Department Profile

Name of the Department: Biochemistry

Year of Establishment : 1984

1) From the Desk of Head :

It gives me immense pleasure to lead the Department of Biochemistry which is working very hard towards the goal of providing innovative and quality education with high standard to achieve academic and research excellence in the field of Biochemistry to serve the Nation. Discipline of Biochemistry at Shivaji University Kolhapur, which comes under applied sciences, aims to provide exceptional training to all the students interested in cutting-edge research and education.

We offer M.Sc. (Master of Science) and Ph.D degree program in Biochemistry which is under horizontal mobility which supports the other departments like Biotechnology, Environmental Biotechnology, Microbiology, Pharmaceutical Microbiology as well as P.G Diploma in Bioinformatics. Started in 1984, department is rapidly growing every year in terms of research diversity, external funding and number of publications. At present 7 faculty members and approximately 40 Ph. D, and 2 Postdoctoral student's with research interests ranging from traditional to highly interdisciplinary and collaborative research areas are working. The approaches undertaken by constituent research groups span from studying microbes to mammals using tools of physiology to bioinformatics. Its faculty comprises notable teachers and researchers well recognized in their respective fields by peer groups in India as well as abroad. Department is well equipped with state-of-art sophisticated instrumentation facilities to facilitate research in almost all areas of Biochemistry and interdisciplinary research. The main source of external funding comes from UGC, DBT, DST, RGSTC, CSIR, RUSA, SERB, ICMR etc. The department has consistently maintained a high level of productivity in terms of publications in reputed peer reviewed journals and books. Over 500 papers have been authored by the faculty of the department since its inception. Over 100 students of the department have been awarded Ph.D. Degree. Members of the faculty have been honored with recognitions like members of the Planning Commission, elected Fellows of various Academies, and many others.

The alumni base of the department is very strong many of them have occupied research (postdoctoral) and other positions in academia as well as industries, globally. Their accomplishments have been outstanding and reflect on the quality training imparted at the postgraduate and Ph.D. level.

Prof. Jyoti P. Jadhav
Head
Department of Biochemistry,
Shivaji University, Kolhapur

2) Brief History of the department along with present focus in academic & research

Department of Biochemistry was established in 1984 as one of the chemistry subjects in the department of chemistry and started as separate department in 1996. Prof. N. B. Patil from the department contributed in administration by serving as the Pro-Vice Chancellor of the university (16/12/1996 to 31/10/2000).

Department of Biochemistry is supported financially by DST FIST, UGC SAP DRS I & II, DST PURSE, DBT, RGSTC, RUSA, SERB etc. Research thrust of the department fall in front line areas of Biochemistry like phytoremediation, neurodegenerative diseases, oxidative stress, aging, enzymology etc. Two Professors from the department are recognized among world's top 2 % Scientists. The curriculum of the subject has been fine tuned in such a way that students are accommodated in various National and international institutes and universities by qualifying various examinations like NET, SET, GATE, GRE, TOFEL etc. Department also encourage co-curricular activities that are important for over all development of the student.

In 2019, Department of Biochemistry started an International post graduate program M. Sc. in Medical Information Management in collaboration with Hochschule Hannover – University of Applied Sciences and Arts, Hannover, Germany. Under faculty and student exchange activity faculty members and students from both the institute will visit their counter parts. This program offers an opportunity to the students to complete their final semester in Germany where they can complete their research project. The curriculum is taught by the faculty from Hochschule Hannover – University of Applied Sciences and Arts, Hannover, Germany and Department of Biochemistry, Shivaji University, Kolhapur, India. Students have great career opportunities in the field of clinical data management after completing this program.

3) Vision

Nurture the department to be a center of excellence in the new era of Biochemical Sciences by grooming youth at par with global competence.

Mission

Craft a strong human resource for research in Clinical Biochemistry and Bioinformatics

Goals of the Department

- Prepare students for undertaking academic and research tasks in the field of Biochemistry
- Enable students to gain deep insights into every aspect of the subject and its applicability
- To generate successful entrepreneurs to serve the nation

Core Values

- Understand biochemical processes in detail at molecular level.
- Strive hard for clear understanding by precise and focused teaching using modern teaching aids.
- Perform high quality research by inculcating core ethical values.

4) Academic Programmes offered with intake capacity :

Sr. No.	Programme	Year of Inception	Intake Capacity
1	➢ M.Sc. (Biochemistry) ➢ M. Sc. (Environmental Biotechnology) ➢ M. Sc. (Medical Information Management) in collaboration with Hochschule Hannover – University of Applied Sciences and Arts, Hannover, Germany	1984 2006 2019	25 10 20
2	M. Phil.	1984	As per available vacancies
3	Ph.D.	1984	11
4	PG Diploma in Bioinformatics	2008	20

5) CBCS Programme Structure:

M. Sc. Biochemistry

SEMESTER-I (Duration- Six month)											
	Sr. No.	Course code	Teaching Scheme			Examination Scheme					
			Theory and Practical			University Assessment (UA)			Internal Assessment (IA)		
			Lectures (per week)	Hours (per week)	Credit	Maximum Marks	Minimum Marks	Exam. Hours	Maximum Marks	Minimum Marks	Exam. Hours
CGPA	1	**CC-101A**:Cell Biochemistry and Nucleic acids (CBCS) **OR** **CC-101B**: Cell Biology, Microbiology and Virology (CBCS)	4	4	4	80$	32	3	20	8	1
	2	**CC-102:** Proteins: Structure and Functions	4	4	4	80$	32	3	20	8	1
	3	**CC-103:** Biomolecules	4	4	4	80$	32	3	20	8	1

	4	**CC-104A:** Basics of Physiology and Endocrinology (CBCS) **OR** **CC-104B:** Biostatistics and Computer applications (CBCS)	4	4	4	80$	32	3	20	8	1
	5	**CCPR-105:** Laboratory Course	16	16	8	200*	80	-	-	-	#
Total (A)			**-**	**-**	**24**	**520**	**-**	**-**	**80**	**-**	**-**
Non-CGPA	1	**AEC-106**	2	2	2	-	-	-	50	20	2
SEMESTER-II (Duration- Six month)											
CGPA	1	**CC-201:** Enzymology	4	4	4	80$	32	3	20	8	1
	2	**CC-202:** Molecular Biology	4	4	4	80$	32	3	20	8	1
	3	**CC-203:** Bioenergetics	4	4	4	80$	32	3	20	8	1
	4	**CC-204:** Tools and Techniques in Biosciences	4	4	4	80$	32	3	20	8	1
	5	**CCPR-205:** Laboratory Course	16	16	8	200*	80	-	-	-	#

Total (B)			**-**	**-**	**24**	**520**	**-**	**-**	**80**	**-**	**-**
Non-CGPA	1	**SEC-206**	2	2	2	-	-	-	50	20	2
Total (A + B)			**-**	**-**	**48**	**1040**	**-**	**-**	**160**	**-**	**-**

SEMESTER-III (Duration- Six month)											
	Sr. No.	Course code	Teaching Scheme			Examination Scheme					
			Theory and Practical			University Assessment (UA)			Internal Assessment (IA)		
			Lectures (per week)	Hours (per week)	Credit	Maximum Marks	Minimum Marks	Exam. Hours	Maximum Marks	Minimum Marks	Exam. Hours
CGPA	1	**CC-301:** Genetic Engineering	4	4	4	80$	32	3	20	8	1
	2	**CCS-302:** Biomembrane & Cytoskeleton	4	4	4	80$	32	3	20	8	1
	3	**CCS-303 A**: Fermentation Technology-I **OR**	4	4	4	80$	32	3	20	8	1

		CCS-303 B: Clinical Biochemistry-I **OR** **CCS-303 C:** Biochemical and Environmental Toxicology-I									
	4	**DSE-304:** Immunology	4	4	4	80$	32	3	20	8	1
	5	**CCPR-305:** Laboratory Course	16	16	8	200*	80	-	-	-	#
Total (C)			**-**	**-**	**24**	**520**	**-**	**-**	**80**	**-**	**-**
Non-CGPA	1	**AEC-306**	2	2	2	-	-	-	50	20	2
	2	**EC (SWMMOOC)-307:** Food Microbiology and Food Safety	5	5	4	-	-	-	-	-	-
SEMESTER-IV (Duration- Six month)											
CGPA	1	**CC-401:** Research Methodology, Entrepreneurship Development &Communication	4	4	4	80$	32	3	20	8	1

		skills									
	2	**CCS-402:** Neurochemistry and Carcinogenesis	4	4	4	80$	32	3	20	8	1
	3	**CCS-403:** Bioinformatics	4	4	4	80$	32	3	20	8	1
	4	**DSE-404 A:** Fermentation technology-II **OR** **DSE-404 B:** Clinical Biochemistry-II **OR** **DSE-404 C:** Biochemical & Environmental Toxicology-II	4	4	4	80$	32	3	20	8	1
	5	**CCPR-405:** Laboratory Course and Project	16	16	8	200*	80	-	-	-	#
Total (D)			**-**	**-**	**24**	**520**	**-**	**-**	**80**	**-**	**-**
Non-CGPA	1	**SEC-406**	2	2	2	-	-	-	50	20	2
	2	**GE-407 :** Research Methodology and Entrepreneurship	2	2	2	-	-	-	50	20	2

		Development									
Total (C + D)			**-**	**-**	**48**	**1040**	**-**	**-**	**160**	**-**	**-**

