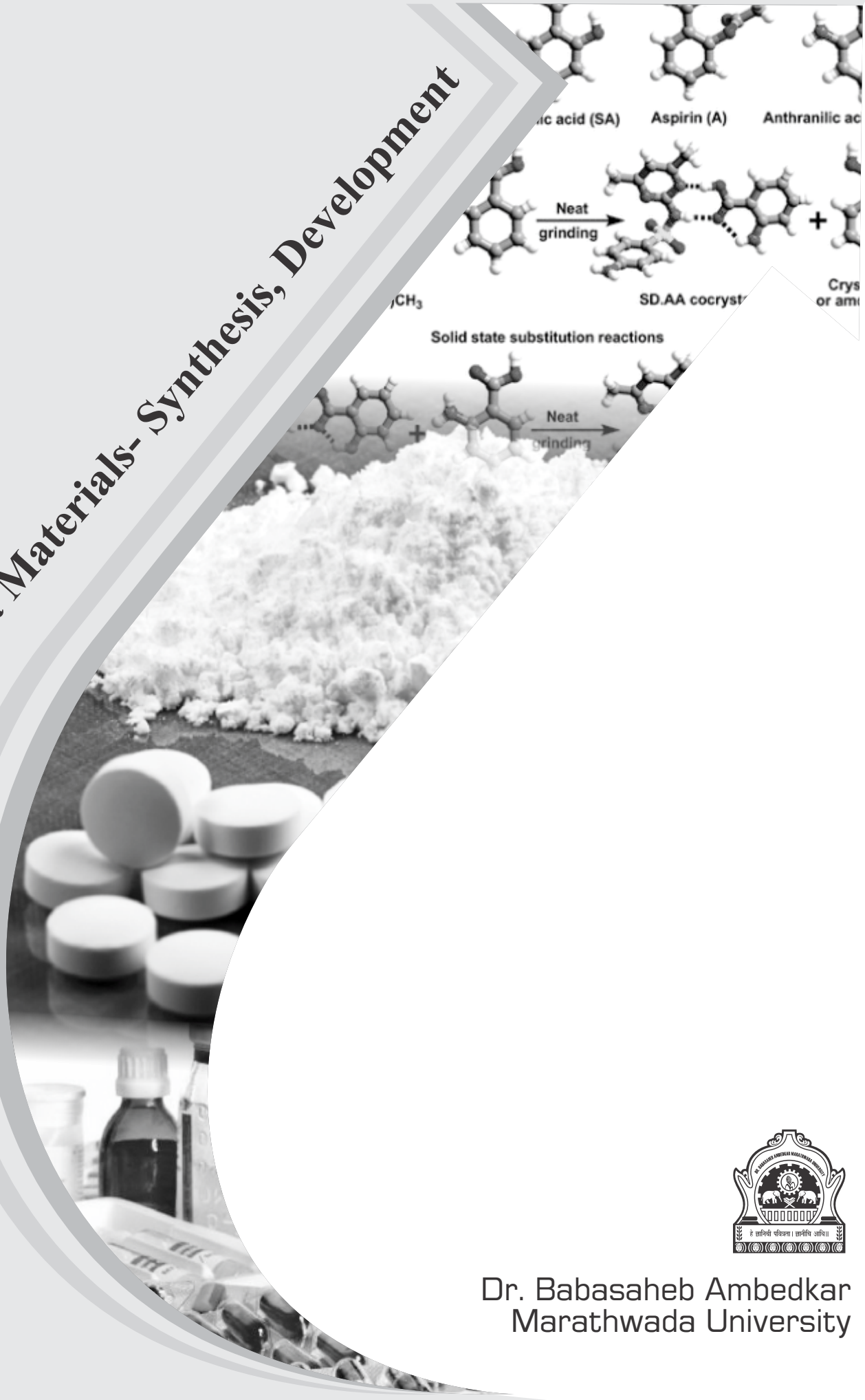
- Synthesis and anticonvulsant activity of some new hybrid heterocycles, UGC, Rs 8,30,000/-
- Green Synthesis of Pharmacologically active benzothiazepines, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Rs 15,000/-

International Collaborations:

Prof. Dr. Julio A. Seijas Vázquez, Catedratico de Química Orgánica, Facultad de Ciencias. Quimica Organica. Universidad De Santiago De Compostela, Spain; Alexander Dömling, Professor and Chair, University of Groningen / Department of Drug Design, School of Pharmacy, Groningen The Netherlands; Professor Dr. Maria Andrea Nroginski, Max-Volmer Laboratium, Tech Univ Berlin, Inst of Chemistry, Berlin, Germany; Dr Santosh Khedkar, Harvard Medical School, Boston, MA, USA; Professor Dr. Habil Sigitas Tamkevicius, Chem Dept, Vilnius Univ, Lithuania; Professor Dr Mary Jo Ondrechen, Northeastern Univ, Boston MA USA; Professor Dr Graham Jones, Northeastern Univ, Boston MA USA

Research Publications: 80 (Total number of citations - 500; h-index – 12; i10 index – 18)

Pharma Materials- Synthesis, Development



Dr. Babasaheb Ambedkar
Marathwada University

A. P. Sarkate
Assistant Professor, Department of Chemical Technology
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad

Areas of expertise / specialization : Pharmaceutical Chemistry

Targeted Industries: Pharmaceutical, Bulk Drug Industries

Awards and Recognition : Dr. P. D. Sethi Award, Indian Pharmacy Council, 2009.

External Funding received:

- Development of some non-steroidal anti-inflammatory agents from University Grants Commission (UGC), Rs 10,55,000/-
- Modernization and Removal of Obsolescence of Medicinal Chemistry Laboratory (MODROBs) from AICTE, New Delhi, Rs 15,00,000/-

Infrastructure available :

- Medicinal Chemistry Laboratory
- Molecular Modeling Laboratory
- Pressure Reactor, Digiplate reactor, Synthesis reactor, Microwave Synthesizer, Kilo Lab Reactor, Hydrogenator, Six & Twelve Place Reaction Stations, Chiller, Rota-evaporators.

Areas of Interest for collaboration with Industry:
Synthetic/medicinal chemistry, molecular modeling, synthetic process and product development, bulk drug chemistry.

Probable contribution to the Industry :

- Need base synthetic projects on process & product development (R & D)
- Molecular modeling services to pharma R & D.
- Analytical services to pharma / bulk drug industry.
- Analytical training for development of skills in pharma/bulk drug industry
- Technical man power to pharma/bulk drug industry.

No. of publications: 23 (Total number of citations: 324; h- index: 6; i10 index: 6)

Dr. Santosh Namdeo Mokale
Professor, Dept of Pharmaceutical Chemistry, Y. B. Chavan College of Pharmacy, Aurangabad.

Areas of Interest and Expertise: Drug Design Development, Molecular Modeling

Targeted Industries: Designing of Anti-hyperlipidemic, Anti-cancer and Anti-HIV agents.

Awards and Recognition :
- Fast Track Young Scientists Fellowship, Department of Science and Technology,2012.

External Funding received:
- Development of some anti-inflammatory agents using modern drug design Technology. [Sanction No-F.37-145/2009(SR) (HRP)],UGC, Rs 1,34,9063/-
- Development of some selective Estrogen Receptor Modulators for the treatment of Breast Cancer: Design, Synthesis, In-Vitro and In-Vivo Screening, sanction by Department of Science and Technology. [SERC/LS-227/2012], DST, Rs 2,40,000/-

Details of Research Innovations:
- Designing of Anti-hyperlipidemic, Anti-cancer and Anti-HIV agents.
- In-vitro and In-vivo screening of Anti-hyperlipidemic, Anti-cancer and Anti-HIV agents.

Areas of Interest for collaboration with Industry: Designing of Anti-hyperlipidemic, Anti-cancer and Anti-HIV agents.

Infrastructure available: Schrodinger molecular modeling software.

Research Publications : 26 (Total number of citations:95 ; h- index: 05; i10 index:02)

Dr. Pramod P. Sharma
Vice Principal, Shri Muktanand College, Gangapur
Areas of Interest and Expertise: Medicinal Plants, Ethnobotany, Natural Products.
Targeted Industries: Natural dye making Indistries
Areas of Interest for collaboration: Plant based natural dyes and herbal drug discovery.

Awards and Recognition:
- National Merit Scholarship for post-graduation by UGC, New Delhi.
- Best paper presentation Award by National Botanical Research Institute, Lucknow.
- Awarded as Fellow of Ethnobotanical Society (FES), Lucknow
- Awarded as Fellow of Association for Plant Taxonomists

External Funding received:
- Completed research project entitled, “Bioprospection of underutilized plant Resources for Eco-friendly Management of Household Insects and Pests’ sanctioned by UGC, New Delhi.
- Completed research project entitled, “Digitized Inventory of Medicinal Plant Resources of Maharashtra – Nashik and Ahemednagar districts” by DST, RGSTC, New Delhi.

- Completed research project entitled, “Digitized Inventory of Medicinal Plant Resources of Maharashtra – Beed and Latur districts”, sanctioned by UGC, New Delhi
- Ongoing research project entitled, “Bioprospection of plants for Natural Dyes”, sanctioned by UGC, New Delhi

No. of publications: 55(Total number of citations: 98; h- index: 4; i10 index: 2)

Dr. Jaiprakash N. Sangshetti
Associate Professor, Department of Quality Assurance
Y.B. Chavan College of Pharmacy, Aurangabad.

Areas of Interest and Expertise: Quality Assurance, Pharmaceutical Chemistry.

Targeted Industries: Pharmaceutical and Chemical Industries.

Awards and Recognition :

- Fast Track Project for Young Scientist, Department of Science and Technology, New Delhi, 2012.
- VLife Best Publication Award, VLife Sciences Technologies Pvt. Ltd. 2014

External Funding received:

- Synthesis and Antifungal Activity of some new Quinoline Analogues, UGC, India, Rs 7,55,000/-
- Modernization of Pharmaceutical Chemistry Laboratory, AICTE India, Rs 13,80,000/-
- Design and Synthesis of Novel Inhibitors of Peptide Deformylase as Antibacterial Agents, DST India, Rs 23,70,000/-

Details of Patents:

- Pharmaceutical composition containing nanospongs and procsee of synthesis thereof. Application No.:3299/MUM/2011 A (Indian Patent).
- Synthesis of novel 3-(2-chloroqunolin-3-yl)-N-cyclohexyl quinoxalin-2-amines and antibacterial activity thereof. Application No.:91/MUM/2015 A (Indian Patent).

