

1) Message from the HODs desk:

The Bachelor of Science in Biotechnology is a degree program comprised of an amalgamation of varied fields including Genetics, Molecular Biology, Biochemistry, Immunology, Cell Biology, Bioinformatics, Nanotechnology, Neurobiology, Developmental Biology, Tissue culture, Microbiology, Biostatistics, Bioethics, IPR, Biosafety, Nutrition and Dietetics, Research Methodology, and Entrepreneurship. Under the flagship of Autonomy, the Department of Biotechnology strives to impart in-depth knowledge, training, and environment to aspiring Biotechnologists for a holistic development.

ABOUT THE COORDINATOR



DR. KRUTI PANDYA
Ph. D, M.Sc., B.Ed., SET
(JOINT COORDINATOR)

Dr. Kruti Pandya holds a Ph.D in Biochemistry from TNMMC. She has passion for teaching and with her expertise in Biotechnology and allied subjects. She has always helped students in academics. Besides academics and teaching, she is an active researcher. She has worked on University sponsored Minor Research Project and actively guided many UG students on research projects. She has many publications to her credit, many of which are coauthored with students. She has deposited seven gene sequences at NCBI. She has reviewed research articles, is a member of Board of Studies at University and institute level. Besides academics and research, Dr. Pandya also is a part of the college Admission committee, IIC, WDC, Joshh and NAAC criteria VI.



DR. NISSEY SUNIL
Ph. D, M.Sc., NET
(JOINT COORDINATOR)

Dr. Nissey Sunil has been teaching Biotechnology since 2005. She has received her doctoral degree in Bioanalytical Sciences from the University of Mumbai. During this time, she has also successfully completed a project funded by the University Grants Commission. Prior to beginning her career in teaching, she has worked in a reputed research institute as well as in the R & D of a corporate company. She uses this experience to help her students relate to the different worlds of research and industry. She has also mentored students for various projects and research meets. She always endeavors to enable her students to have an enjoyable learning experience. Her favorite topics in Biology are Cell and Molecular Biology, Genetics, Biochemistry, and Analytical Techniques

2) MESSAGE ABOUT DEPARTMENT

The Department of Biotechnology was established in the academic year 2002-2003. Since its inception it has offered comprehensive knowledge and understanding of the field with an opportunity to excel and hence cater to young talent through academic activities, entrepreneurial endeavor and research platforms. The Department of Biotechnology at Jai Hind College, under the flagship of Autonomy, offers a stand-alone course in Biotechnology. Students learn through a

carefully designed syllabus which is updated on regular basis with an aim to impart knowledge, understanding, skills and application-oriented approach amongst young minds. The syllabus is designed by keeping in mind the needs of industry and research field alike. The department offers amicable learning environment under the guidance of faculty and well-established facilities. Highly experienced faculty imparts strong conceptual knowledge and thorough understanding of subject matter. Students are further trained in well-equipped laboratory. Innovative and interactive teaching methods offered here have made the whole process of learning very interesting and engaging. Students are encouraged to participate in the teaching learning process by way of presentations, debates, Bio-expressions, infographics, mind maps, Flipped classroom. Students are encouraged to work on research projects and undertake internships. Department also hosts its annual inter-collegiate festival Genaces. Department actively organizes seminars, Hands on training workshops, expert talks and field trips with the aim of equipping students with current trends in the field. All of these endeavors provide a holistic environment and helps develop soft skills, leadership qualities and team work. Under the able mentorship, Biotechnology students qualify entrance exams for Masters program and secure admissions at institutes of great national and international repute. Biotechnology provides great employment opportunities in diverse sectors like food, pharma, FMCG, and others. Our alumni hold various offices ranging from Academicians, Research Associates, Scientific Officers, QA/ QC managers, Scientific Editors, Clinical Trial Officers, Bioinformaticians, Science Journalists, Scientific Reporters, Project and Production Administrators and Managers. With this brief introduction we invite you to join the department of Biotechnology, which is one of the sought after Biotechnology Departments in Mumbai since its inception and explore the world of endless opportunities in the field of Biotechnology.

I.