M. Sc. Environmental Biotechnology

SEMESTER-I (Duration- Six month)											
	Sr. No.	Course code	Teaching Scheme			Examination Scheme					
			Theory and Practical			University Assessment (UA)			Internal Assessment (IA)		
			Lectures (per week)	Hours (per week)	Credit	Maximum Marks	Minimum Marks	Exam. Hours	Maximum Marks	Minimum Marks	Exam. Hours
CGPA	1	**CC-101A**:Cell Biochemistry and Nucleic acids (CBCS) **OR** **CC-101B**: Cell Biology, Microbiology and Virology (CBCS)	4	4	4	80$	32	3	20	8	1
	2	**CC-102:** Proteins: Structure and Functions	4	4	4	80$	32	3	20	8	1

	3	**CC-103:** Biomolecules	4	4	4	80$	32	3	20	8	1
	4	**CC-104A:** Basics of Physiology and Endocrinology (CBCS) **OR** **CC-104B:** Biostatistics and Computer applications (CBCS)	4	4	4	80$	32	3	20	8	1
	5	**CCPR-105:** Laboratory Course	16	16	8	200*	80	-	-	-	#
Total (A)			**-**	**-**	**24**	**520**	**-**	**-**	**80**	**-**	**-**
Non-CGPA	1	**AEC-106**	2	2	2	-	-	-	50	20	2
SEMESTER-II (Duration- Six month)											
CGPA	1	**CC-201:** Enzymology	4	4	4	80$	32	3	20	8	1
	2	**CC-202:** Molecular Biology	4	4	4	80$	32	3	20	8	1
	3	**CC-203:** Bioenergetics	4	4	4	80$	32	3	20	8	1
	4	**CC-204:** Tools and Techniques in Biosciences	4	4	4	80$	32	3	20	8	1

	5	**CCPR-205:** Laboratory Course	16	16	8	200*	80	-	-	-	#
Total (B)			**-**	**-**	**24**	**520**	**-**	**-**	**80**	**-**	**-**
Non-CGPA	1	**SEC-206**	2	2	2	-	-	-	50	20	2
Total (A + B)			**-**	**-**	**48**	**1040**	**-**	**-**	**160**	**-**	**-**

SEMESTER-III (Duration- Six month)											
	Sr. No.	Course code	Teaching Scheme			Examination Scheme					
			Theory and Practical			University Assessment (UA)			Internal Assessment (IA)		
			Lectures (per week)	Hours(per week)	Credit	Maximum Marks	Minimum Marks	Exam. Hours	Maximum Marks	Minimum Marks	Exam. Hours
CGPA	1	**CC-301:** Genetic Engineering	4	4	4	80	32	3	20	8	1
	2	**CCS-302:**Basics of Ecology, Ecotoxicology and Ecochemistry	4	4	4	80	32	3	20	8	1
	3	**CCS-303A:** Fermentation Technology-I **OR**	4	4	4	80	32	3	20	8	1

		CCS-303B: Biochemical and Environmental Toxicology- I									
	4	**DSE-304 :**Immunology	4	4	4	80	32	3	20	8	1
	5	**CCPR-305:** Laboratory Course	16	16	8	200	80	-	-	-	*
Total (C)			**-**	**-**	**24**	**520**	**-**	**-**	**80**	**-**	**-**
	1	**AEC-306**	2	2	2	-	-	-	50	20	2
Non-CGPA	2	**EC (SWMMOOC)-307:** Food Microbiology and Food Safety	5	5	4	-	-	-	-	-	-
SEMESTER-IV (Duration- Six month)											
CGPA	1	**CC-401:**Environmental Monitoring and Risk Assessment	4	4	4	80	32	3	20	8	1
	2	**CCS-402:**Environmental Biotechnology	4	4	4	80	32	3	20	8	1
	3	**CCS-403:** Bioinformatics	4	4	4	80	32	3	20	8	1
	4	**DSE-404A:**Biodiversity, IPR, Biosafety & Bioethics	4	4	4	80	32	3	20	8	1

		OR **DSE-404B:**Biochemical and Environmental Toxicology- II									
	5	**CCPR-405:**Laboratory Course and Dissertation	16	16	8	200	80	-	-	-	*
Total (D)			**-**	**-**	**24**	**520**	**-**	**-**	**80**	**-**	**-**
Non-CGPA	1	**SEC-406**	2	2	2	-	-	-	50	20	2
	2	**GE-407:** Research Methodology and Entrepreneurship Development	2	2	2	-	-	-	50	20	2
Total (C + D)			**-**	**-**	**48**	**1040**	**-**	**-**	**160**	**-**	**-**

M. Sc. Medical Information Management

SEMESTER-I (Duration- Six month)											
	Sr. No.	Course code	Teaching Scheme			Examination Scheme					
			Theory and Practical			University Assessment (UA)			Internal Assessment (IA)		
			Lectures (per week)	Hours (per week)	Credit	Maximum Marks	Minimum Marks	Exam. Hours	Maximum Marks	Minimum Marks	Exam. Hours
CGPA	1	**CC 101:** Information Technology in Health Sciences	4	4	4	80$	32	3	20	8	1
	2	**CC-102**: Introduction to Biological Sciences	4	4	4	80$	32	3	20	8	1
	3	**CC-103**: Medical informatics	4	4	4	80$	32	3	20	8	1
	4	**CC-104:** German Language A1	4	4	4	80$	32	3	20	8	1
	5	**CCPR-105:** Laboratory Course	16	16	08	200*	80	-	-	-	#
Total (A)			**-**	**-**	**24**	**520**	**-**	**-**	**80**	**-**	**-**
Non-CGPA	1	**AEC-106**	2	2	2	-	-	-	50	20	2

SEMESTER-II (Duration- Six month)											
CGPA	1	**CC-201:** Research Methods and Statistics	4	4	4	80$	32	3	20	8	1
	2	**CC-202**: Clinical Data and Quality and Management	4	4	4	80$	32	3	20	8	1
	3	**CC-203:** Clinical Quality Management	4	4	4	80$	32	3	20	8	1
	4	**CC-204:** Clinical Data Management-I	4	4	4	80$	32	3	20	8	1
	5	**CCPR-205**: Laboratory Course (Key Competencies)	16	16	08	200*	80	-	-	-	#
Total (B)			**-**	**-**	**24**	**520**	**-**	**-**	**80**	**-**	**-**
Non-CGPA	1	**SEC-206**	2	2	2	-	-	-	50	20	2
Total (A + B)			**-**	**-**	**48**	**1040**	**-**	**-**	**160**	**-**	**-**

SEMESTER-III											
	Sr. No.	Course code	Teaching Scheme			Examination Scheme					
			Theory and Practical			University Assessment (UA)			Internal Assessment (IA)		
			Lectures (per week)	Hours (per week)	Credit	Maximum Marks	Minimum Marks	Exam. Hours	Maximum Marks	Minimum Marks	Exam. Hours
CGPA	1	CC-301: Clinical Data Management II	4	4	4	80	32	3	20	8	1
	2	CC-302: Clinical Quality Management-II	4	4	4	80	32	3	20	8	1
	3	DSE-303: Project Management and Project Presentation	4	4	4	80	32	3	20	8	1
	4	DSE-304: Module to deepen Knowledge Clinical Research, Biostatistics, Epidemiology	4	4	4	80	32	3	20	8	1
	5	CCPR-305: Laboratory Course	16	16	8	200*#	80	-	-	-	#
Total (C)			**-**	**-**	**24**	**520**	**-**	**-**	**80**	**-**	**-**
Non-CGPA	1	AEC-306	2	2	2	-	-	-	50	20	2
	2	EC (SWMMOOC)-307: Intellectual Property	5	5	4	-	-	-	-	-	-
SEMESTER-IV											
CGPA	1	CCS 401: Phase I: Research problem identification and review of literature	-	-	4	-	-	-	100	40	-
	2	CCS 402: Phase II: Synopsis submission, and	-	-	4	-	-	-	100	40	-

		presentation.									
	3	CCS 403 : Phase III: Mid-term evaluation by presentation	-	-	4	-	-	-	100	40	-
	4	CCS 404 : Phase IV: Hard-bound submission and presentation	-	-	8	-	-	-	200	80	-
	5	CCPR 405: Phase V: Viva voce	-	-	4	-	-	-	100	40	-
Total (D)			**-**	32	24	-	-	-	600*#	240	-
Non-CGPA	1	SEC-406	2	2	2	-	-	-	50	20	2
	2	GE-407: Research Methodology and Entrepreneurship	2	2	2	-	-	-	50	20	2
Total (C + D)			**-**	**-**	**48**	**520**	**-**	**-**	**680**	**-**	**-**

6) Outcome based education:

a. POs

1) Students should have gain knowledge in fundamental concepts Biochemistry. The graduate should also get sufficient knowledge of the applied subjects like Genetic Engineering, Fermentation Technology, Tools and Techniques in Biosciences, Bioinformatics etc.
2) Student should become well versed with the qualitative and quantitative evaluation of various biomolecules, enzyme assays, isolation, purification and characterization of biologically important proteins along with various techniques like PCR, gene cloning and transformation used in the field of Molecular Biology and Clinical Biochemistry. He/she also should be able to utilize the knowledge of bioinformatics in the field of protein structure prediction and molecular modeling.
3) Candidate should gain capability of handling independent research projects through planning and successful execution of the experiment and be able to analyze of the data obtained using modern technological tools and should inculcate lifelong learning to keep up with advances in the subject.

b. PSOs

1) Produce a manpower having fundamental knowledge of Biochemistry and its applications in the field of i) Enzymology; ii) Molecular Biology; iii) Tool and Techniques in Biosciences; iv) Clinical Biochemistry; v) Immunology; vi) Fermentation Technology, Biomembranes and Neurochemistry.
2) Development of confident human resource capable taking up the jobs in academics and teaching, corporate organizations like industries, contract research organizations etc. in the fields like pharmaceuticals, cosmetics, food, forensic sciences and molecular biology etc.
3) Developing a candidate with a confidence of being successful in various competitive examinations like NET, SET, GATE, GRE, TOFEL etc. and proceed for a research career. Groom and encourage the students to be entrepreneur in life sciences products having applications in the area of food, health, cosmetics, agriculture etc. and be able to solve regional problems.