Areas of Interest for collaboration with Industry:

- Drug development and drug discovery
- Analytical method development of pharmaceutical drugs.

Infrastructure available:

Flash Chromatography, Vacuum Rotary Evaporator, Parallel Reactor,
VLife Software.

Research Publications : 112 (Total number of citations:986 ; h- index: 20; i10 index:27)

Dr. Charansingh H. Gill
Professor, Department of Chemistry,
Dr Babasaheb Ambedkar Marathwada University, Aurangabad

Areas of expertise: Organic Chemistry

Awards, Recognition:

- Basic Science Research (BSR) Faculty Fellow, University Grants Commission 2014
- Top 25 Cited Author Award, Tetrahedron Letters2011
- High Cited Article (Top 5%) Author Award, Chinese Chemical Letters 2013
- "Outstanding Contribution in Reviewing" Award European J Medicinal Chemistry 2015

Research Innovations: Greener Protocols developed and used for equipotent molecules synthesis

Targeted Industries: Pharmaceutical industries

Research Publications: 117 (Total number of citations: 987; h-index: 17; i10 index : 30)

Prof. Capt. Suresh T. Gaikwad
Professor, Department of Chemistry,
Dr Babasaheb Ambedkar Marathwada University, Aurangabad.

Areas of Interest / Expertise: Inorganic Chemistry

Targeted Industries: Material Development to Pharmaceutical Industries

Research Publications: 31; (Total number of citations: 74; h- index 03; i10 index:02)

Dr. Anjali S. Rajbhoj
Professor, Department of Chemistry,
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

Areas of expertise: Physical Chemistry, Material Development to Pharmaceutical Industries.

Targeted Industries: Material Development to Pharmaceutical Industries

External Funding received:
•Synthesis of nanostructure mono and bimetallic cluster of Cu and Mo and there application as catalyst in various organic reactions, UGC, New Delhi, Rs 8,47,800/-

Research Publications: 30; (Total number of citations: 56; h- index 02; i10 index:01)

Dr. Zahid Zaheer Ahmed
Principal, Y.B. Chavan College of Pharmacy, Aurangabad.

Areas of Interest and Expertise: Quality Assurance

Targeted Industries: Pharmaceutical, Chemical, Food and Biotechnology industries.

Awards and Recognition :

- St. John' s Pharmacy College Award for Best Paper in Pharmaceutical Analysis, APTI- 12th Annual National Convention, Chandigarh 2007.
- Best Poster Award in Herbal Analysis, National Conference on Pharmaceutical Analysis,Aurangabad 2011.

Details of Patents:

- Pharmaceutical composition containing nanosponges and process of Synthesis thereof. Application No.: 3299/MUM/2011 A (Indian Patent) Published on July 8, 2013.
- Synthesis of novel 3-(2-chloroquinolin-3-yl)-N-cyclohexyl quinoxalin-2-amines and antibacterial activity thereof. Application No.: 91/MUM/2015 A (Indian Patent) Published on January 30, 2015.

External Funding Received:

- Synthesis pharmacological screening of some new substituted 1,2,4 oxadiazols as anti-inflammatory agent, UGC, India Rs 12,05,800 /-
- Impurity Profiling of some Drugs/ Drug Intermediates, AICTE, India Rs 24,80,000 /-

Areas of Interest for collaboration with Industry:
Analytical method development of pharmaceutical drugs.

No. of publications: 60 (Total number of citations: 147 h- index: 7 i10 index: 4)

Dr. Bapurao B. Shingate (IUSSTF Fellow; CSIR-NET and SET)
Assistant Professor, Department of Chemistry
Dr Babasaheb Ambedkar Marathwada University, Aurangabad

Areas of Interest / Expertise: Organic Chemistry, Medicinal Chemistry, Natural Products Synthesis; Natural Products and Drug Synthesis, Processes for Active Pharmaceutical Intermediates, Raw Materials, Green Chemistry Approach

Awards / Recognition:

- UGC-Junior Research Fellowship; UGC; 2002; UGC-Senior Research Fellowship; UGC; 2004
- Shikshak Pratibha Purskar; Dep Mass Communication and Journalism, Dr. BAMU; 2012
- Ideal Teacher Award; Dr. Babasaheb Ambedkar Marathwada University, Aurangabad; 2014
- Indo-US Research Fellowship; Indo-US Science and Technology Forum, New Delhi; 2013

Research Innovations (Process / product):

(I) Steroids Syntheses: A number of projects in which readily available steroidal starting materials are

elaborated in novel ways, giving compounds with medicinal potential. (Chem. Commun. 2004, 2194-2195; TL 2006, 47, 9343-9347; Tetrahedron 2007, 63, 5622-5635; Eur. J. Med. Chem. 2011, 46, 3681-3689; TL 2011, 52, 6007-6010; Tetrahedron 2013, 69, 11155-11163).

(II) Multicomponent reactions: Nickel nanoparticle catalyzed one-pot synthesis of polyhydroquinoline derivatives via Hantzsch condensation (TL 2009, 50, 1754-1756), synthesis of octahydroquinazolinone derivatives using ammonium metavanadate (Tetrahedron Lett. 2010, 51, 3616-3618) under solvent-free condition and boric acid (TL 2010, 51, 1309-1312), unmodified microporous molecular sieves (J. Mol. Cat. A: Chemical 2011, 336, 100-105) catalyzed synthesis of poly functionalized pyridine derivatives, Bismuth triflate catalyzed solvent-free synthesis of 2,4,6-triaryl pyridines (TL 2012, 53, 1523-1527), Surfactant (Beilstein J. Org. Chem. 2011, 7, 53-58) and organocatalyzed (Lett. In Org. Chem. 2011, 8, 568-572) synthesis of tetrahydrobenzo[a]xanthene-11-ones.

(III) Bioactive Compounds:

(i) Phosphonates: Developed methodologies for the synthesis of α-hydroxy/amino phophonates viz. alum (Chin. Chem. Lett. 2009, 20, 1042-1046; Bull. Korean Chem. Soc. 2009, 30, 1711-1714), Ammonium metavanadate (Arkivoc 2009, 2, 138-148), ultrasound (Phosphorus Sulfur Silicon and Relt. Elem. 2010, 185, 65-73), chlorotrimethylsilane (Green Chem Lett. Rev. 2010, 3, 33-38), 1-hexanesulphonic acid sodium salt (Ultrasonics Sonichemistry, 2010, 17, 760-763), Camphor sulfonic acid (Tetrahedron. Lett. 2011, 52, 2889-2892) catalyzed, and α-acetoxyphosphonate derivatives of tetrazolo [1, 5-a] quinoline (Eur. J. Med. Chem. 2010, 45, 1128-1132), new α-aminophosphonates via tetrazolo [1,5-a] quinoline derivatives (Phosphorus Sulfur Silicon and Relt. Elem. 2010, 185, 2113-2121).

(ii) 1,2,3-Triazoles: Synthesized and evaluated for biological activity of new 1,2,3-triazoles via click chemistry approach (Eur. J. Med. Chem. 2010, 45, 3142-3146, Med. Chem. Commun. 2015, 6, 1104-1116).

(IV) C-O, C-S and C-N Coupling reaction: Studied tris-(2-aminoethyl)amine-CuI catalyzed C-O and C-S coupling reactions (TL 2009, 50, 4019-4021, TL 2009, 50, 6092-6094).

Collaborators: Professor Larry E. Overman, Chemistry / University of California, Irvine; (USA);
Dr. Dhiman Sarkar, Combi-Chem Resource Centre, CSIR-National Chemical Laboratory, Pune; Dr. Mukund V. Deshpande, Biochemistry Division, CSIR-National Chemical Laboratory, Pune; Dr. D. K. Mohapatra, Natural Products Chemistry Division, CSIR-Ind Inst Cheml Tech Tarnaka,Hyd; Wockhardt Research Center, Wockhardt Ltd., Chikhalthana, Aurangabad

Targeted Industries: Pharmaceutical, Fine Chemicals, Agro and Pesticides

Research Publications : 75; (Total number of citations: 1110; h- index: 17; i10 index: 38)

Dr. P. S. Wakte
Associate Professor and Head, Department of Chemical Technology
Dr Babasaheb Ambedkar Marathwada University, Aurangabad

Areas of Interest / Expertise: Extraction, purification technology for natural products, Formulation and Product development

Awards and Recognition:

Dr. P. D. Sethi Research Paper Annual Award, Anchrom & Dr. P. D. Sethi, 2009

Research Innovations: Supercritical fluid extraction process for isolation of Picroside I & II, Phyllanthin, Wedelolactone, Curcumin; Process development for Natural Health Products

Patent: 01 (Indian Patent)
"Process for isolation of kaur -16 - ene -19 - oic acid from annona squamosa linn bark" Indian Patent No: 246385; Date of filing: 19/02/2008; Date of grant: 25/02/2011; Validity: 20 Years from February19, 2008.