FACULTY PROFILE-TEACHING STAFF



<p>Dr. Kruti Pandya.</p> <p>Joint-Coordinator</p> <p>Ph.D. Biochemistry, SET, B. Ed</p> <p>Specialization: Biochemistry, Biotechnology, Immunology, Bioinformatics, Molecular Biology, Research Methodology, Entrepreneurship</p> <p>Experience: 23 Years</p> <p>E. Mail: kruti.pandya@jaihindcollege.edu.in</p>	<p>Dr. Nissey Sunil.</p> <p>Joint-Coordinator</p> <p>Ph.D. Bioanalytical Sciences, NET</p> <p>Specialization: Biochemistry, Biotechnology, Analytical chemistry, Cell Biology</p> <p>Experience: 17 Years</p> <p>E. Mail: nissey.sunil@jaihindcollege.edu.in</p>
	
<p>Dr. Hiral Pandya</p> <p>Assistant Professor</p> <p>Ph.D. Biotechnology, NET</p> <p>Specialization: Microbiology, Biotechnology, Fermentation technology</p> <p>Experience: 06 Years</p> <p>E. Mail: hiral.pandya@jaihindcollege.edu.in</p>	<p>Dr. Monalisa Chakraborty</p> <p>Assistant Professor</p> <p>Ph.D. Biotechnology, RET</p> <p>Specialization: Nano chemistry, Biotechnology, Molecular Biology</p> <p>Experience: 04 Years</p> <p>E. Mail: monalisa.chakraborty@jaihindcollege.edu.in</p>



Ms. Nandini Desai.

Assistant Professor

MSc. Biotechnology, SET, GATE

Specialization: Biotechnology, Microbiology,
Bio-chemistry

Experience: 07 Years

E. Mail: nandini.desai@jaihindcollege.edu.in



Dr. Vedika Bane.

Assistant Professor

MSc. Microbiology, SET

Specialization: Microbiology, Biotechnology,
Food Microbiology, Biostatistics

Experience: 12 Years

E. Mail: vedika.bane@jaihindcollege.edu.in

Ms. Ruqayya Manasawala.

Assistant Professor

MSc. Biotechnology, SET

Specialization: Biotechnology, Bioinformatics

Experience: 03 Years

E. Mail:

ruqayya.manasawala@jaihindcollege.edu.in



Dr. Kruti Pandya

Research publications:

- Ruqayya M., Shiza S and **Kruti P.**, 2021 Molecular and Insilco approach towards identification of a pigment producing soil isolate, International Journal of All Research Education and Scientific Methods (IJARESM), Volume 9 (5), Impact Factor: 7.429, ISSN: 2455-6211
- **Pandya K.**, Naik A., Singh A. **2016.** Comparative study of buffering capacity of an innovative *cymbopogon* flavoured herbal mouth wash against commercial chemical mouth wash in oral health. International Journal of Pharma Drugs Analysis. ISSN-2348-8948. 10, (4)., 480-485.
- Mansawala R. M., Shiza S., **Pandya K.** **2016.** Preliminary study and characterization of a prodigiosin producing soil bacteria and applications of biopigment in natural cosmetics. International J of Current Advanced Research. ISSN-2319-6475(E) 2319-6505(P. 5(12)544-1547.
- **Pandya K.** and Phadke M. **S.** **2015.** Analysis of diesel biodegradation using gas chromatography mass spectroscopy (GCMS). Bionanofrontier: Journal of science and Technology: Volume (8), 3, 67-70; ISSN 0974-0678.E journal: Print ISSN:0974-0678, Online:2320-9593
- **Pandya K.**, Zaveri M., Kanojia N., and Sidpurwala U. **2014.** Study of industrial applications of bacterial exoprotease. International Journal of Biotechnology and Biosciences. ISSN NO - 2231-0304.
- **Pandya K.** Lakdawala A., Jones M., Kotwal U. **2014.** Invitro biodegradation of cat hair by bacterial keratinase. International Journal of Environmental Sciences. ISSN NO-2249-2127.
- **Pandya K.** and Phadke M.S. **2013.** Partial purification and process optimization of bacterial lipases. International Journal of Environmental Sciences. ISSN NO-2249-2127. 2(2), 80-84.

- **Pandya K.** and Phadke M.S. **2012**. Isolation and characterization of lipase producing bacteria from spoiled fruits and vegetables. International journal of Biotechnology and Biosciences. ISSN NO-2231-0304,2(4),306-312.