7) Faculty Details :

<table>
<tr><td>Name</td><td colspan="4">Prof. Jyoti P. Jadhav</td><td>  </td></tr>
<tr><td>Designation</td><td colspan="5">Professor and Head</td></tr>
<tr><td>Contact No.</td><td colspan="5">+91-0231-2609153, 2609365</td></tr>
<tr><td>E-mail ID</td><td colspan="5">jpj_biochem@unishivaji.ac.in, profjpjadhav@gmail.com</td></tr>
<tr><td>Research Areas</td><td colspan="5">Phytoremediation and Neurodegenerative diseases (Parkinson’s and Alzheimer disease)</td></tr>
<tr><td rowspan="3">No. of Research papers published (National/ International)</td><td colspan="2">Total</td><td colspan="3">Last 5 Years</td></tr>
<tr><td>National</td><td>International</td><td>National</td><td colspan="2">International</td></tr>
<tr><td>-</td><td>167</td><td>-</td><td colspan="2">98</td></tr>
<tr><td rowspan="2">Research Projects</td><td colspan="2">Project’s Title</td><td>Funding Agency</td><td>Status Ongoing/ Completed</td><td>Amount</td></tr>
<tr><td colspan="2">1. DBT-Shivaji University Kolhapur-Interdisciplinary Programme on Life Science for Advanced Research and education (IPLS). (Principal Investigator)
2. Biotechnology Departments Sophisticated Instrumentation Facilities. (Principal Investigator)
3. Construction of wetland-A phytoremediation</td><td>DBT New Delhi

Govt. of Maharashtra

DBT New Delhi</td><td>Completed

Completed

Completed</td><td>Rs. 6.01 Crore

Rs. 3.0 Crore

Rs. 10.65 Lakh</td></tr>
</table>

	treatment process for the degradation of dyes from textile effluent. **(Principal Investigator)** 4. Conversion of Traditional Jaggery Rounds into Free Flowing Stable Jaggery Granules. **(Principal Investigator)** 5. Integrated eco-electrogenic system for efficient and sustainable treatment of textile wastewater. **(Principal Investigator)**	RGSTC DBT New Delhi	Ongoing Ongoing	Rs. 1.0872 Crore Rs. 1.3487 Crore

No. of Books / Chapters Published	**National**		**International**		
	01		01		
Patents/ IPR	**Filed**		**Awarded**		
	01		01		
Research Impact	**Citations**	**h-Index**	**i-10 Index**	**RG Score**	**Highest Impact factor of a paper as per Thomson Reuters**
	5815	39	93	38.47	9.038
Total No .of Ph.D. Students	Awarded 20		Working 06		
Visits Abroad (Last 5 years; Give Details)	-				
National/ International Awards/ Fellowships (Give Details)	National awards-4 1. Women Scientist Award Biotechnology Research Society of India. (2011). 2. Fellow of Maharashtra Academy of Sciences (2011). 3. Member of National Academy of Sciences (2013). 4. Best Teacher Award 2016 Shivaji University Kolhapur (2016).				

Top 10 Publications	1. Devashree N. Patil, Sushama A. Patil, Srinivas Sistla, **Jyoti P. Jadhav** Comparative biophysical characterization: A screening tool for acetylcholinesterase inhibitors. (2019) **Plos One**, May 31, 2019. **(I.F. 2.74)** 2. Parag D Kolekar, Swapnil M Patil, Mangesh V Suryavanshi, Suresh S Suryawanshi, Rahul V Khandare, Sanjay P Govindwar, **JP Jadhav** (2019) Microcosm study of atrazine bioremediation by indigenous microorganisms and cytotoxicity of biodegraded metabolites. **Journal of Hazardous Materials**. **(I.F.9.038)** 3. Govind Vyavahare, Pooja Jadhav, **JP Jadhav**, Ravishankar Patil, Chetan Aware, Devashree Patil, Anna Gophane, Yung-Hun Yang, Ranjit Gurav (2019) Strategies for crystal violet dye sorption on biochar derived from mango leaves and evaluation of residual dye toxicity. **Journal of Cleaner Production** 207, 296-305. **(I. F 7.246)** 4. C Aware, R Patil, G Vyavahare, R Gurav, V Bapat, **J Jadhav** (2019) Processing Effect on L-DOPA, In Vitro Protein and Starch Digestibility, Proximate Composition, and Biological Activities of Promising Legume: *Mucuna macrocarpa*. **Journal of the American College of Nutrition.** 5, 447–456. **(I.F. 2.540)** 5. GD Vyavahare, RG Gurav, PP Jadhav, RR Patil, CB Aware, **JP Jadhav** (2018) Response surface methodology optimization for sorption of malachite green dye on sugarcane bagasse biochar and evaluating the residual dye for phyto and cytogenotoxicity. **Chemosphere** 194, 306-315. **(I.F. 5.778)** 6. T Mulla, S Patil, **J Jadhav** (2018) Exploration of surface plasmon resonance for yam tyrosinase characterization. **International Journal of Biological Macromolecules** 109, 399-406. **(I.F. 5.162)** 7. AD Watharkar , SK Kadam, RV Khandare, PD Kolekar, BH Jeon , **JP Jadhav**, SP Govindwar (2018) Asparagus densiflorus in a vertical subsurface flow phytoreactor for treatment of real textile effluent: A lab to land approach for in situ soil remediation. **Ecotoxicology and Environmental Safety** 161, 70-77. **(I.F. 4.872)** 8. CB Aware, RR Patil, GD Vyavahare, ST Gurme, **JP Jadhav** (2018) Ultrasound-Assisted Aqueous Extraction of Phenolic, Flavonoid Compounds and Antioxidant Activity of Mucuna macrocarpa Beans: Response Surface Methodology Optimization. **Journal of the American College of Nutrition**, 1-9. **(IF: 2.175)** 9. A. D. Watharkar, R. V. Khandare, P. R. Waghmare, A.D. Jagadale, S. P. Govindwar, **J.P. Jadhav** (2014) Treatment of textile effluent in a developed phytoreactor with immobilized bacterial augmentation and subsequent toxicity studies on *Etheostoma olmstedi* fish. **Journal of Hazard Materials** 283:698-704. **(IF: 4.33)**. 10. M. Rane, S. Suryawanshi, R. Patil, C. Aware, R. Jadhav, S. Gaikwad, P. Singh, S. Yadav, V. Bapat, R. Gurav, **J. Jadhav**

	(2019) Exploring the proximate composition, antioxidant, anti-Parkinson's and anti-inflammatory potential of two neglected and underutilized Mucuna species from India. **South African Journal of Botany** 124 (2019) 304–310 **(IF: 1.442)**.

<table>
<tr><td>Name</td><td colspan="4">Prof. (Dr.) K. D. Sonawane, FMASc., MNASc.
M.Sc., Ph.D. GATE
(NIH Post Doc Fellow, USA)
Founder Coordinator: PG Dip Bioinformatics
Founder Coordinator: M.Sc. Medical Information Management (In collaboration with Hochschule Hannover – University of Applied Sciences and Arts, Hannover, Germany)</td><td>  </td></tr>
<tr><td>Designation</td><td colspan="5">Professor and Coordinator</td></tr>
<tr><td>Contact No.</td><td colspan="5">+91-9881320719</td></tr>
<tr><td>E-mail ID</td><td colspan="5">kds_biochem@unishivaji.ac.in</td></tr>
<tr><td>Research Areas</td><td colspan="5">Bioinformatics/Molecular Modeling, Enzymology
Antimicrobial Resistance</td></tr>
<tr><td rowspan="3">No. of Research papers published (National/ International)</td><td colspan="2">Total</td><td colspan="2">Last 5 Years</td><td></td></tr>
<tr><td>National</td><td>International</td><td>National</td><td colspan="2">International</td></tr>
<tr><td>02</td><td>74</td><td>01</td><td colspan="2">43</td></tr>
<tr><td rowspan="3">Research Projects</td><td colspan="2">Project’s Title</td><td>Funding Agency</td><td>Status Ongoing/ Completed</td><td>Amount</td></tr>
<tr><td colspan="2">DBT- BUILDER Programme (In collaboration with Nanoscience and Biotechnology; Microbiology; Botany)
Group Leader</td><td>DBT, New Delhi</td><td>Ongoing</td><td>Rs. 5.0 Cr.</td></tr>
<tr><td colspan="2">Structural bioinformatics studies on ms2ct6A present in the anticodon loop of tRNALys and its role in codon-anticodon recognition with tRNA folding</td><td>DST-SERB, New Delhi</td><td>Ongoing
(Nov.2018 to Oct., 2021)</td><td>Rs. 25.73/- Lakhs</td></tr>
</table>