Targeted Industries: Pharmaceutical Industries, Food Industries

External Funding Received:

- DST-FIST, DST GoI, New Delhi Rs 89 Lakhs
- Isolation of Bioactive compounds using SCFE Technology, UGC New Delhi, Rs 10.5 Lakhs
- Development of Herbal Drug Technology Laboratory, AICTE, New Delhi Rs 12 Lakhs
- Development of some sustained release anti-diabetic drugs using microencapsulation technology UGC, New Delhi Rs 7 Lakhs

Research Infrastructure procured / indigenously developed :
Development of Sophisticated Analytical Instrumentation facility (SAIF); Development of Herbal Technology Laboratory; Development of M. Tech. (Chemical) Drugs & Pharmaceuticals laboratory; Procurement of advanced herbal extraction & isolation tools/instruments viz. Supercritical fluid extraction and chromatography instrument; Accelerated solvent extractor, Microwave assisted extractor, flash chromatography and Rota vapors

Collaborators Till Date: Wockhardt Pvt. Ltd. Aurangabad

Research Publications: 27 (Total number of citations: 264; h- index: 7; i10 index: 7)

Dr. Sachin S. Bhusari
Assistant Professor, Department of Chemical Technology
Dr Babasaheb Ambedkar Marathwada University, Aurangabad

Areas of Interest / Expertise: Drug Metabolism & Pharmacokinetics (DMPK)

Awards / Recognition:

DST-FASTTRACK Scheme for Young Scientists, DST, GoI, 2012
Senior Research Fellowship, CSIR, GoI 2007
Best Poster Presentation Award, Indian Pharmacological Society, 2006
Gold Medal, Wockhardt Pvt. Ltd. 2000

Details of Patents : Indian Patent: 01, "An aromatic substituted pentadienoic acid amides as potentiators of the bioefficacy of drugs" 2496DEL2010 dated 20-10-2010

Targeted Industries: Pharmaceutical

External Funding Received

- Development of oral bioavailability enhancer(s) for selected anti-HIV drug(s) using Indian herb(s) by KADME approach, DBT, Rs 19,13,000/-
- Development of pharmackinetic approach based oral bioavailability enhancer(s) for anti-cancer drug(s) using Indian plant(s) UGC Rs 11,74,000/-
- Isolation and identification of plant based bioavailability enhancing principle(s) for anti-cancer drugs DST (Fast Track Scheme for Young Scientists) 24,00,000/-

Infrastructure Developed: Pharmacokinetic Lab ; HPLC; Centrifugal Vacuum Concentrator (2 No.); Solid Phase Extraction (SPE) system; 6 cassette "Peristaltic Pump"

Details of Research Innovations:

- Screening process for the plant based "Bioenhancers"
- Extraction technologies for isolation of "Curcumin" & "Picroside-I & II"
- Novel bioavailability enhancer for anti-TB drug "Rifampicin" from cumin seeds
- Novel semi-synthetic bioavailability enhancer for anti-cancer drug "Etoposide"

Collaborators Till Date: Indian Institute of Integrative Medicine (CSIR), Jammu
Research Publications : 19 (Total number of citations: 115, h- index: 6, i10 index: 6)

Solar Materials – Solar Cells, Photovoltaics

Dr. Babasaheb Ambedkar
Marathwada University

Dr Ramphal Sharma
Professor and Head, Department of Physics
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S.) 431 004 INDIA
Contact No.: 09422793173(Mobile), 0240-2401365(Home),
0240-2403284/384/385 (Office),
E-mail- rps.phy@gmail.com,ramphalsharma@yahoo.com

Areas of Interest and Expertise: Condensed Matter Physics and Nanotechnology

Targeted Industries:

Gas Sensors and Low cost higher stability nano structured solar cells.

Awards and Recognition:

- JRF-SRF UNIVERSITY OF RAJASTHAN JAIPUR, FUNDED BY DRDO NEW DELHI (1986-91)
- Post Doctorate Fellowship, ICTP, Tril, CNR Institute LAMEL Balogna Italy (1997-99)
- Research visit in Postdam New Berlin, Germany (1998-99)
- Visiting Scientist, ICTP, CNR Institute LAMEL BalognaItaly (2001-02)
- Brain Pool, Fellow at Hanyang University Seoul, South Korea, (March 2008 toFeb.2009)
- Best poster presentation award at 52nd DAE-SSPS, Mysore-2007.
- Best poster presentation award at 55nd DAE-SSPS, Manipal-2010
- Life Member of semiconductor Society of India, ICTP Italy.
- Life Member of Material Research Society of India (MRSI)
- Life Member of Nano American Society , USA
- Visiting Professor at Hanyang University Seoul South, Korea

External Funding Received:

- Studies on structural, Electrical and Optical properties of Cd1-x ZnxTe, Solid Solution films. UGC, New Delhi, India. Minor Research Project UGC 1993-1995, Rs. 13,000/-.
- Growth and Characterization of Ternary Semiconductor Thin Films and hetero-homojunction for upto-electronic device applications, UGC, WRO Pune, India. Minor Research Project UGC 1997-99, Rs 30,000/-
- Growth and Characterization of metal oxides ultra thin films as sensors on micro machined silicon substrate heater devices for the detecting and monitoring the pollution of hazardous gases, R.Sharma CNR- Inst.Lamel, via-Gobelti-101-40129, Bologna, Italy, 1st March 1998 to 31st July 1999, (1998-99)
- Micro-machined substrate heater element with 4 membranes, design, realization, characterization, performance, evaluation, optimization and test results. CNR- Inst.Lamel, IMSAS, Alpha-MS S.A. Bologna, Italy, 2002-2003
- Detection of very low VOC concentrations (0<0.1 ppm) using M-RGTO SnO2 Sensors, 2001- 2002.
- Fabrication and characterization of n-Si/p-CuIn(S1-xSex)2 and n-CdZn (S1-xSex)2 p-CuIn (S1-xSex)2 heterojunction for photovoltaic application, UGC, Major, New Delhi. Research Project UGC 2002-2004, Rs 4, 88,560/-.
- Growth and Characterization of semiconducting polymer and inorganic thin films for detection of hazardous gases, TWAS, Research Grant Programme, Italy, 2002-2003, $ 5000
- Studies on Growth and Optoelectronic properties of solid state CuxS Thin films Gas Sensors, operating at room termperature, DRDO, Ministry of Defence, New Delhi, 2005-2008, Rs.16,00,500/-
- Growth, optoelectronic properties and effects of the Swift Heavy Ions Irradiation (SHI) on the composite M/Pollyaniline (M-SnO2) thin films for the Gas Sensor application, BRNS, DAE, Mumbai 2005 to 2008,

Rs. 14,34,500/-

- Growth and effect of SHI irradiations on structural and opto-electrical properties of nano crystalline pure and doped Zinc oxide semiconductor thin film for gas sensor application. CSR Indore UGC/DAE –CSR ,Indore 2007 to 2010, Rs. 3,27000/-
- Growth and effect of SHI irradiation on structural and opto-electronic properties of nanocomposites hybridZnO/polyaniline (PANI) thin films for gas sensor applications DST New Delhi Major Research Project,2008-2012, Rs.12, 11,280/-
- Effect of the Swift Heavy Irons Irradiation on structural, Electrical and Optical Properties of CdS/Bi2S3 Thin Films for hazardous gases, detection applications, IUAC, New Delhi, 2010 to 2013, Beam time + Rs.5,67000/-
- Growth and effect of SHI ions on structural and opto-electronic properties of Nanocomposite CdS-Bi2S3 semiconductor thin films for photosensor applications, Major Research Project UGC 2008-2012, Rs. 7, 14,300/-

Infrastructure Available:

- Swift Heavy irradiation techniques for structural modifications in nanomaterial.
- Fabricating electronic devices using wet chemical approaches
- Vacuum coating unit and RF Sputtering unit.
- Chemical solution growth thin film deposition techniques
- RTA (Rapid Thermal Annealing Unit)
- Gas Sensor Unit and Spectrophotometer
- I-V measurements on thin films and electrical measurements

Probable Contribution to the Industry :

- Gas Sensors
- Low cost higher stability nano structured solar cells

Collaborators Till Date:

- Prof.M.P.Sexena, University Of Rajasthan , Jaipur . India
- Prof.J.C.Garg, University of Rajasthan , Jaipur , India
- Dr. D.K.Avasthi, Dr. Fouran Singh, IUAC/NSC, New Delhi,
- Dr.L. Dori CNR, Lamel (IMM), Bologna, Italy
- Dr. J.C. Vyas BARC, Mumbai
- Dr.S.C.K. Mishra NPL, New Delhi
- Dr. A.Gupta ,Dr. D.M.Phase, UGC-DAE CSR- Indore
- Prof. Sung Hwan Han , Hanyang Univ. Seoul, Korea
- Prof. Y.K .Vijay , university Of Rajasthan , Jaipur , India
- Prof. D.C.Kothari , University Of Mumbai , Mumbai , India
- Prof.C.D.Lokhande , Shivaji University , Kolhapur , India
- Prof.I.P.Jain University Of Rajasthan , Jaipur , India
- Dr.D.Amelnerkar , CEMET ,Pune , India
- Dr.I.S.Mulla , NCL , Pune , India

No. of publications: 80 (Total number of citations: 1346 h- index: 22 i10 index: 40)

Materials – Synthesis and Development: Organic and Inorganic Materials

Dr. Babasaheb Ambedkar
Marathwada University

Dr. Mahendra D. Shirsat,
Professor, Department of Physics
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S.) 431 004 INDIA
E-mail:mdshirsat@gmail.com, mdshirsat.phy@bamu.ac.in
Phone No.: 0240-2403386, Cell: +91-9422291987

Areas of Interest and Expertise:

- Functional Materials (Viz. Organic Conducting Polymers, Carbon Nanotubes, Porphyrins, Metal Organic Frame work (MOF) etc.;
- Sensors: VOC sensors, Biosensors, Optical fiber sensors, Heavy Metal Ion Sensors;
- Organic Field Effect Transistors
- Non Linear Optical (NLO) Material Crystals

Targeted Industries: Chemical Industries, Polymer Industries, Automobile Industries

Awards and Recognition:

- Ideal Teacher Award by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S.) INDIA in 2014
- BOYSCAST Fellowship (DST, Govt. of India : University of California, Riverside, USA in 2007)
- Visiting Scientist : (National Institute of Health USA and University of California, Riverside USA, 2008-09)
- Visiting Principal Fellow (University of Wollongong, NSW, Australia)
- UGC Teacher Fellow (UGC, New Delhi, 2006-07)
- Fellow of Institute of Electronics and Telecommunication of Engineers (IETE), New Delhi, India
- Member of AUC, Inter University Accelerator Centre, New Delhi, India
- Member of NAAC peer Team, Bangalore, India

External Funding received:
Research Project and Infrastructural Grants: Rs 10.89 Crores