Research Projects

- **Dr. Kruti Pandya.** UGC Minor Research Project Sanctioned **2015**- PCR based gene sequencing for a Triacylglycerol esterase
- **Dr. Kruti Pandya.** BCUD Minor Research Project Completed **2012-13**- Isolation and study of microbial lipases from oil spill areas around Mumbai

Gene Sequences deposited at NCBI:

- **Pandya, K.,** Chawla,S., Sagar,P., Nathani,M. and Singh,P. **2023.** Brachybacterium paraconglomeratum strain PPMS3 16S ribosomal RNA gene, partial sequence. GenBank: OQ520026.1.<https://www.ncbi.nlm.nih.gov/nuccore/OQ520026.1>
- **Pandya, K.,** Chawla,S., Sagar,P., Nathani,M. and Singh,P. **2023.** Brachybacterium paraconglomeratum strain PPMS2 16S ribosomal RNA gene, partial sequence GenBank: OQ520025.1.<https://www.ncbi.nlm.nih.gov/nuccore/OQ520025.1>
- **Pandya, K.,** Chawla,S., Sagar,P., Nathani,M. and Singh,P. **2023.** Brachybacterium paraconglomeratum strain PPMS1 16S ribosomal RNA gene, partial sequence GenBank: OQ520024.1. <https://www.ncbi.nlm.nih.gov/nuccore/OQ520024.1>
- **Pandya K,** Vibhav, Viraj, Ashwin, Sanjay, Hrishikesh. **2018** Cultured Prokaryotic 16srRNA seq for Bioluminiscent *Photobacterium leiognathi* . MH057770. <https://www.ncbi.nlm.nih.gov/nuccore/MH057770>
- **Pandya K.,** Ruqayya M., Shiza S. . **2017.** *Serratia marcescens* strain RSK1 16S ribosomal RNA gene partial sequence. KY967712.1.<https://www.ncbi.nlm.nih.gov/nuccore/KY967712.1>

- **Pandya K**, Phadke M. **2015**. *Pseudomonas aeruginosa* strain KP5 16S ribosomal RNA gene, partial sequence.
KU850956.<https://www.ncbi.nlm.nih.gov/nuccore/KU850956>
- **Pandya K**, Phadke M. . **2015**. *Stenotrophomonas acidaminiphila* strain KP2 16S ribosomal RNA gene, partial sequence.
KU850955.<https://www.ncbi.nlm.nih.gov/nuccore/KU850955>
- **Pandya K**, Phadke M. . **2015**. *Pseudomonas aeruginosa* strain KP5 lipase (lipA) gene, complete cds. KX065448.1.<https://www.ncbi.nlm.nih.gov/nuccore/KX065448.1>
- **Pandya K**, Phadke M. . **2015**. *Staphylococcus aureus* strain KP3 lipase gene, complete cds.KX212081.1.<https://www.ncbi.nlm.nih.gov/nuccore/KX212081.1>

Scientific Poster presentation:

- **Pandya Kruti** and Phadke Madhavi. Study of Industrial Applications of bacterial lipases. (**AVISHKAR**, Kalina, **2014**)
- **Pandya Kruti** and Phadke Madhavi. Partial purification, immobilization and Insilco analysis of bacterial lipase (**Konark research meet**, SIES, **2013**)
- **Pandya Kruti** and Phadke Madhavi. Insilco Analysis and identification of lipase producing acidophilic bacteria from waste disposal site in Central Mumbai suburb (NMIMS, **2013**)
- **Reviewer:** Reviewer for Xplore Research Journal, St. Xavier's College, 2021-2023
- **Subject Expert** for Ph.D student at Navrachana University. **2022**

Dr. Nissey Sunil.

Research paper publication

- **N Sunil, J D Vora. 2015**. Characterization of indigenous lactic acid bacteria and survival studies in response to acid and bile stress. International Journal of Food and Nutritional Sciences 4:83-85.