	(Principal Investigator)			
	Structural Significance of hypermodified nucleosides 5-taurinomethyluridine (τm^5U) and its derivative 5-taurinomethyl-2-thiouridine, (τm^5s^2U) present at 'wobble' position in anticodon loop of tRNA **(Principal Investigator)**	UGC, New Delhi.	Completed (July 2011 to March, 2014)	Rs.13.19/- Lakhs
	"Molecular modeling study of hypermodified nucleoside lysidine present at wobble position in anticodon loop of E. coli $tRNA^{Ile}$ and its role in proper codon-anticodon recognition" SERC - Fast Track Young Scientist Scheme. **(Principal Investigator)**	DST, New Delhi	Completed (January 2008 to April, 2011)	Rs. 18.32/- Lakhs
	UGC SAP DRS II Infrastructure Grant Sanctioned to Department of Biochemistry, Shivaji University, Kolhapur; **(Coordinator)**	UGC, New Delhi.	Completed 2015 April to March, 2020	Rs. 1.25 Cr (+ 2 Project Fellows)
	UGC SAP DRS I Infrastructure Grant Sanctioned to Department of Biochemistry, Shivaji University, Kolhapur; **(Dy. Coordinator)**	UGC, New Delhi.	Completed 2009 April to March, 2014	Rs. 32.00 Lakhs (+ 2 Project Fellows);
No. of Books / Chapters Published	National	International		
	0	02 (+01)		

<table>
<tr><td rowspan="2">Research Impact</td><td>Citations</td><td>h-Index</td><td>i-10 Index</td><td>RG Score</td><td>Highest Impact factor of a paper as per Thomson Reuters</td></tr>
<tr><td>1395</td><td>17</td><td>38</td><td>32.76</td><td>7.632</td></tr>
<tr><td>Total No .of Ph.D. Students</td><td colspan="2">Awarded 12
(+01 Submitted)</td><td colspan="3">Working 07 (01 International Student)</td></tr>
<tr><td>Visits Abroad</td><td colspan="5">01 Country; (02 Universities)
i) Jahangirnagar University, Jahangirnagar, Dhaka, Bangladesh
ii) Rajashahi University, Rajshahi, Bangladesh</td></tr>
<tr><td>National/ International Awards/ Fellowships</td><td colspan="5">Post -Doctoral Fellow, NIH/ NCI, Bethesda, MD, USA
Senior Research Fellow, NCL, Pune, India
Indo-French Project Fellow, NCL, Pune, India
Young Scientist Award, DST, New Delhi
Fellow Maharashtra Academy of Sciences (FMASc)
Elected Member National Academy of Sciences (MNASc)</td></tr>
<tr><td>Top 10 Publications</td><td colspan="5">1. Sagar S. Barale, Rishikesh S. Parulekar, Prayagraj M. Fandilolu, Maruti J Dhanavade and Kailas D. Sonawane, “ Molecular insights into destabilization of Alzheimers A protofibril by arginine containing short peptide: A molecular modelling approach. ACS OMEGA, 4, 892-903, 2019 (IF: 2.584)
2. Pranhita R. Nimbalkar, Manisha A. Khedkar, Rishikesh S. Parulekar, Vijaya K. Chandgude, Kailas D. Sonawane, Prakash V. Chavan, Sandip B. Bankar, “Role of trace elements as cofactor: an efficient strategy towards enhanced biobutanol production”. ACS Sustainable Chemistry and Engineering, 6, 9304–9313, 2018. (IF: 7.632)
3. Rishikesh S. Parulekar and Kailas D. Sonawane, “Insights into the antibiotic resistance and inhibition mechanism of aminoglycoside phosphotransferase from B. cereus: In-silico and in-vitro perspective. Journal of Cellular Biochemistry, 119, 9444-9461, 2018 (IF: 4.237)
4. Naiem H. Nadaf , Rishikesh S. Parulekar, Rahul S. Patil, Trupti K. Gade, Anjum A. Momin, Shailesh R. Waghmare, Maruti J. Dhanavade, Akalpita U. Arvindekar, Kailas D. Sonawane, “Biofilm inhibition mechanism from extract of Hymenocallis littoralis leave”, J Ethnopharmacol., 2018, Apr 23. (doi: 10.1016/j.jep.2018.04.031) (IF: 3.69).
5. Prayagraj M. Fandilolu, Asmita S. Kamble, Susmit B. Sambhare, and Kailas D. Sonawane, “Conformational preferences and structural analysis of hypermodified nucleoside peroxywybutosine (o2yW) found at 3'-adjacent (37th position) in anticodon loop of tRNA^{Phe}”. GENE, 641, 310-325, 2018, (IF: 2.319)</td></tr>
</table>

	6. Rishikesh Parulekar and **Kailas D. Sonawane**, "Molecular modeling studies to explore the binding affinity of virtually screened inhibitor towards different aminoglycoside kinases from diverse MDR strains". **Journal of Cellular Biochemistry**, 119, 2679-2695, 2017 **(IF: 4.237)** 7. **Kailas D. Sonawane**, Asmita S. Kamble and Prayagraj M. Fandilolu, "Preferences of AAA/AAG codon recognition by modified nucleosides, $\tau m^5 s^2 U_{34}$ and $t^6 A_{37}$ present in $tRNA^{Lys}$. **J. Biomol. Struct.Dyn.** 2017 Dec.15:1-35. **(IF:4.986)** 8. Asmita S. Kamble, Prayagraj M. Fandilolu, Susmit B. Sambhare, **Kailas D. Sonawane, "**Idiosyncratic recognition of UUG/UUA codons by modified nucleoside 5-taurinomethyluridine, τm5U present at `wobble' position in anticodon loop of $tRNA^{Leu}$: A molecular modeling approach". **PLoS ONE, 2017,** Apr 28;12(4):e0176756. doi: 10.1371/journal.pone.0176756, **(IF: 2.776)** 9. Chidambar B. Jalkute, Sagar H. Barage and **Kailas D. Sonawane**, "Insight into molecular interactions of Aβ peptide and gelatinase from *Enterococcus faecalis*: A molecular modeling approach. **RSC Advances**, 5, 10488-10496, 2015, **(IF:3.708) SCI** 10. Bajarang V. Kumbhar, Asmita D. Kamble, **Kailas D. Sonawane**. "Conformational Preferences of Modified Nucleoside N(4)-Acetylcytidine, ac^4C Occur at ''Wobble'' 34th Position in the Anticodon Loop of tRNA". **Cell Biochemistry and Biophysics, 66, 797-816, (2013) (IF:2.380).** (This paper has been cited in the prestigious journal by; - Arango et al., 2018, ***Cell*****,** 175, 1–15; December 13, 2018 (https://doi.org/10.1016/j.cell.2018.10.030); having Impact Factor: 31.398).

<table>
<tr><td>Name</td><td colspan="4">Dr. Sanjay Prabhu Govindwar
(Superannuated on May 31, 2016)</td><td>  </td></tr>
<tr><td>Designation</td><td colspan="5">Professor</td></tr>
<tr><td>Contact No.</td><td colspan="5">+91 9822840094, +82 10-5149-2326</td></tr>
<tr><td>E-mail ID</td><td colspan="5">spgovindwar@rediffmail.com, spg_biochem@unishivaji.ac.in
spgovindwar@hanyang.ac.kr</td></tr>
<tr><td>Research Areas</td><td colspan="5">1. Microbial Biotransformation
2. Phytoremediation</td></tr>
<tr><td rowspan="3">No. of Research papers published (National/ International)</td><td colspan="2">Total</td><td colspan="3">Last 5 Years</td></tr>
<tr><td>National</td><td>International</td><td>National</td><td colspan="2">International</td></tr>
<tr><td></td><td>273</td><td></td><td colspan="2">80</td></tr>
<tr><td rowspan="2">Research Projects</td><td colspan="2">Project’s Title</td><td>Funding Agency</td><td>Status Ongoing/ Completed</td><td>Amount (Lakhs)</td></tr>
<tr><td colspan="2">1. Induction of specific form of cytochrome P450 by methylxanthines and its role in chemical carcinogenesis.
2. Effect of sodium sulfadimethylpyrimidine on hepatic microsomal drug metabolising system and hepatotoxicity in chickens.</td><td>CSIR, New Delhi