Infrastructural Grants (04): Rs. 8.68 Crores

- UGC –DDU KAUSHAL Kendra : Rs. 4.0 Crores
- UGC: B.Voc : Rs 1.85 crores
- Incubation Centre : Rs. 1.50 Crores)
- UGC-Community College : Rs. 83 lakhs
- UGC-SAP : Rs. 50.00 lakhs
  Research Projects: Rs. 2.309 Crores
  Ongoing Research Projects (03) : Rs : 65.09 Lakhs
- Heavy Metal Ion Sensor: Chelating Ligand Modified Carbon Nanotubes CNTs)- Conducting Polymer (CP) Composite Structure. Funded by DST, New Delhi, India Rs 51.29 Lakhs
- Optoelectronics (NLO) Crystal Growth and Characterization Funded by UGC, New Delhi 16.49 Lakhs
- Effects of SHI Irradiation on SWNT/ Organic Conducting Polymer (OCP) Nanocomposite : Sensitive Detection of Heavy Metal Ions Funded by IUAC, New Delhi, India Beam Time + Rs 6.70 Lakhs
  Completed Research Projects: (09) : Rs 1.56 Crores
- Nanosensor Array based on Conducting Polymer Functionalized SWNTs for Real-Time Monitoring of Toxic Air, Funded by TSD, DST, New Delhi Rs 44.65 lakhs

- Nanosensor Array based on Metalloporphyrins Functionalized SWNTs for Real-Time Monitoring of Toxic Volatile Organic Compounds (2009-2013). Funded by Nano Mission, DST, New Delhi, India Rs 49.08 Lakhs
- A Pursuit towards Highly Selective Toxic Vapour Nano Sensor Array: Investigation on Effect of Metal Ion Irradiation on Pristine and Conducting Polymer Functionalized SWNTs (2010-2013) Funded by IUAC, New Delhi, India Beam Time + Rs 6.70 Lakhs
- Synthesis and characterization of conducting polymer / carbon nanotubes Nanocomposite for hazardous gas sensor applications. Funded by CSIR, New Delhi, India. (2007-2010) Rs 16.58 Lakhs
- Fabrication Of Carbon Nanotubes (CNTs) and Metal Oxide Nano Particles Modified Chemically Sensitive Field Effect Transistors (CHEMFETs) for the Development Of Hazardous Gas Sensors. Funded by UGC, New Delhi, India during. (2008-2011) Rs 12.0 Lakhs
- Development of Biosensors for biomedical applications with special reference to antibiotic biotransformation. Funded by University Grants Commission, New Delhi, India during 2003-2006 Rs 5.5 Lakhs
- Computer Aided Design tools to Study Excitation Mechanism of Human Heart. Funded by University Grants Commission, New Delhi, India during 2000-2001 (Minor Research Project) Rs 1.2 Lakhs
- Study of Radial profiles in the Copper Vapour Laser Discharge. Funded by University Grants Commission, New Delhi, India during 1999-2000 (Minor Research Project) Rs 1.2 Lakhs
- DST INSPIRE (2 camps) : 19.52 Lakhs

Infrastructure Available :

- Indigenously Developed Chemical Vapour Deposition System (CVD) for the growth of Carbon nanotubes Established a Microsystem Technology Laboratory (clean room of class 10000) with state-of-art equipment viz.
- Probe Station (Ecopia EPS-1000),
- Wire Bonder (West Bond -7476D),
- DC Source –Measure Unit (Keithley- 2400),
- Thermal and e-beam coater (Hind Hivac- BC300),
- Spin coating system,
- 16 channel DAQ (National Instruments),

Established a Sophisticated Analytical Research Laboratory with state-of-art equipments viz.

- UV-Visible spectrophotometer,
- FTIR spectrometer (Bruker- Alpha),
- Atomic Force Microscope (AFM) and Scanning Tunneling Microscope (STM)

Collaborators Till Date:

- University of California, Riverside, CA, USA
- Hanyang University, Seoul, South Korea
- University of Wollongong, Wollongong, Australia
- University of Tokushima, Japan
- University of Paris, France
- Bhabha Atomic Research Centre (BARC), Mumbai, India
- Inter University Accelerator Centre (IUAC), New Delhi, India

No. of publications: 121(Total number of citations: 984; h- index: 17; i10 index: 27)

Dr Ramphal Sharma
Professor and Head, Department of Physics
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S.) 431 004 INDIA
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0240-2403284/384/385 (Office),
E-mail- rps.phy@gmail.com,ramphalsharma@yahoo.com

Areas of Interest and Expertise: Condensed Matter Physics and Nanotechnology

Targeted Industries:
Gas Sensors and Low cost higher stability nano structured solar cells.

Awards and Recognition:

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- Research visit in Postdam New Berlin, Germany (1998-99)
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- Brain Pool, Fellow at Hanyang University Seoul, South Korea, (March 2008 toFeb.2009)
- Best poster presentation award at 52nd DAE-SSPS, Mysore-2007.
- Best poster presentation award at 55nd DAE-SSPS, Manipal-2010
- Life Member of semiconductor Society of India, ICTP Italy.
- Life Member of Material Research Society of India (MRSI)
- Life Member of Nano American Society , USA
- Visiting Professor at Hanyang University Seoul South, Korea

External Funding Received:

- Studies on structural, Electrical and Optical properties of Cd1-x ZnxTe, Solid Solution films. UGC, New Delhi, India. Minor Research Project UGC 1993-1995, Rs. 13,000/-.
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- Growth and Characterization of metal oxides ultra thin films as sensors on micro machined silicon substrate heater devices for the detecting and monitoring the pollution of hazardous gases, R.Sharma CNR- Inst.Lamel, via-Gobelti-101-40129, Bologna, Italy, 1st March 1998 to 31st July 1999, (1998-99)
- Micro-machined substrate heater element with 4 membranes, design, realization, characterization, performance, evaluation, optimization and test results. CNR- Inst.Lamel, IMSAS, Alpha-MS S.A. Bologna, Italy, 2002-2003
- Detection of very low VOC concentrations (0<0.1 ppm) using M-RGTO SnO2 Sensors, 2001- 2002.
- Fabrication and characterization of n-Si/p-CuIn(S1-xSex)2 and n-CdZn (S1-xSex)2 p-CuIn (S1-xSex)2 heterojunction for photovoltaic application, UGC, Major, New Delhi. Research Project UGC 2002-2004, Rs 4, 88,560/-.
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- Effect of the Swift Heavy Irons Irradiation on structural, Electrical and Optical Properties of CdS/Bi2S3 Thin Films for hazardous gases, detection applications, IUAC, New Delhi, 2010 to 2013, Beam time + Rs.5,67000/-
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Infrastructure Available:

- Swift Heavy irradiation techniques for structural modifications in nanomaterial.
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- RTA (Rapid Thermal Annealing Unit)
- Gas Sensor Unit and Spectrophotometer
- I-V measurements on thin films and electrical measurements

Probable Contribution to the Industry :

- Gas Sensors
- Low cost higher stability nano structured solar cells

Collaborators Till Date:

- Prof.M.P.Sexena, University Of Rajasthan , Jaipur . India
- Prof.J.C.Garg, University of Rajasthan , Jaipur , India
- Dr. D.K.Avasthi, Dr. Fouran Singh, IUAC/NSC, New Delhi,
- Dr.L. Dori CNR, Lamel (IMM), Bologna, Italy
- Dr. J.C. Vyas BARC, Mumbai
- Dr.S.C.K. Mishra NPL, New Delhi
- Dr. A.Gupta ,Dr. D.M.Phase, UGC-DAE CSR- Indore
- Prof. Sung Hwan Han , Hanyang Univ. Seoul, Korea
- Prof. Y.K .Vijay , university Of Rajasthan , Jaipur , India
- Prof. D.C.Kothari , University Of Mumbai , Mumbai , India
- Prof.C.D.Lokhande , Shivaji University , Kolhapur , India
- Prof.I.P.Jain University Of Rajasthan , Jaipur , India
- Dr.D.Amelnerkar , CEMET ,Pune , India
- Dr.I.S.Mulla , NCL , Pune , India

No. of publications: 80 (Total number of citations: 1346 h- index: 22 i10 index: 40)

Dr. K. M. Jadhav
Professor, Department of Physics
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S.) 431 004 INDIA
E mail:drkmjadhav@yahoo.com, km_jadhav@rediffmail.com Phone No.: 0240-2488988

Areas of Interest and Expertise: Material Science, Nuclear Physics, Solid State Physics, Magnetic materials (Ferrites), Composite materials, Thin films, Ferroelectrics, Glass and ceramics
Targeted Industries: Electrical and Electronic, Bio-medical Instrumentation, Environmental related fields, Ferrite Industries.

Awards and Recognition:
- Rotary Vocational Award, Rotary International District 31-32, Rotary Club of Omerga 2013-14 fellowship, Oklahoma State university, USA 2013-2014

External Funding received:
- Synthesis and Characterization of Magnetic Oxide Materials Prepared by Co-precipitation and Ceramic Route, University Grants Commission, New Delhi, Rs. 5, 79,080/-
- Synthesis and diverse property studies on Mn doped ZnO nanoparticles (Co-Investigator), Department of Science & Technology – SERB, Rs 19, 87,968/-

Infrastructure Available :
- Mossbauer spectrometer, M-H Loop tracer setup, A.C.Susceptibility setup, Programmable high temperature furnace, Indigenously developed - D. C. Resistivity Setup, Thermo Electric Power Setup, High Temperature furnace, Loria Technique setup, Spray pyrolysis setup.

Collaborators Till Date: BARC. Mumbai (M.S), TIFR. Mumbai (M.S), RRCAT. Indore (M.P)
No. of publications: 87 (Total number of citations: 1720; h- index: 25; i10 index: 27)

Dr. V. B. Jadhav SET
Assistant Professor and Head, Department of Chemistry, Shri Muktanand College, Gangapur,

Areas of Interest and Expertise: Synthetic carbohydrate Chemistry, Synthetic peptide chemistry, Heterocyclic Chemistry.
Targeted Industries: Chemical Industries
Areas of Interest for collaboration: Chemical Industries.

Awards and Recognition:
- NET-JRF UGC, New Delhi and NET-JRF CSIR, New Delhi; Cleared GATE Exam
- Visiting Fellow at J. N. Centre for Advanced Scientific Research, Jakkur, Bangalore
- Post-Doctoral fellow at Center for Marine Natural Products & Drug Discovery, Seoul National University, Seoul, South Korea.