UGC, New Delhi</td><td>Completed

Completed</td><td>2.49

2.27</td></tr>
</table>

	3. Study on feed aflatoxins levels and metabolism in chickens.	ICAR, New Delhi	Completed	1.66
	4. Decolorization of textile dyes using *Aspergillus ochraceus.*	UGC, New Delhi	Completed	7.92
	5. Biodegradation of textile dyes (Golden yellow HE2R & Navy Blue 3G using *Brevibacillus laterosporus.*	DST, New Delhi	Completed	19.64
	6. Biodegradation of textile dyes (Scarlet RR, Rubine GFL, Brown 3REL, Methyl Red, Brilliant Blue, Golden Yellow HER and Remazol Red) using *Galactomyces geotrichum* MTCC 1360 and consortia with *Brevibacillus laterosporus*	DBT, New Delhi	Completed	51.66
	7. One-time grant to intensify research in his area.	UGC, New Delhi	Completed	7.00
	8. Cellulolytic enzymes production by isolated *Nocardiopsis* sp. and its application in lignocellulose saccharification for biohydrogen production.	UGC, New Delhi	Completed	11.04
	9. Studies on microbial decolorization and degradation of toxic dyes from textile effluent.	UGC, New Delhi	Completed	12.60
	10. Construction of wetland- a	DBT, New Delhi	Completed	29.75

	phytoremediation treatment process for the degradation of dyes from textile industrial effluent. 11. Integrated eco-electrogenic system for efficient and sustainable treatment of textile wastewater. 12. Phytoremediation of emerging contaminants from simulated wastewater using semi-aquatic plants 13. Development of advanced reactor plants (APR) for the removal of contaminants from the sewage wastewater		DBT, New Delhi Hanyang University NRF, Korea	Completed Completed Completed	43.15 $10,000 $87,500
Patents/ IPR	Filed		Awarded		
			1. Applicants/Inventers: S.P. Govindwar, A.A. Kadam; Coagulation of dyes from textile wastewater using novel coagulant and genearated dye sludge decolorization under solid state fermentation. Application No. 372/MUM/2014; Date of filing: 03/02/2014. (docket No. 2059; CBR No. 1478)		
Research Impact	**Citations**	**h-Index**	**i-10 Index**	**RG Score**	**Highest Impact factor of a paper as per Thomson Reuters**
	12811	59	198		14.416
Total No .of Ph.D. Students	Awarded		Working		

	40	1
Total No. of M. Phil. Students	Awarded 1	Working -
National/ International Awards/ Fellowships (Give Details)	1. Recognized as "Top 2% World Scientist" Biotechnology, Environmental Science (PLOS Biology, October 16, 2020). https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.3000918 2. Recognized as an Expert scape World Expert (top 0.1% of scholars) in 1. Conservation of Natural Resources, 2. Textiles, and 3. Environmental Biodegradation over the past 10 years (June 7, 2019) http://www.expertscape.com/ex/conservation+of+natural+resources http://www.expertscape.com/ex/biodegradation%2C+environmental http://www.expertscape.com/ex/textile 3. Brain Pool Invited Scientist, Hanyang University, Seoul, South Korea (July 1, 2017- December 31, 2017) 4. Brain Pool Invited Scientist, Gyeongsang National University, Jinju, South Korea (June 1, 2013- August 31, 2013) 5. Award "Aadarsh Rajya Shikshak Puraskar-2012-13" (10-9-2013) 6. Award "Best Teacher-2012", Shivaji University, Kolhapur (18-11-2012) 7. Fellow of Biotechnology Research Society of India, FBRS (2009) 8. Fellow of Maharashtra Academy of Sciences, FMASc (2009) (BLF 879) 9. Fellow of International Society of Biotechnology, FISBT (2008) 10. University Scholar, Department of Biochemistry, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, INDIA (1978-1979). 11. Stood First at M. Sc. (Biochemistry), Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, INDIA.	
Top 10 Publications	1. Basak, B., Patil, S.M., Saha, S., Kurade, M.B., Haa, G-S., **Govindwar, S.P**., Lee, S.S., Chang, S.W., Chung, W.J., Jeon, B-H. (2021) Bioaugmentation with acclimatized microbial consortium facilitates the swift recovery of overfed stalled anaerobic digesters. Sci. **Total Environ. (IF: 6.551) SCI** 2. Kolekar, P.D., Patil, S.M., Suryavanshi, M.V., Suryawanshi, S.S., Khandare, R.V., **Govindwar, S.P**., and Jadhav, J.P. (2019) Microcosm study of atrazine bioremediation by indigenous microorganisms and cytotoxicity of biodegraded metabolites. **J. Hazard. Meter.** 374, 66-73 (**IF: 9.038**) **SCI** 3. Xiong, J-Q., Cui, P., Ru, S., **Govindwar, S.P.**, Kurade, M.B., Jang, M., Kim, S-H., Jeon, B-H. (2021) Unravelling metabolism	

	and microbial community of a phytobed co-planted with *Typha angustifolia* and *Ipomoea aquatica* for biodegradation of doxylamine from wastewater. **J. Hazard. Meter.** 401, article 123404 (**IF: 9.038**) **SCI** 4. El-Dalatony, M.M., Salama, El-S., Kurade, M.B., Kim, K.Y., **Govindwar, S.P**., Kim, J.R., Kwon, E.E., Min, B., Jang, M., Oh, S.E., Chang, S.W., and Jeon, B.H. (2019) Whole conversion of microalgal biomass into biofuels through successive high-throughput fermentation. **Chem. Eng. J.** 360, 797-805 **(IF: 10.652) SCI** 5. Kurade, M.B., Waghmode, T.R., Patil, S. M., Jeon, B.H. and **Govindwar, S.P.** (2017) Monitoring the gradual biodegradation of dyes in a simulated textile effluent and development of a novel triple layered fixed bed reactor using a bacterium-yeast consortium. **Chem. Eng. J.**, 307, 1026-1036. **(IF: 10.652) SCI** 6. Waghmode, T.R., Kurade, M.B., Sapkal, R.T., Bhosale, C.H., Jeon, B-H., and **Govindwar, S.P**. (2019) Sequential photocatalysis and biological treatment for the enhanced degradation of the persistent azo dye methyl red. **J. Hazard. Meter.** 371, 115-122 (**IF: 9.038**) **SCI** 7. Patil, S.M., Suryavanshi, M.V., Chandanshive, V.V., Kurade, M.B., **Govindwar, S.P**., and Jeon, B-H. (2020) Regeneration of textile wastewater deteriorated microbial diversity of soil microcosm through bioaugmentation. **Chem. Eng. J.** 380, article 122533 (**IF: 10.652) SCI** 8. Lee, S-H., Xiong, J-Q., Ru, S., Patil, S.M., Kurade, M.B., **Govindwar, S.P**., Oh, S-E., Jeon, B-H. (2020) Toxicity of benzophenone-3 and its biodegradation in a freshwater microalga *Scenedesmus obliquus.* **J. Hazard. Meter.** 389, article 122149 (**IF: 9.038**) **SCI** 9. El-Dalatony, M.M., Saha, S., **Govindwar, S.P.**, Abou-Shanab, R.A.I., and Jeon, B-H. (2019) Biological conversion of amino acids to higher alcohols. **Trends Biotechnol.** 37, 855-869 **(IF: 14.343) SCI** 10. Salama, El-S., **Govindwar, S.P**., Khandare, R.V., Roh, H-S., Jeon, B-H. and Li, X. (2019) Can omics approaches improve microalgal biofuels under abiotic stress? **Trends Plant Sci.** 24, 611-624 **(IF: 14.416) SCI**

<table>
<tr><td>Name</td><td colspan="4">Prof. (Mrs.) Akalpita U. Arvindekar

(Superannuated on April 30, 2019)</td><td>  </td></tr>
<tr><td>Designation</td><td colspan="5">Professor</td></tr>
<tr><td>Contact No.</td><td colspan="5">+91 9762 746 409</td></tr>
<tr><td>E-mail ID</td><td colspan="5">drauarvindekar@yahoo.co.in, auarvindekar@rediffmail.com, aua_biochem@unishivaji.ac.in</td></tr>
<tr><td>Research Areas</td><td colspan="5">Diabetes (Type I and II), Protein glycation, Plant bioactives</td></tr>
<tr><td rowspan="3">No. of Research papers published (National/ International)</td><td colspan="2">Total</td><td colspan="2">Last 5 Years</td><td></td></tr>
<tr><td>National</td><td>International</td><td>National</td><td colspan="2">International</td></tr>
<tr><td>-</td><td>32</td><td>-</td><td colspan="2">09</td></tr>
<tr><td rowspan="4">Research Projects</td><td colspan="2">Project’s Title</td><td>Funding Agency</td><td>Status Ongoing/ Completed</td><td>Amount</td></tr>
<tr><td colspan="2">1. Study of non specific protein glycation inhibitors from plant sources in treatment of diabetes mellitus”</td><td>UGC</td><td>Completed</td><td>14.87 Lakhs</td></tr>
<tr><td colspan="2">2. Establishing a Resource Centre for Studies on Ayurvedic medicines in treatment of diabetes mellitus</td><td>RGSTC</td><td>Completed</td><td>100.90 Lakhs</td></tr>
<tr><td colspan="2">3. RUSA centre for natural products and</td><td>RUSA</td><td>Completed</td><td>150 Lakhs</td></tr>
</table>

	alternative medicine 4. STOP Diabetes – Development of Nutraceutical Products		RUSA		Completed	35 Lakhs
Research Impact	**Citations**	**h-Index**	**i-10 Index**	**RG Score**	**Highest Impact factor of a paper as per Thomson Reuters**	
	798	16	20	27.04	5.162	
Total No. of Ph.D. Students	Awarded 15		Working 02			
Top 10 Publications	1] Rahul Patil, Sheetalnath Rooge, Hemangee Damame, Vivek Haldavnekar, Akalpita Arvindekar. Role of curd and yogurt in establishment and progression of diabetes through protein glycation and induction of inflammation. *Food Bioscience*, **39**, 100829 (2021). https://doi.org/10.1016/j.fbio.2020.100829. **IF: 3.06** 2] **Rahul Patil**, Akalpita Arvindekar. Glycation of gut proteins initiates microbial dysbiosis and can promote establishment of diabetes in experimental animals. *Microbial Pathogenesis*, 104589 (2020). https://doi.org/10.1016/j.micpath.2020.104589. **IF: 2.91** 3] Hemangee H. Damame, Sheetalnath B. Rooge, Rahul S. Patil, Akalpita U. Arvindekar. *In vitro* model using cytokine cocktail to evaluate apoptosis in Min6 pancreatic beta cells. *Journal of Pharmacological and Toxicological Methods*, **106**, 106914 (2020). https://doi.org/10.1016/j.vascn.2020.106914. **IF: 2.25** 4] Snehalata P. Kamble, Varsha A. Ghadyale, Rahul S. Patil, Vivek S. Haldavnekar, Akalpita U. Arvindekar. Inhibition of GLUT2 transporter by Geraniol from *Cymbopogon martinii*: a novel treatment for diabetes mellitus in streptozotocin induced diabetic rats. *Journal of Pharmacy and Pharmacology*, **72**, 294-304 (2020). https://doi.org/10.1111/jphp.13194. **IF: 2.39** 5] Laxman N. Bavkar, **Rahul S. Patil**, Sheetalnath B. Rooge,					

	Megha L. Nalawade, Akalpita U. Arvindekar. Acceleration of protein glycation by oxidative stress and comparative role of antioxidant and protein glycation inhibitor. *Molecular and Cellular Biochemistry,* **459**, 61-71 (2019). https://doi.org/10.1007/s11010-019-03550-7. **IF: 2.88** 6] Megha L. Nalawade, Rahul S. Patil, Laxman N. Bavkar, Sheetalnath B. Rooge, Vivek S. Haldavnekar, Akalpita U. Arvindekar. Early metabolic changes in the gut leads to higher expression of intestinal alpha glucosidase and thereby enhanced postprandial spikes. *Life Sciences,* **218**, 8-15 (2019). https://doi.org/10.1016/j.lfs.2018.12.025. **IF: 3.23** 7] Madhav M. Joglekar, Laxman N. Bavkar, Shinivasan Sistla, Akalpita U. Arvindekar. Effective inhibition of protein glycation by combinatorial usage of limonene and aminoguanidine through differential and synergistic mechanisms. *International journal of biological macromolecules,* **99**, 563-569 (2017). https://doi.org/10.1016/j.ijbiomac.2017.02.104. **IF: 5.16** 8] Ashwini D. Jagdale, Laxman N. Bavkar, Tanaji A. More, Madhav M. Joglekar, Akalpita U. Arvindekar. Strong inhibition of the polyol pathway diverts glucose flux to protein glycation leading to rapid establishment of secondary complications in diabetes mellitus. Journal of Diabetes Complications, **30**, 398-405 (2016). https://doi.org/10.1016/j.jdiacomp.2016.01.001. **IF: 2.78** 9] Aditya Arvindekar, Tanaji More, Pavan Payghan, Kirti Laddha, Nanda Ghoshal, Akalpita Arvindekar. Evaluation of anti-diabetic and alpha glucosidase inhibitory action of anthraquinones from *Rheum emodi*. Food Function, **6**, 2693-700 (2015). https://doi.org/10.1039/c5fo00519a. **IF: 4.17** 10] Swapnil B. Patil, Varsha A. Ghadyale, Shreehari S. Taklikar, Chaitanya R. Kulkarni, Akalpita U. Arvindekar. Insulin Secretagogue, Alpha-glucosidase and Antioxidant Activity of Some Selected Spices in Streptozotocin-induced Diabetic Rats. Plant Foods for Human Nutrition, **66**, 85-90 (2011).

	https://doi.org/10.1007/s11130-011-0215-7. **IF: 2.90**

Name	Dr. Pradeep M Gurao				
Designation	Associate Professor				
Contact No.	9623619619				
E-mail ID	pmg_biochem@unishivaji.ac.in				
Research Areas	Protein Biochemistry				
	-	-	-	-	
Research Projects	**Project's Title**		**Funding Agency**	**Status Ongoing/ Completed**	**Amount**
	1. Proteinaceous Plant α-Amylase Inhibitor(s): A New Tool for Pest Management **(Co-PI)**. 2. Application of plant proteinaceous α-amylase inhibitors in food processing and post harvest preservation. **(Co-PI)**		RGSTC RGSTC	Ongoing Ongoing	Rs. 4.80 Lakhs Rs. 68.20 Lakhs

<table>
<tr><td>Name</td><td colspan="4">Dr. Pankaj K Pawar</td><td>  </td></tr>
<tr><td>Designation</td><td colspan="5">Associate Professor</td></tr>
<tr><td>Contact No.</td><td colspan="5">9921891068</td></tr>
<tr><td>E-mail ID</td><td colspan="5">Pkp.biochem@unishivaji.ac.in</td></tr>
<tr><td>Research Areas</td><td colspan="5">i) Oxidative stress and Aging
ii) Integrated Pest Management</td></tr>
<tr><td rowspan="3">No. of Research papers published (National/ International)</td><td colspan="2">Total</td><td colspan="3">Last 5 Years</td></tr>
<tr><td>National</td><td>International</td><td>National</td><td colspan="2">International</td></tr>
<tr><td>13</td><td>31</td><td>03</td><td colspan="2">14</td></tr>
<tr><td rowspan="2">Research Projects</td><td>Project’s Title</td><td>Funding Agency</td><td>Status Ongoing/ Completed</td><td colspan="2">Amount</td></tr>
<tr><td>1. Prospecting a few medicinally important members of family solanaceae for alpha-amylase inhibitor (s) and studies on its/their interaction with insect amylases. (Principal Investigator)
2. Proteinaceous Plant α-Amylase Inhibitor(s): A New Tool for Pest Management. (Principal Investigator)
3. Application of plant proteinaceous α-amylase inhibitors in food processing and post harvest preservation.</td><td>SERB, New Delhi

RGSTC

RGSTC</td><td>Completed</td><td colspan="2">Rs. 16.56 Lakhs

Rs. 4.80 Lakhs

Rs. 68.20 Lakhs</td></tr>
</table>

<table>
<tr><td></td><td colspan="2">(Principal Investigator)</td><td colspan="2"></td><td colspan="2"></td></tr>
<tr><td rowspan="2">Research Impact</td><td>Citations</td><td>h-Index</td><td>i-10 Index</td><td>RG Score</td><td colspan="2">Highest Impact factor of a paper as per Thomson Reuters</td></tr>
<tr><td>545</td><td>12</td><td>14</td><td>21.92</td><td colspan="2">9.130</td></tr>
<tr><td>Total No .of Ph.D. Students</td><td colspan="2">Awarded
02</td><td colspan="4">Working
03</td></tr>
<tr><td>Top 10 Publications</td><td colspan="6">1. Trishala R. Desai, Tukaram D. Dongale, Swapnil R. Patil, Arpita Pandey Tiwari, Pankaj K. Pawar, Rajanish K.Kamat and Tae Geun Kim (2021). Synaptic learning functionalities of inversebiomemristive device based on trypsin for artificialintelligence application, Journal of Materials Research and Technology, https://doi.org/10.1016/j.jmrt.2021.01.108. (I.F.5.289)
2. Rahul V. Khandare, Anupreeta D. Watharkar, Pankaj K. Pawar, Anil A. Jagtap and Neetin S. Desai (2020). Hydrophytic plants Canna indica, Epipremnum aureum, Cyperus alternifolius and Cyperus rotundus for phytoremediation of fluoride from water. Experimental Technology and Innovation, https://doi.org/10.1016/j.eti.2020.101234. (I.F.3.356)
3. Sainath S. Kasar , Vaibhav B. Sabale , Rani A. Shinde , Vijay L. Maheshwari and Pankaj K. Pawar (2020)) Effect of α-amylase inhibitor from Withania somnifera on growth and development of Callosobruchus chinensis and in silico studies on its interactions with insectamylase. Archives of Phytopathology and Plant Protection, DOI: 10.1080/03235408.2020.1826745. (I.F. 1.672)
4. Sainath S. Kasar, Ashok P. Giri, Pankaj K. Pawar and Vijay L. Maheshwar (2019). A protein α- amylase inhibitor from Withania somnifera and its role in overall quality and nutritional value improvement of potato chips during processing. Food and Bioprocess Technology, 12: 636 - 644. (I.F. 3.356)</td></tr>
</table>

	5. Shivtej P. Biradar, Asif S. Tamboli, Rahul V. Khandare, and **Pankaj K. Pawar** (2019). Chebulinic acid and Boeravinone B act as anti aging and anti apoptosis phytomolecules during oxidative stress. **Mitochondrion**, 46: 236 – 246. **(I.F. 3.992)** 6. Shivtej P. Biradar, Asif S. Tamboli, Tejas P. Patil, Rahul V. Khandare, Sanjay P. Govindwar and **Pankaj K. Pawar** (2017). Phytoextracts protect Saccharomyces cerevisiae from oxidative stess with simultaneous enhancement in bioremediation efficacy. **Indian Journal of Experimental Biology**, 55: 469 – 478. **(I.F.: 0.783)** 7. Amey J. Bhide, Sonal M. Chanale, Yashpal Yadav, Kabita Bhattacharjee, **Pankaj K. Pawar**, Vijay. L. Maheshwari, Vidya S. Gupta, Sureshkumar Ramasamy and Ashok P. Giri (2017). Genomic and functional characterization of coleopteran specific α-amylase inhibitor gene from amaranthus species. Plant Molecular Biology, 94: 319 – 332. **(I.F. 3.302)** 8. Rahul V. Khandare, Shaileshkumar B. Desai, Sourabh S. Bhujbal, Anuprita D. Watharkar, Shivtej Biradar, **Pankaj K. Pawar** and Sanjay P. Govindwar (2017). Phytoremediation of fluride with garden ornamentals Nerium oleander, Portulaca oleracea and Pogonatherum crinitum. **Environmental Science and Pollution Research**, DOI: 10.1007/s11356-017-8424-8. (I.F.:3.056). 9. Sainath S. Kasar, Kiran R. Marathe, Amey J. Bhide, Abhijeet P. Herwade, Ashok P. Giri, Vijay L. Maheshwari and **Pankaj K. Pawar** (2017). A glycoprotein α-amylase inhibitor from *Withania somnifera* differentially inhibits various α-amylases and affects growth and development of *Tibolium castaneum*. **Pest Management Science**, 73: 1382 - 1390. **(I.F.: 3.750)** 10. Niraj R. Rane, Vishal V. Chandanshive, Anuprita D. Watharkar, Rahul V. Khandare, Tejas S. Patil, **Pankaj K. Pawar** and Sanjay P. Govindwar (2015). Phytoremediation of sulfonated Ramazol Red dye and textile effluents by *Alternanthera Philoxeroides*: An anatomical, enzymatic and pilot scale study. **Water Research**,83: 271 – 281. **(I.F. 9.130)**