External Funding received:
- Ongoing research project entitled, “Synthesis & Biological Evaluation of 4,6-Disubstitued 2-functnalized 1,3,5-triazine Hybrids for Therapeutic Importance’ sanctioned by DST-SERB, New Delhi.
- Ongoing research project entitled, “Synthesis of Imidazo [1,2-a] Isoquinoline based pyrimidinylsulpfinil derivatives for its antiulcer, anti-secretory Activiity via. Molecular Hybridization Approach”, sanctioned by UGC, New Delhi

No. of publications: 14 (Total number of citations: 136; h- index: 5; i10 index: 3)

Dr. Bhaskar R. Sathe
Assistant Professor, Department of Chemistry,
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

Areas of expertise / specialization: Nanomaterials, Sustainable Energy, Environmental Electrochemistry.

Targeted Industries: Batteries, Supercapacitors and Nanomaterials Based Device Fabrication.

Awards and Recognition:

- Department of Atomic Energy, Young Scientist Research Award, BRNS Mumbai, Government of India, 2015.
- University "Shikshak Pratibha" Purskar, Department of Mass and Journalism, Dr. Babasaheb Ambedkar Marathwada University, 2013.
- Fast Track scheme for Young Scientist, 23 Lakh awarded startup grant, SERB, DST, Government of India, 2012.
- Senior Research Fellowship, CSIR Government of India, 2007.
- Awarded for Junior Research Fellowship through the CSIR-JRF/LS examination, CSIR and UGC, Government of India, 2005.
- Maharashtra state "Eklavya Merit Scholarship" Award, Department of Chemistry, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, 2001,2007.
- Visiting Faculty at Rutgers, The state University of New Jersey, USA, 2012-2013.
- Fulbright-Nehru Postdoctoral Research Fellowship,Rutgers, The state University of New Jersey USA through United states-India Educational Foundation scheme, 2012-2013.

External Funding Received:

- Fabrication of Carbon Based Metal Nanostructural Hybrid Materials for Electrochemical Gas Sensor Application, SERB-DST New Delhi, Rs 22.88 Lakh.
- Earth Abundant Nanostructured Metal-Carbon Heterostructures for Electrocatalytic H2 Generation Reactions, BRNS, DAE, BARC Mumbai, Rs 17.00 Lakh.

National and International collaborations:

- Dr.Vijayamohanan K. Pillai, Director, National Chem Lab Pune, India, Professor Tewodros Asefa, Department of Chemistry and Chemical Biology, Rutgers, State University of New Jersey, USA; Professor Aslam M., Department of Physics, IIT Mumbai; Dr. Balchandra A. Kakade, SRM Research Institute, Chennai; Dr. Jadab Sharma, Center for Nanoscience & Nanotechnology, Punjab University, Chandigarh; Dr. Sasanka Deka, University of Delhi; Dr. Vijay Chaudhari, University Institute of Chemical Technology, North Maharashtra University, Jalgaon; Dr. Pravin Walke, National Centre for Nanoscience and Technology, University of Mumbai, Mumbai; Dattatraya Late, National Chemical Laboratory, Pune, India

Areas of Interest for collaboration with Industry: Fabrication of Nanobased Materials, Electrochemical Devices.

No. of publications:28 (Total number of citations: 362 h- index: 11 i10 index: 13

Dr. B. N. Dole
Associate Professor, Department of Physics,
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S.) 431 004 INDIA

Areas of Interest / Expertise: Solid State Physics/Condensed Matter Physics

Awards and Recognition:

- Shikshak Pratibha Purskar; Dep Mass Communication and Journalism, Dr. BAMU
- Ideal Teacher Award; Dr. Babasaheb Ambedkar Marathwada University, Aurangabad; 2015

Areas of Interest for collaboration with Industry: To prepare Mn/Co doped graphene solar cells

External Funding Received:

- Synthesis and Diversive Property studies on Mn doped ZnO Nanoparticles, Department of Science & Technology Science & Engineering Research Board, New Delhi (Ongoing) Rs. 19,87,968/-
- Development and different property studies of Co doped ZnS Nanowires, UGCDAE-CSR, Indore (Ongoing Rs. 9,46,400/-)
- Effect of SHI irradiation on different property of Mn doped ZnO nanoparticles, IUAC UFR, New Delhi, (Ongoing) Rs.6,03,000/-
- A study of novel multiferroic materials, University Grants Commission, New Delhi, (Completed) Rs. 1,05000/-

Infrastructure Available :

- High Vacuum Temperature (0 to1450oC
- Hydraulic Press Machine
- Autoclave
- Spin Coating Unit
- Ultrasonicator

Collaborators Till Date:

- UGC-DAE- CSR, Indore
- Inter University Accelerator Centre, New Delhi

No. of publications: 17 (Total number of citations: 223 h- index: 04 i10 index: 03)

Materials Characterization – X ray and other techniques

Dr. Babasaheb Ambedkar
Marathwada University

Dr. Prakash Waghaji Khirade
Professor, Department of Physics
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S.) 431 004 INDIA
Cell : 91-9423748830 E-mail : pwkhirade59@gmail.com

Areas of expertise / specialization: Electronics, liquid dielectrics.
Areas of Interest for collaboration with Industry: Auto Irrigation System, Auto underground and overhead Water tank controller, Tap water informer cum overhead tank overflow informer, Electronic circuit for saving of water and electric power for desert cooler, Cost effective electronic security system

Awards and Recognition:

- Fellow of IETE, The Institutions of Electronics and Telecommunication Engineers, December 2004

External Funding received:

- Optoelectronics (NLO) Crystal Growth and Characterization, University Grants Commission (UGC), Delhi, New India, Rs.13,52,100/-
- Nanosensor Array based on Metalloporphyrins Functionalized SWNTs for Real-Time Monitoring of Toxic Volatile Organic Compounds, DST Nanomission, New Delhi, India, Rs. 49,08,000/
- Nanosensor Array based on Conducting Polymer Functionalized SWNTs for Real-Time Monitoring of Toxic Air, DST - TSD, New Delhi , India, Rs. 41,61,250/-
- Synthesis and characterization of conducting polymer / carbon nanotubes Nanocomposite for hazardous gas sensor applications. CSIR, New Delhi Rs. 16,58,000/-
- Fabrication Of Carbon Nanotubes(CNTs) and Metal Oxide Nanoparticles Modified Chemically Sensitive Field Effect Transistors (CHEMFETs) for The development of hazardous gas sensors, UGC New Delhi, Rs. 11,91,200/-
- Study of Additive, Constitutive and Intensive Properties of Polar-Polar liquids, UGC New Delhi Rs.10,88,000 /-

Infrastructure available : Setup for the measurement of dielectric constant of liquids

No. of publications: 60 (Total number of citations: 403; h- index: 12; i10 index: 14)

Dr. Vaijanath V. Navarkhele
Professor, Department of Physics
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S.) 431 004 INDIA

Areas of Interest and Expertise: Microwaves; Soil Physics/Science
Targeted Industries: Agriculture

Awards and Recognition:

- Fellow member of IETE (by Institute of Electronics and Telecommunication Engineers, New Delhi, 2005)
- Senate member, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S) -2010

External Funding received:

- Automation of microwave bench setup and analysis of dielectric constant, UGC, New Delhi Rs. 16000/-
- Soil dielectric study for the betterment of agricultural purpose UGC, New Delhi Rs. 7.06 Lakhs

Infrastructure Available :

Microwave J, X, Ku, K and R bands, Soil moisture measurement system

No. of publications: 16 (Total number of citations: 63; h- index: 03; i10 index: 01)

Dr. Sunil D Deshpande
Associate Professor, Department of Physics
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S.) 431 004 INDIA
Cell: +91-9421343755 Email: sunildeshpande1232000@yahoo.com

Areas of Interest / Expertise: X ray Spectroscopy (Absorption and Emission); X ray Diffraction, X ray Instrumentation, Condensed Matter Physics

Awards and Recognition:

- Junior Research Fellowship, Univ Gants Commission, New Delhi, 1983
- Senior Research Fellowship, Council of Scientific and Industrial Research, New Delhi, 1988
- Opportunities for Young Scientists, Dept of Science & Technology, Govt of India, New Delhi, 1995
- UGC X Plan Research Award, Univ Gants Commission, New Delhi, 2004
- Life Member, Indian Physics Association, 1983
- Life Member, Indian Association for Physics Teachers, 2013
- JSPS Post Doc Fellowship, Japan Society for Promotion of Science (JSPS), Japan, 1996
- Nuclear Fellowship, Science and Technology Agency (STA), Japan, 1998
- Member by Invitation (Elected Member), The New York Acad. Sci., USA, 1989
- Member, American Association for Advancement of Science, USA, 1997
- Student Member, American Physical Society, USA, 1985

Details of Research Innovations: (Process / product):

- A silicon Si(220) crystal was successfully employed in a 40 cm bent crystal Cauchois spectrograph;
- Designed and developed a compact, high resolution computer controlled two crystal Lab XANES spectrometer
- Post Independence Achievements in Science and Technology" by Dept of Science and Technology, Govt of India during the Golden Jubilee of India's Independence
- Developing materials for (i) high flux x-ray source at low kV, high A and (ii) fast x-ray detector

Details of transfer of technology to industry : (transferred / under process):
The design details of the Lab XANES spectrometer transferred to M/s Electromech Systems , Pune

Probable contribution to the Industry: Analysis of XRD data; x ray technology.

External Funding Received:

- Fabrication of a soft x-ray spectrometer, UGC New Delhi (Minor Research Project), Rs. 30,000/-
- Fabrication of Lab-XANES spectrometer, DST Young Scientists Award Scheme Opportunities for Young Scientists, Dept of Sci & Tech, New Delhi, Rs. 3.68 lakh
- X-ray Spectroscopic study on the structure and electronic state of the nano- crystalline diluted magnetic semiconductors, India-Japan International Collaborative Project, Visits of scientists, travel and accommodation
- Studies of impurities in materials exhibiting colossal magneto-resistance, UGC (Minor Research Project),Rs 15,000/-
- Development of low cost novel synthesis methods for transparent Nd:YAG and YAP:Ce, UGC X Plan Research Award, UGC New Delhi, Rs 4 lakh + Salary

- UV Vis spectroscopic and simulation studies of II-VI spintronic materials, UGC New Delhi, Rs 8 lakh
- Pair Distribution Function studies on X ray Filament Materials, UGC-DAE CSR, Indore (RRCAT INDUS II Beamline Project), Ongoing, Rs 7,39,800/-

Infrastructure Available :

- UV Vis spectrophotometer, T90+; PG Instruments UK (procured through UGC Research Project)

Research Publications: 11

Dr. P. B. Undre

Assistant Professor, Department of Physics,
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S.) 431 004 INDIA

Areas of Interest / Expertise: Microwave Interaction with Matter, Dielectric Spectroscopy, Electro-optic Kerr Effect, Biomedical

Awards and Recognition:

•University Junior Research Fellowship, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad 2003-2005

Areas of Interest for collaboration with Industry: Dielectric Relaxation study (Dielectric Spectroscopy) using Time Domain Reflectometry technique

Targeted Industries for research outcome: Agricultural, Food, Energy and Medical Instrument Industries.

Areas of Interest for collaboration with Industry: Characterization of agricultural products, SoilCharacterization, Design and development of medical application instruments, Synthesis and characterization of nanomaterials for energy purposes

Collaborators Till Date: Department of Physics, Annamalai University, Annamalai Nagar –, Department of Physics, Sri KGS Arts College, Srivaikundam, Department of Physics, Alagappa University, Karaikudi, Department of Physics, SRM University, Kattankulathur

No. of publications: 30 (Total number of citations: 186 h- index: 09 i10 index: 09)

DR. GOPICHAND MANIKRAO DHARNE

Department of Physics, Dr Babasaheb Ambedkar Marathwada University, Aurangabad

Areas of expertise / specialization : Material science

Details of Research Innovations: Fabrication of Low cost Conventional energy convertor

Research Publications: 07 (Total number of citations: 08, h-index: 02)

Dr. Pravina P Pawar
Department of Physics, Dr. Babasaheb Ambedkar Marathwada University Aurangabad

Areas of expertise / specialization: Nuclear Physics, γ ray Spectroscopy

External Funding Received:
- Attenuation Coefficient Measurements Of Gamma Ray Photons With Biological Samples, UGC, New Delhi Rs 6,80,500 /-
- Establishment of radiological data for bio-molecules using gamma ray spectrometry, DAE-BRNS, Rs 15,65,100/-

Facilities Created: γ- ray spectroscopy system with USB based 8k MCA card

Collaborators: DAE –BRNS, Mumbai

Research Publications : 05 (Total number of citations: 68, h- index: 4, i10 index: 2)

Dr. Bhagwan G. Toksha
Assistant Professor, Science and Humanities Dept, Maharashtra Institute of Technology, Aurangabad.

Areas of Interest and Expertise: Physics, Material Science with Nano.

Awards and Recognition: Rajiv Gandhi Scholarship, Dr. Babasaheb Ambedkar Marathwada, Univ, Aurangabad, 2006.

No. of publications: 13 (Total number of citations: 332; h- index: 15; i10 index: 20)

Engineering and Technology – Electronics, Automation

Dr. Babasaheb Ambedkar
Marathwada University

Dr. Ayubkhan J. Pathan
Associate Professor, Department of Electronics
Maulana Azad College, Aurangabad.

Areas of Interest and Expertise: Physics and Electronics

Targeted Industries: Automation, Process control, Precision measurements and control, intelligent control systems.

External Funding received:

- Design and fabrication of PC based system for geophysical data acquisition and analysis, UGC, New Delhi Rs 40,000/-
- Effect of weak and strong electromagnetic radiations on seeds, UGC, Rs 1,20,000/-

Details of National / International Collaborations:

The Scientific Instrument Company Ltd, Ghaziabad, U.P.; Vidyut Yantra Udyog, Modinagar, U.P.; Mittal Enterprise, Patel Nagar, New Delhi. (ISO 9001-2008 certified concern); Microline India, Garhia, Kolkata, W.B.; SAITECH, CIDCO, Aurangabad; Onix Technologies, Aurangabad; Anant Ultralab Industries, Allahabad, U.P.; Shree Electronics, Aurangabad; Satyam Mats, Waluj, Aurangabad.

Areas of Interest for collaboration with Industry: Industrial automation, process control, motion control, custom designed laboratory systems for research, custom industrial and research equipments and systems.

Infrastructure available: General purpose fabrication and test equipments in electronics, Low cost embedded system programmers, debuggers and simulators
Research Publications : 7

Dr. Abhilasha Deven Mishra
Associate Professor, Department of Electronics and Telecommunication Engineering,
Marathwada Institute of Technology, Aurangabad.

Areas of Interest and Expertise: Micro strip Patch Antenna Design Signal & Image Processing Oceanography.

Awards and Recognition :

- Prof. S. N. Mitra Memorial Award, IETE, 2013

External Funding received:

- Development and usage of ocean state forecast products from the display boards and the wave rider buoys for application of soft computing techniques in reduction of errors along Maharashtra coast', INCOIS, Ministry of Earth Sciences, Govt. of India

Patents : Patent Filed on (12-08-2103) and Publication Date(08-08-2014)

Details of Research Innovations: Filed a patent on 'Smart Travel Alarm'

National / International Collaborations: IEEE Indian Antenna Week 2013, 3-7 June 2013, Aurangabad, IEEE Kolkata Chapter, in association with DRDO, ISRO Banglore, LRDE Bangaluru
Research Publications : (Total number of citations:11 ; h- index: 03)

Dr. Sayyad Ajij D.
Associate Professor, Department of Electronics & Telecommunication,
Maharashtra Institute of Technology, Aurangabad.

Areas of Interest and Expertise: Signal Processing/ Automation.

Areas of Interest for collaboration with Industry: Automation and control Instrumentation Design.

Probable Contribution to the Industry: Projects / Research in Smart City Automation and Control.

Research Publications : 01 (Total number of citations:49 ; h- index: 01; i10 index:01)

Engineering and Technology – Mechanical, Thermal, Materials

Dr. Babasaheb Ambedkar
Marathwada University

Dr. ARVIND LAXMIKANT CHEL
Associate Professor, Department of Mechanical Engineering
Jawaharlal Nehru Engineering College, Aurangabad.

Areas of Interest and Expertise: Thermal engineering and solar, renewable energy engineering

Targeted Industries: Public Domain Residential Solar Power, Agriculture Solar Greenhouse Dryer, Drinking Water using Solar Distillation, Solar Cooking for Biomass Replacement.

Awards and Recognition :

- BEST Paper Award at International Conference at IIT Delhi in 2007
- Innovation Award by IIT Kanpur (Winner of Next 50 Global Innovation Award 2010)
- Dedicated Referee Award Certificate from Univ of South Florida, USA 2010
- PV Champion cited by World Renewable Energy Magazine 2008
- Institute fellowship as Teaching Associate at IIT Delhi 2005
- European Union Fellowship for Post Doctorate Fellow at Ghent University Belgium (Thermal Energy Engineering) 2013-2015
- Research Project Fellowship from IIT Bombay 2002.

Details of Research Innovations: Solar cum Biomass Cook Stove awarded by IIT Kanpur Patent Published Online

Details of Patents : Solar Biomass Cook Stove Journal No. 36/2011 Published Indian Patent Office Online on Dt. 9/9/2011.

Details of National / International Collaborations: CMIA, Aurangabad, IIT Delhi Energy Forum, ROBOTRYST EVENT, Ghent University Belgium, ASME, Univ of California-Berkley, USA, Toledo University, USA, University of South Florida, USA.

Areas of Interest for collaboration with Industry:

Public Domain Residential Solar Power, Agriculture Solar Greenhouse Dryer, Drinking Water using Solar Distillation, Solar Cooking for Biomass Replacement Waste Plastic Recycling Energy and Environment Projects.

Infrastructure available: Installation of Roof Top Solar Photovoltaic Power Plant (two types); 30 kWp TATA BP SOLA(Crystalline Photovoltaic); 10 kWp Adiurja (Amorphous Photovoltaic).

Research Publications : 22 (Total number of citations: 150; h- index: 20)

Dr. Ashok Jaywantrao Keche

Associate Professor and W/S, Department of Mechanical Engineering,
Maharashtra Institute of Technology, Aurangabad.

Areas of Interest and Expertise: Biomass Gasification Process, Non conventional Machining Processes.

Targeted Industries: Greaves Cotton Limited, Aurangabad.

Probable contribution to the Industry: Manufacturing Industries.

Areas of Interest for collaboration with Industry: Non conventional machining process, quality control.

Research Publications : 7 (Total number of citations:03 ; h- index: 01)

Dr. Subhas Vasudeo Lahane

Associate Professor, Department of Mechanical Engineering
Marathwada Institute of Technology,Aurangabad.

Areas of Interest and Expertise: Thermal Engineering, Alternative fuel for transportation, Spray, Combustion / IC Engine, Development of gasoline homogeneous charge compression ignition engine. Work is already in progress in collaboration with Greaves Cotton Pvt Ltd Aurangabad, Internal Combustion Engine, Alternative Fuels like CNG, LPG, Hydrogen and biodiesel, Spray and combustion.

Targeted Industries: Kirloskar Oil Engines Ltd. Pune, Greaves Cotton Pvt Ltd. Aurangabad.

Awards and Recognition :

- International travel grant from CSIR and DST to attend and present research work in ASME ICED ICES 2012 at Torino, Piemonte, Italy.
- Ph.D. Fellowship, Ministry of Human Resource Development, Indian Institute of Technology Delhi, India.

Details of Research Innovations: Development of dedicated biodiesel fuelled diesel engine at IIT Delhi

Infrastructure available: CNG fuelled dual fuel diesel engine setup

Research Publications : 5 (Total number of citations:32 ; h- index: 03; i10 index:01)

Dr. Chandrashekhar Gogte

Dean R & D, MIT Group of Academic & Research Institutes, Aurangabad.

Areas of Interest and Expertise: Metallurgy and Materials Engineering.

External Funding received:

- Development of AA 6061 CNT composites, Fraunhofer Research Institute, Stuggart, Germany.

Details of National / International Collaborations: KCTECH Institute, South Korea, Fraunhofer Research Institute, Germany, VNIT Nagpur, COEP Pune, JNARDDC Nagpur.