<table>
<tr><td>Name</td><td colspan="4">Dr. (Mrs.) P.B.Dandge</td><td>  </td></tr>
<tr><td>Designation</td><td colspan="5">Assistant Professor</td></tr>
<tr><td>Contact No.</td><td colspan="5">9921111722</td></tr>
<tr><td>E-mail ID</td><td colspan="5">pbd_biochem@unishivaji.ac.in</td></tr>
<tr><td>Research Areas</td><td colspan="5">Microbial Enzymology, Clinical Biochemistry and Animal Biotransformation</td></tr>
<tr><td rowspan="3">No. of Research papers published (National/ International)</td><td colspan="2">Total</td><td colspan="2">Last 5 Years</td><td></td></tr>
<tr><td>National</td><td>International</td><td>National</td><td colspan="2">International</td></tr>
<tr><td>7</td><td>28</td><td>3</td><td colspan="2">23</td></tr>
<tr><td rowspan="2">Research Projects</td><td colspan="2">Project’s Title</td><td>Funding Agency</td><td>Status Ongoing/ Completed</td><td>Amount</td></tr>
<tr><td colspan="2">1) A study of cholesterol oxidase enzyme from Cellulomonas sp, a diagnostic tool for cholesterol determination. (Principal Investigator)
2) Development of food product (instant sport drink) from fish waste enriched with collagen: use of an underutilized food biomass and its incredible</td><td>UGC New Delhi
RGSTC</td><td>Completed
Ongoing</td><td>Rs. 13.91 Lakh
Rs. 4.10 Lakh</td></tr>
</table>

<table>
<tr><td></td><td colspan="2">applications in food industries. (Principal Investigator)

3) Amelioration of plant growth and productivity using bacterial inoculant and poultry waste. (Principal Investigator)</td><td colspan="2">SUK</td><td>Rs. 3.00 Lakh</td></tr>
<tr><td rowspan="2">Research Impact</td><td>Citations</td><td>h-Index</td><td>i-10 Index</td><td>RG Score</td><td>Highest Impact factor of a paper as per Thomson Reuters</td></tr>
<tr><td>454</td><td>11</td><td>14</td><td>17.97</td><td>4.3</td></tr>
<tr><td>Total No .of Ph.D. Students</td><td colspan="2">Awarded

09</td><td colspan="3">Working

04</td></tr>
<tr><td>Top 10 Publications</td><td colspan="5">1. Statistical media optimization for the production of clinical uricase from Bacillus subtilis strain SP6, 2019, Sneha O Pustake, Prashant K Bhagwat, Padma B Dandge, Heliyon, 5 (5): e01756. (0.430)

2. Alleviation of salinity stress in rice plant by encapsulated salt tolerant plant growth promoting bacteria Pantoea agglomerans strain KL and its root colonization ability, Komal K Bhise, Padma B Dandge, 2019, Archives of Agronomy and Soil Science, accepted.

3. Extraction and characterization of acid soluble collagen from fish waste: Development of collagen-chitosan blend as food packaging film, 2019, Madhuri V Bhuimbar, Prashant K Bhagwat, Padma B Dandge, Journal of Environmental Chemical Engineering, 7 (2): 101983. (I.F. 4.300)

4. Use of statistical experimental methods for optimization of collagenolytic protease production by Bacillus cereus strain SUK grown on fish scales, 2018, Prashant K Bhagwat, Komal K Bhise, Madhuri V Bhuimbar, Padma B Dandge, Environmental Science and Pollution Research, 25 (28): 28226-28236.</td></tr>
</table>

	(I.F.3.056) 5. Collagen and collagenolytic proteases: A review, 2018, Prashant K Bhagwat, **Padma B Dandge**, **Biocatalysis and Agricultural Biotechnology**, 15: 43-55. **(I.F.0.983)** 6. Ag Nanoparticles Connected to the Surface of TiO2 Electrostatically for Antibacterial Photoinactivation Studies, 2018, Shamkumar P Deshmukh, Sajid B Mullani, Valmiki B Koli, Satish M Patil, Pramod J Kasabe, **Padma B Dandge**, Sachin A Pawar, Sagar D Delekar, **Photochemistry and Photobiology**, 94 (6):1249-1262. **(I.F. 2.712)** 7. Statistically optimized production and characterization of vanillin from creosol using newly isolated *Klebsiella pneumoniae* P27, Geetanjali T. Mali, Pramod J. Kasabe and **Padma B Dandge**, 2017, 67:727–737. 8. Synergistic effect of *Chryseobacterium gleum* sp. SUK with ACC deaminase activity in alleviation of salt stress and plant growth promotion in *Triticum aestivum* L, 2017, Komal K Bhise, Prashant K Bhagwat, **Padma B Dandge**, 7:105. 9. Improvement of shelf life of soymilk using immobilized protease of *Oerskovia xanthineolytica* NCIM 2839, 2016, A. K. Sahoo, V. S. Gaikwad, R. C. Ranveer, **P. B. Dandge**, S. R. Waghmare, 6:161.

Name	Mr. Sandip Shantaram Kale			
Designation	Assistant Professor			
Contact No.	8983381329			
E-mail ID	ssk.biochem@unishivaji.ac.in			
Research Areas	Phytochemistry			
Research Projects	**Project's Title**	**Funding Agency**	**Status Ongoing/ Completed**	**Amount**
	1. Isolation and characterization of pharmacological potent bioactive components from genus *Argyreia.* Lour. **(Principal Investigator)**	SUK	Ongoing	Rs. 3.00 Lakh

8) Details of Research Laboratories & infrastructure with photographs

Infrastructure

Classrooms and seminar halls with ICT - enabled facilities such as smart class, LMS, etc.

Number of classrooms with LCD facilities	Number of classrooms with wifi/LAN facilities	Number of seminar halls with ICT facilities
01	02	01

Departmental Infrastructure

Total area : ~7500 sq. ft.
Staff rooms : 7
Class rooms : 1
Laboratories (PG) : 3 (2104 sq. ft.)
Store room : 1
Instrument room: 1 (1200 sq. ft.)
Computer Hall / Writing Lab.: 1 (10 computers)
Bio-info. Lab : 2 (10 + 20 computers)
Auditorium : 1
Office : 1
Specialized Research Laboratories
Plant Tissue Culture Laboratory : 1
Environmental Biotechnology Laboratory : 1
Molecular Biology Laboratory : 1
Molecular Biology Instrument Room : 1
Animal Tissue Culture Laboratory : 1

Our Equipment Facility (DST-FIST, UGC-SAP, PURSE)

- Animal Cell Culture Laboratory (RUSA, PURSE)

Equipped with CO_2 Incubator; Inverted Microscope; Liquid Nitrogen Containers; etc.

- ❑ Flow Cytometer
- ❑ HPLC
- ❑ Spectroflourimeter
- ❑ Western Blot Assembly
- ❑ Lyophilizer
- ❑ Cooling Centrifuge (30 K rpm)
- ❑ Chemiluminescence Blot Scanner
- ❑ 2 UPS systems (10 KVA, 40 Batteries)
- ❑ EVOS Fluorescence Microscope
- ❑ UV-Vis Nanodrop Spectrophotometer
- ❑ HEPA Filter
- ❑ - 80°C Deep Freezer
- ❑ Other Minor Equipment
- ❑ Thermal cycler
- ❑ Cryogenic cylinder

- Computer Laboratory (FIST)

Equipped with

- 20 Zero Client terminals

Equipment's are available for all students on campus and SUK affiliated colleges

9) Total No. of SET/NET qualified students

Year	2014	2015	2016	2017	2018	2019
Number	**02**	**01**	**01**	**05**	**01**	**04**

10) Details of notable students placements

M. Sc. Students

Sr. No.	Name of the student	Year	Name of the employer
1.	Ms. Anju Babu	2015	Molecular Connections Pvt. Ltd, Bangalore-560004 Ph- +91-80-41205016
2.	Ms. Shreya Kotibhaskar	2017	Innoplexus Consulting Services Pvt. Ltd. Hinjewadi Pune-4110057
3.	Mr. Ashish Singh	2017	NEERI, Nagpur
4.	Ms. Jayshree Ladke	2017	DNA Finger Printing, Hyderabad
5.	Mr. Chetan Hawaldar	2017	Reliance Life Sciences Pvt. Ltd, Mumbai
6.	MR. Dhanaji Mane	2018	IRSO Project, SPPU, Pune
7.	Ms. Rama Rajadnya	2018	IRSHA, Pune
8.	Mr. Siddharth Londe	2018	Genova Biotech Pvt. Ltd , Pune
9.	Mr. Akshay Koshti	2019	Genova Biotech Pvt. Ltd , Pune
10.	Mr. Amit Devarshi	2019	Green Solutions Pvt. Ltd, Pune
11.	Mr. Aniket Phadke	2019	Pratik Industries Pvt. Ltd , Sangli

Ph. D. Students

Sr. No.	Name of the student	Name of the employer
1.	Dr. Asmita Kamble	Indian Institute of Technology, Mubai
2.	Dr. Tanaji More	Serum Institute, Pune
3.	Dr. Ashwini Jagdale	ATTREC, Pune
4.	Dr. Ravishankar Patil	Amity University, Panvel
5.	Dr. Asmita Patil	Food Corporation of India, Mumbai

11) Details of MoUs and Linkages

MoU between Department of Biochemistry, Shivaji University, Kolhapur and Dr. D. Y. Patil University, Kolhapur was signed on 23/08/2017 for conducting clinical trials of herbal formulation developed at Department of Biochemistry, Shivaji University, Kolhapur on prediabetic and Diabetic patients.