Details of transfer of technology to industry: “Cryogenic treatment of Punch and Dies” to M/S Saigan Industries, B-28, MIDC, Waluj.

Areas of Interest for collaboration with Industry: Development of Engineering and nano materials.

Research Publications : 15 (Total number of citations:17 ; h- index: 02; i10 index:01)

Dr. Nilesh Ganpatrao Patil
Professor, Department of Mechanical Engineering,
Marathwada Institute of Technology , Aurangabad.

Areas of Interest and Expertise: Processing of advanced and composite materials, Conventional and non-conventional machining, sustainable manufacturing, quality engineering.

Targeted Industries: Auto component manufactures, Casting industries, Cutting tool manufacturers.

Details of Research Innovations :

- Development of technology for electro-discharge machining of metal matrix composites.
- Research on use of bio-lubro-coolants in machining process for sustainable manufacturing.

Details of National / International Collaborations: KCTECH South Korea, Dr. BATU Lonere, DIAT Pune.

Research Publications : 11 (Total number of citations:99 ; h- index: 04; i10 index:03)

Dr. P H Waghodekar
Adviser (HR) IBS & PME (PG)
Department of Mechanical Engineering, Marathwada Institute of Technology, Aurangabad.

Areas of Interest and Expertise: Cellular Manufacturing and Facilities Layout.

Targeted Industries: Manufacturing sector, mainly SMEs.

External Funding received: Improving productivity of Gusset Assembly Process, Sheet Shapers(I) Pvt. Ltd, Waluj Aurangabad, Rs 20,00,000/-

Details of Research Innovation:

- MACE & ROC3 approach for cellular manufacturing.
- Determination of layout complexity.
- Multi-objectives plant layout.
- Cycle time reduction from 22 minutes to 8 minutes, cowling operation, vacuum cleaner.
- Plant re-layout.
- Reduction in Cycle Time and number of work stations for ALB.

Details of transfer of technology to industry:

- Job Evaluation of supervisory cadre, M/S K B Limited Kirloskarwadi, 1973.
- Cellular Manufacturing, TISCO, Jamshedpur 1983, L & T, Powai, 1986.
- Spare-Parts Management, RCF, 1989.
- Plant Layout, Delstar, Ogalewadi, 1995.
- Shakti Group of industries, Nashik, procurement of CNC machine, 2014.
- Improving Engine Assembly Line Balancing, Crompton Greaves, Aurangabad, 2015.

Research Publications : 19 (Total number of citations:68)

Engineering and Technology - Software Development

Dr. Babasaheb Ambedkar
Marathwada University

Prof. K. V. Kale
Director, Board of Colleges and University Development
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad
and Department of Computer Science and IT
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad

Areas of expertise / specialization:

Biometrics, Image Processing, Pattern Recognition, Computer Vision, Software Engineering, Artificial Intelligence, Neural Network, Decision Support System and Intelligence system, Bio-informatics, Remote Sensing and GIS

Awards and Recognition:

- Fellow, Institution of Electronics and Telecommunication Engineers (IETE) 2001
- One Time Research Grant, UGC, New Delhi 2011-2012 & 2014-15
- VIJAY SHREE Award India International Friendship Society 2005
- Who's Who in the World USA 2007
- Excellent Paper Award IACSIT International Conference on Computer and Electrical Engineering (ICCEE-2013) at Paris, France 2013
- International Amazing Idea Award Interconnection between Big Data and Nano-Science Idea, in IEEE Science and Information (SAI) Conference 2013 at London, United Kingdom (UK) 2013
- Fellow, Scientific Society of Advanced Research and Social Change (SSARSC) 2014

Research Innovations: Development of Spectral Library for Medicinal Plants , Crops and Soils; Multimodal Biometrics Database Development; Developed Multimodal Biometric System

Targeted Industries: GeoSpatail Technology, Location Based Services, Cyber Security using Biometrics

External Funding Received:

- Media Lab Asia(MLA) DEIT; Vishvesvaraya PhD Scheme for Electronics and IT; Rs 55.06 lakh
- UGC SAP DRS Phase- II Biometric: Multimodal System Development; Rs 77.75 lakh
- UGC One Time Research Grant: Robust Multimodal Biometric System Development; Rs 7.00 lakh
- DST FIST-2013: Remote Sensing and GIS Theme; Rs 120 lakh
- SAP DRS Phase- I Biometric: Multimodal System Development; 2009-2014 Rs 59.93 lakh
- UGC One Time Research Grant: Robust Multimodal Biometric System Development; 2011-2012 Rs 7.00 lakh
- UGC Development of Multimodal Fingerprint System through Multiple Impression and Matching Techniques; 2008-2011; Rs 8.96 lakh
- UGC Development of Intelligent Biometrics Techniques in Finger Print Recognition; 2003-2006 Rs 6.34 lakh
- UGC Studies on various aspects of Image processing through object oriented Technology; 2001-2002; Rs 0.20 lakh

Infrastructure Created: Sensors for Development of Multimodal Biometrics database; FieldSpec4 Spectroradiometer

Collaborators: Indian Institute of Remote Sensing, Dehradun; Endress + Hauser

Research Publications : 45; Total number of citations: 643; h- index: 12; i10 index: 17

Dr. R. R. Deshmukh,
Professor and Head, Department of Computer Science & IT
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

Areas of Interest and Expertise: HCI, Digital Speech Signal Processing, Data Mining, Image Processing, Pattern Recognition, GIS, Operations Research, Artificial Intelligence, Computational Auditory Scene Analysis (CASA), Neural Networks.

Targeted Industries: Software and IT Companies, the Companies work in Geographical Information Systems (GIS) and Remote Sensing.

Awards and Recognition :

- Won First prize in Inter University State Level Research Festival "AVISHKAR" under H. L. F. A. category at Teacher level 2009.
- Won First prize in Inter University State Level Research Festival "AVISHKAR" for the Team Management 2009.
- "BHARATRATNA MOTHER TERESA GOLD MEDAL" Award 2015 for extraordinary meritorious person for outstanding service in various fields – Health, Education, Research, Industry and Social Service to strengthen India's Unity and economic development , Global Economic Progress and Research Association(GEPRA) 2015.
- Visited International Research Center of Information Technology, University of Santiago Compostela, Spain under Research Excellence Program PEIN sponsored by the host University, Spain, University of Santiago Compostela, Spain 2014.
- Profile published 32nd Edition of Marquis Who's Who in world 2014 for his meritorious services, outstanding performance and remarkable role in the field of Education and Computer Science 2014.

External Funding received:

- Development of Database and Automatic Recognition System for Continuous Marathi Spoken Language for Agriculture Purpose in Marathwada Region, University Grant Commission Rs Rs 13,61,800/-
- Development of Marathi Emotional Speech Database for Marathwada Region, UGC- University Rs 10,000/-
- Department of Science and Technology – Fund for the Improvement of Science & Technology Infrastructure, DST-FIST, Rs. 1,22,00,000/-

Areas of Interest for collaboration with Industry:

- Information Technology,
- Geographical Information Systems,
- Remote Sensing, Data Mining, Security.

No. of publications: 97 (Total number of citations: 86 h- index: 4 i10 index: 2)

Dr Ramesh Raybhan Manza
Assistant Professor, Department of CS and IT
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad

Areas of Interest and Expertise: Bio Medical Image Processing

Targeted Industries: Diabetic Retinopathy based industries

Awards and Recognition :

- M. Sc. Computer Science Exam Rank 3rd Merit, Vivekanand College, Auragabad, March 1998.
- "Shikshak Pratibha" Dept of Journalism, Dr. BAMU Aurangabad, 5th Sept. 2008.
- "Vidyaratna" Indian NET-SET Association, Gadgenagar Amravati 31 October 2010.
- Fellow, FIETE: Institute of Electronics and Telecommunication Engineers, New Delhi 2007.

External Funding received:

- "Development of Color Image Segmentation and Filtering Techniques for Early Detection of Diabetic Retinopathy" Sanctioned (F. No. 41-651/2012 (SR)), UGC New Delhi, Rs. 11,73,300/-
- "Development of Multi Resolution Analysis Technique for Early Detection of NonProliferative Diabetic Retinopathy without using Angiography", (F. No. SERB/F/2294/2013-14), DST New Delhi, Rs. 23,04,000/-

Details of Research Innovations:

- Diabetic Retinopathy to avoid retina angiography

Areas of Interest for collaboration with Industry:

- Bio Medical Image Processing
  Infrastructure Available :
- Develop Bio Medical Image Processing Lab

No. of publications: (Total number of citations: 267 h- index: 9 i10 index: 8)

Engineering and Technology - Food Technology

Dr. Babasaheb Ambedkar
Marathwada University

Dr. B. K. Sakhale, M. Tech. Ph. D. (Tech.)
Assistant Professor, Department of Chemical Technology
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

Areas of Interest and Expertise: Food Technology

Targeted Industries: Food Processing industries

External Funding Received:

- Studies on Preservation of Leafy vegetables by Dehydration Technology; Dr. Babasaheb Ambedkar Marathwada University, Aurangabad Rs 20,000/-
- Modernization of Food Laboratories(MODROBS) AICTE, New Delhi Rs 10,00,000/-
- Studies on Post Harvest Applications of 1-MCP on Shelf life and Quality of Mango and Tomato fruits from DST-MFPI, New Delhi Rs 36,94,000/-

Infrastructure Available :

- Advanced of Food Processing Pilot Plant, Bakery unit, Juice/pulp extraction unit etc
- Procurement of Instruments in Food Lab. like GC, Texture analyzer, Soxtron, Fibrotron, Minolta colorimeter, UV spectrophotometer, stability chamber, Freeze dryer, Brookfield viscometer, Vacuum dryer, Moisture analyzer, digital refractometer etc.
- Sensory Laboratory

Probable Contribution to the Industry :

- Analytical services to food processing industries.
- Need base project on process & product development (R & D)
- Impart the training for development of skills in food safety Management system
- Technical man power to food industry.

No. of publications: 18 (Total number of citations: 72 h- index: 5 i10 index: 3)

Statistics and Modeling

Dr. Babasaheb Ambedkar
Marathwada University

Dr .S. L. Sananse
Professor and Head, Statistics Dept, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad

Areas of expertise / specialization : Agrial Statistics, Design and analysis of Experiments.

Awards and Recognition :
- Sir Sardar Dalip Singh Paritosik for Merit first in M. Sc. Statistics, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad 1979-80.
- Sir Mahindre Trophy for best research paper presentation, Maharashtra Society of Agril. Economics 1998-99 and 2003-04.

External Funding received:
- Growth and Instability analysis area production and productivity important crops in Aurangabad District of Maharashtra, UGC, New Delhi through Dr BAMU Rs 15,000 /-
- A Study on Estimation of Yield and Price Risk in Crop Production for Social Security, UGC New Delhi Rs 6,65,000 /-
- UGC SAP DRS-I Dy. Co-ordinator, UGC New Delhi 77.00 Lacs and Every Year 5.80 lacs
  Infrastructure Available: Fully Equipped Statistical Lab with 40 Computers with SPSS, R and SYSSTAT developed Under SAP.

National / International Collaborations: National Sample Survey Organization, GoI, Aurangabad

Research Innovations:
New Method for Estimation of Security Indices for Different Crops Developed under UGC Major Research Project.

No. of publications: 49 (Total number of citations: 23 h- index: 2)

Dr V. H. Bajaj
Professor, Department of Statistics
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad

Areas of expertise / specialization : Industrial Statistics and Operations Research

Details of Research Innovations (Process / product) : Fuzzification of Optimization Techniques

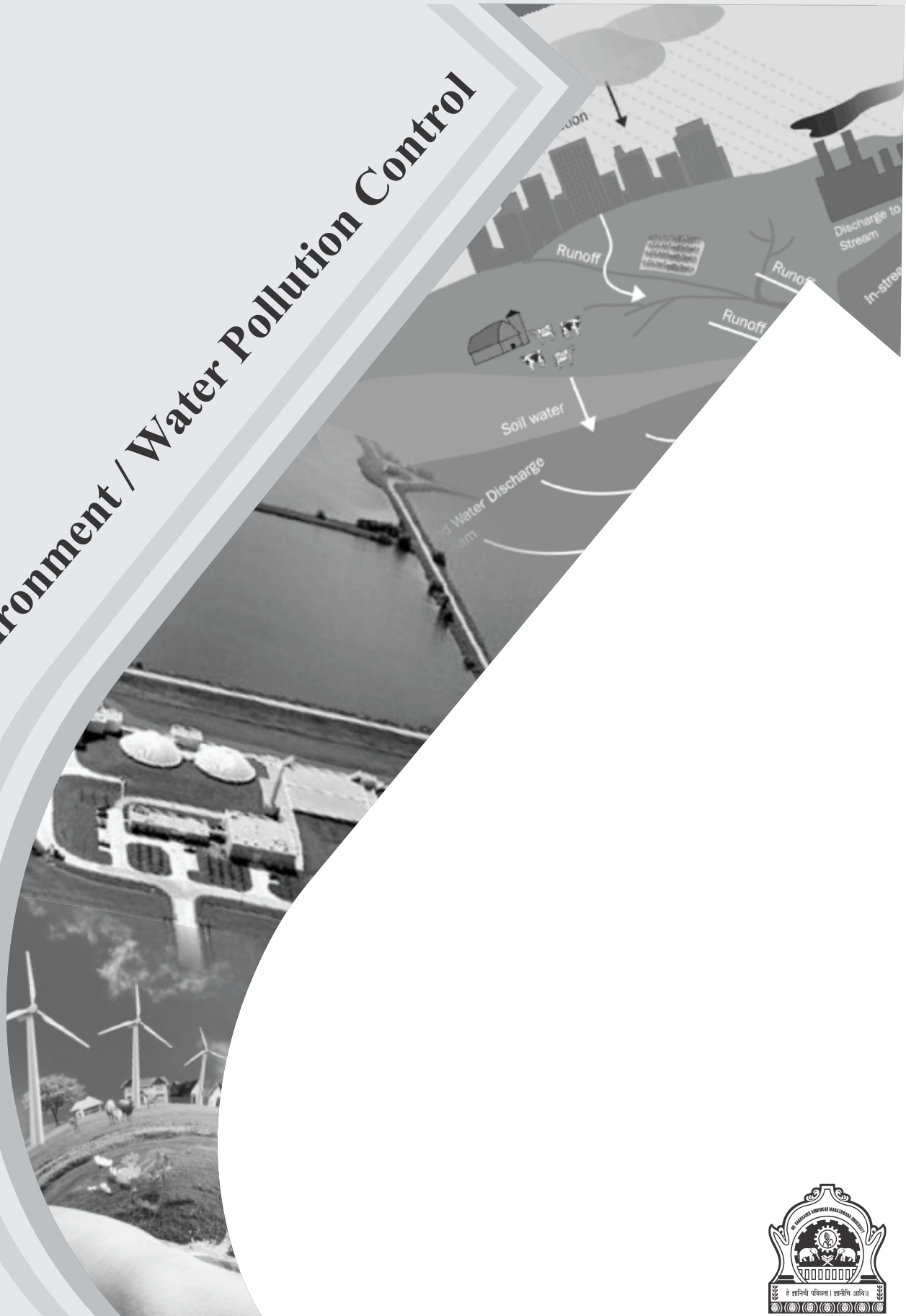
Targeted Industries: Sterlite Industry, Wockhardt Pharma, Garware Films.

Areas of Interest: Project on Statistical Process Control and Process capability Analysis

External Funding Received:
Development and Usage of Ocean State Forecast Products from the display Boards and Wave rider buoys for application of soft computing techniques in reduction of errors along Maharashtra Coast; Ind Natl Centre for Ocean Info Services (INCOIS), Hyderabad (2013-2017) Rs 40,00,000/-

Research Infrastructure procured / indigenously developed :
Computer lab. With latest softwares like SPSS, Systat, MINITAB
Research Publications : 62 (Total number of citations: 42; h- index: 04)

Environment / Water Pollution Control



Dr. Babasaheb Ambedkar
Marathwada University

Dr. Satish S. Patil
Professor, Department of Environmental Science,
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

Areas of Interest and Expertise: Environmental Impact Assessment.

Targeted Industries: Sugar Factories, Distilleries, Pharamaceutical Industries, Chemical Industries, Bulk Drug Industries, Automobile Industries, Breweries etc.

Awards and Recognition:

- DBT expert, DBT Government of India, 2009-2012.
- MoEF expert MoEF Government of India, Since 2003.
- Member of Action plan vision 2020, MPCB, Forest Dept, Govt of Maharashtra, 2012-2014.
- Ecology and Biodiversity expert, Government of Maharashtra, Since 2013.
- Fellowship, International Congress of Chemistry and Environment, Since 2001.
- Fellowship, Indian Association of Aquatic Biologist, Since 1996.
- Advisor, Ecocert France, for Asian countries, Since 2010.

External Funding received:

- Base levels of Mercury, Cadmium and Lead in fresh water bivalve 8 ollusks, Lamellidens corrianus (Lee) from Nandrabad swamp near Aurangabad City, Dr. Babasaheb Ambedkar Marathwada, University, Aurangabad, Rs 60,000/-
- Water quality assessment of Salim Ali Lake near Delhi Gate, Aurangabad. Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Rs 40,000/-
- Water quality assessment of lentic areas in the vicinity of Aurangabad city. Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Rs 1,00,000/-
  •Faunal diversity of mangroves on the cost of Maharashtra with specific reference to their biotic potential. Ministry of Environment and Forest, New Delhi, Rs 1,88,000/-
- Diversity of bivalve molluscan fauna in the lotic and lentic environment of Aurangabad district with specific reference to their biotic potential. UGC New Delhi, Rs 4,58,000/-
- Impact of Urbanization on Avian fauna of Salim Ali Lake at Aurangabad. Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Rs 60,000/-
- Ecosustainability Assessment of Godavari River Water for Sustainable Utilization. University Grants Commission, New Delhi, Rs 7,58,000/-
- Assessment of Bird Sanctuary at Jaikwadi Dam with reference to Galpera Fishing. Irrigation Department, Government of Maharashtra, Rs 15,00,000/-
- Environmental Status Report of Aurangabad Corporation Area. Aurangabad Municipal Corporation, Rs 7,50,000/-
- Ecology and Biodiversity Studies of Jaikwadi Dam for parallel water supply scheme of AMC. Collaboration with ERFEA. Aurangabad Municipal Corporation, Rs 16,50,000/-
- Rapid Ecological Assessment Studies of Salim Ali lake, Aurangabad. Aurangabad Municipal Corporation, Rs 9,50,000/-
- Assessment of Ecology and Biodiversity studies of Jaikwadi dam in the proposed construction site of jackwell, pump house and RCC approach bridge for centralized water supply scheme of MIDC, Aurangabad. Collaboration with ERFEA. MIDC Aurangabad, Rs 18,50,000/-

Research Innovations:

- Research on eco-sustainability assessment of various water resources from Marathwada region.
- Extensive studies on Environmental impact Assessment for different projects from Maharashtra.
- Research on Ecological Foot printing and Carbon credit and LCA.
- Extensive research on Zero discharge technology and clean development mechanism in industries.
- Research on comprehensive environmental pollution index of various industrial clusters of Maharashtra.

Infrastructure Available :

- AAS, Flame Photometer, Visible spectrometer, Ion Chromatography, Aqua testers.
- High volume air Sampler, Respirable dust sampler, fine dust sampler, Stack monitoring kit.
- Orsat portable gas sampler, mechanical cup Anenometer, Digital Anemometer, D.B. meter, lux meter.
- Weather station to monitor win speed, direction, Temperature and relative humidity.
- GPS and GIS software to interpret environmental satellite data.
- DTA-TG system, IC preparation, Microwave system, Supercritical Fluid Extraction system.
- HPTLC, Ultra pure water purification system, X PRO DIffractometer, LCMS.
- SEM, EDS Microanalysis System.

Areas of Interest for collaboration with Industry:

R and D in CEPI, CETP, ETP, EIA, EA, EMS, CDM, Product Performance, Resource Rationalization, Product recovery, Recycling and reuse, Byproduct, Industrial Safety managementpractices, waste utilization, Hazardous waste management and risk management etc.

Research Publications : 88 (Total number of citations:46 ; h- index: 04; i10 index:01)