MoU between Department of Biochemistry, Shivaji University, Kolhapur and Krishna Institute of Medical Sciences, Karad was signed on 17/12/2020. Under this MoU research on Neurosciences and Cancer will be carried out. Due to this MoU students of Medical Information Management from Shivaji University, Kolhapur will be able to avail facilities required for medical research while the students of Krishna Institute of Medical Sciences will be able to understand complementary research in the area of Microbiology, Pharmaceutical Microbiology, Medical information Management and Bioinformatics.

12) Extra curricular and Extension activities

- Organization of campus and department cleaning activities under Swach Bharat Abhiyaan.
- Tree plantation on campus.
- Sports week for all the students and staff members
- Various traditional days.
- Welcome and send off functions.
- Alumni meet and Value added courses

13) List of Distinguished Alumni

Sr. No.	Name	Batch	Current Status
01.	Prof. Kisan Kodam	1992	Prof. in Biochemistry, Savitribai Phule Pune University, Pune, Maharashtra, India
02.	Dr. Mahesh Satwekar	1995	Associate Prof. in Biochemistry at IMSR Medical College, Dist. Satara, Maharashtra, India
03.	Dayanand Kalyani	2009	KTH Royal Institute of Technology
04.	Dr. Amar Telke	2010	Researcher at section food safety and antimicrobial resistance, Norwegian Veterinary Institute, Akershus, Norway
05.	Dr. Manisha Rajebhosale	1992	Volunteer (Patient enquiry and support role) at Royal Free Hospital, United Kingdom
06.	Mr. Pankaj Patil	1991	Chief Officer, Municipal Council (MPSC-2002), Founder of Warna Valley School and Jr. College, Sangaon, Sangli
07.	Mrs. Mala Krishnamurthy	1991	Working at Rail Wheel Factory, Yelahanka, Bengaluru, Karnataka, India
08.	Prof. (Mrs.) J.P. Jadhav	1990	Prof. in Biochemistry, Shivaji University, Kolhapur, Maharashtra, India
09.	Prof. K.D. Sonawane	1996	Prof. in Biochemistry, Shivaji University, Kolhapur, Maharashtra, India
10.	Dr. P.M. Gurav	1986	Associate Prof. in Biochemistry, Shivaji University, Kolhapur, Maharashtra, India
11.	Dr. (Mrs.) P.B. Dandge	1991	Assistant Prof. in Biochemistry, Shivaji University, Kolhapur, Maharashtra, India
12.	Mahesh Pagnis	1991	President, Project at Sanmahe Extracts LLP, Kalyan, Maharashtra, India
13.	Dr. Madhav Joglekar	2014	Senior Research Scientist at Lupin, Pune, Maharashtra, India
14.	Dr. Bajarang Kumbhar	2013	Postdoctoral Scientist at Indian Institute of Technology, Bombay
15.	Dr. Sushma Gomare	2008	Principal at Wisdom Public School, Mirza,

			Assam, India Special Achievements- Mahatma Jyotiba Phule National Award by Akhil Bharatiya Dalit Sahityaa Academy, New Delhi, India
16.	Komal Malani	2006	Working at Forensic Lab, Govt. of India, Kolhapur Branch, Kolhapur, Maharashtra, India
17.	Dr. Narendra Sankhpal	1995	Department of Surgery, Washington university, School of Medicine, United States
18.	Dr. Asmita Patil	2014	Food Corporation of India Mumbai

14) Future roadmap of the department

15) Media coverage of the Department


लोकमत

थेट संवाद

मधुमेहावरील औषधामुळे विद्यापीठाची नवी ओळख

अकल्पिता अरविंदेकर : तंत्रज्ञानाचे लवकरच हस्तांतरण


सकाळ

'अल्झायमर'वर आंतरराष्ट्रीय संशोधन

शिवाजी विद्यापीठाच्या डॉ. सोनवणे, सागर बरालेंचे निबंध सादरीकरण


SUK professor to lead national-level research


कोल्हापूर परिसर

सकाळ

रंगमिश्रित सांडपाण्यावर होणार संशोधन

दीड कोटीचा प्रकल्प मंजूर : संयुक्तरीत्या होणाऱ्या प्रकल्पाचे नेतृत्व विद्यापीठाकडे


शिवाजी विद्यापीठाच्या गुणवंतांचा पुरस्काराने गौरव

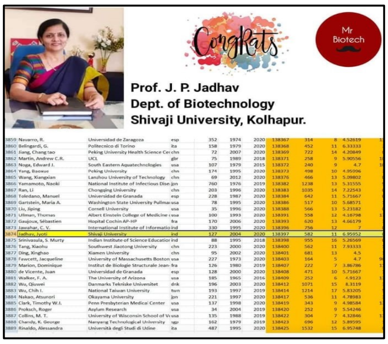
शिक्षक, सेवक भारावले : वर्धापनदिनी शाबासकीची थाप; पोस्टर प्रदर्शनातून घेतला कार्याचा आढावा


कोल्हापूर परिसर

सकाळ

सांडपाणी संशोधन केंद्राच्या संकेतस्थळावर

विद्यापीठाला आणखी एक बहुमान : पर्यावरणपूरक, कमी खर्चात तंत्रज्ञान विकसित




लोकमत

वैद्यकीय माहिती व्यवस्थापन क्षेत्रात जागतिक करिअरच्या संधी

गेरहार्ड फोर्टवेंगेल : शिवाजी विद्यापीठात 'एम.एस्सी. मेडिकल इन्फॉर्मेशन मॅनेजमेंट'चे उद्घाटन

कोल्हापूर : औषध निर्माण क्षेत्रामध्ये व्यवसाय वृद्धिंगत करणे, रोजगार निर्मितीसाठी एम.एस्सी. मेडिकल इन्फॉर्मेशन मॅनेजमेंट अभ्यासक्रम उपयुक्त आहे, असे प्रतिपादन 'युनेस्को बायोएथिक्स'चे प्रमुख तथा जर्मनी येथील होश्शुल हॅनोव्हर युनिव्हर्सिटी ऑफ अप्लाईड सायन्सेस अँड आर्टस् प्रा. डॉ. गेरहार्ड फोर्टवेंगेल यांनी गुरुवारी केले.

शिवाजी विद्यापीठात 'एम.एस्सी.- मेडिकल इन्फॉर्मेशन मॅनेजमेंट' या अभ्यासक्रमाच्या उद्घाटनप्रसंगी ते बोलत होते. शिंदे अध्यक्षस्थानी, तर हॅनोव्हर अध्यक्षस्थानी कुलगुरु डॉ. देवानंद विद्यापीठाचे डॉ. ज्ञानेश लिमये, मनोरमा इन्फो-सोल्यूशनच्या अश्विनी दानीगोंड, सीडीजीएमआयचे संचालक प्रा. डॉ. अतुल कापडी उपस्थित होते.

डॉ. देवानंद शिंदे म्हणाले, 'जागतिक पातळीवर, देशाचे, विद्यापीठाचे नाव लौकिक उंचावण्याची संधी या अभ्यासक्रमाच्या विद्यार्थ्यांना आहे. डॉ. के. डी. सोनवणे यांनी प्रास्ताविक केले. डॉ. जे. पी. जाधव यांनी पाहुण्यांचा परिचय करून दिला. डॉ. लिमये म्हणाले, वैद्यकीय माहिती व्यवस्थापन क्षेत्रात कुशल प्रशिक्षित मनुष्यबळाची निकड आहे.

शिवाजी विद्यापीठात गुरुवारी 'मेडिकल इन्फॉर्मेशन मॅनेजमेंट'च्या उद्घाटनप्रसंगी प्रा. गेरहार्ड फोर्टवेंगेल यांनी मार्गदर्शन केले. यावेळी ज्योती जाधव, अश्विनी दानीगोंड, देवानंद शिंदे, ज्ञानेश लिमये, आदी उपस्थित होते.

Kolhapur Main
Page No. 4 Nov 08, 2019
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विद्यापीठात वैद्यकीय माहिती व्यवस्थापन शास्त्र अभ्यासक्रम

जर्मन विद्यापीठाच्या मदतीने राबवला जाणारा पहिलाच उपक्रम