- **N Sunil, J D Vora. 2016.** Analysis of 16S rRNA gene of lactic acid bacteria isolated from curd and raw milk. *International Journal of Science and Research* 5(5): 1806-08.
- **N Sunil, J D Vora. 2018.** Probiotics – Role in health and wellbeing. *International Journal of Scientific Research and Review* 7(11). ISSN: 2279-543X.
- **Resmi K R, Nissey V, Krishnan L K. 2004.** Procedure for quantification of platelet adhesion to biomaterials by radiosciintigraphy. *Thrombosis Research*; 114(2):121-8.
- **Krishnan L K, Nissey V, Muraleedharan C V, Bhuvaneshwar G S, Derangere F, Sampeur Y, Suryanarayanan R. 2002.** Quantitation of platelet adhesion to Ti and DLC-coated Ti in vitro using I¹²⁵-labeled platelets. *Biomolecular Engineering*; 19(2-6):251-3.

Research Projects

- **Dr. Nissey sunil.** UGC – Minor Research Project “Isolation and identification of indigenous strains of lactic acid bacteria having probiotic potential”

Scientific Poster presentation:

- **Nissey V, Bhuvaneshwar G S, Krishnan L K.** Use of ¹²⁵I-labeled platelets for quantitation of platelet adhesion to biomaterials in vitro using phosphor imaging. (NUCAR 2001)

Dr. Hiral Pandya.

Research paper publication

- **Hiral S, Abhishek M, Aruna GA, Annamma AO and Arvind Lali** November, 2017 Enhanced acidogenesis by degenerated *Clostridium sp.* strain on continuous membrane cell recycle reactor. *Advances in Biotechnology and Microbiology*. ISSN 2474-7637. 7(4): 555716. DOI: 10.19080/AIBM.2017.07.555716.

Poster/Oral Presentations

- **Hiral S, Abhishek M, Aruna GA, Annamma AO and Arvind Lali** November, 2015. Enhanced organic acid production using *Clostridium acetobutylicum* ATCC 4259 with

improved process economics (poster). International Conference on New Horizons in Biotechnology (NHBT-2015) at NIIST, Thiruvananthapuram, Kerala 695019, India

- **Hiral S, Abhishek M, Aruna GA, Annamma AO and Arvind Lali** December, 2014. Optimization of conditions for complete substrate utilization by *Clostridium acetobutylicum* ATCC 4259 (oral). Bioprocessing India, 2014, jointly organized by ICT, Matunga, Mumbai and IITB, Mumbai, India.
- **Hiral S, Abhishek M, Aruna GA, Annamma AO and Arvind Lali** September, 2014. Study of Lactic acid production and reutilization for maximum butyric acid production by degenerated strain of *Clostridium acetobutylicum* ATCC 4259 (poster). Clostridium XIII, 13th International conference on the genetics, physiology and synthetic biology of solvent and acid forming clostridia at Institute of Plant Physiology and Ecology, Shanghai Institutes for Biological Sciences, Shanghai, China.
- **Hiral S, Abhishek M, Aruna GA, Annamma AO and Arvind Lali** November, 2012. Fermentative butyric acid production by *Clostridium spp.* (poster). 53rd AMI International Conference “Microbial World: Recent Innovations and Future trends” at KIIT, Bhubaneswar, Odisha, India.
- **Hiral S, Abhishek M, Aruna GA, Annamma AO and Arvind Lali** January, 2011. Insights and development in Butanol fermentation (poster). YRC-YICC, 2011 at ICT, Mumbai, India.

Fellowships and Awards

- Qualified for Junior Research Fellowship followed by Senior research fellowship by University Grant Commissions (UGC), Government of India. (January, 2011-December, 2015) for doctoral research work
- **Awarded the Young Scientist in Bioprocessing** in the category of Bioengineering and Fermentation at Bioprocessing India 2014, held at Institute of Chemical Technology Mumbai, India, December 17th-20th, 2014
- **International Travel grant sponsored by ICMR**, Government of India, for presentation at Clostridium XIII, 13th International conference on the genetics, physiology and synthetic

biology of solvent and acid forming clostridia held at Shanghai Hope Hotel, Shanghai 200031, China (Dapuqiao), September 19th-21st, 2014.

Organism deposition

Deposited an organism *Bacillus* sp. T8(2011b) GenBank: JN885459.1

(<http://www.ncbi.nlm.nih.gov/nuccore/JN885459.1>)

Dr. Monalisa Chakraborty

Research papers

- Implementations of Green Synthesized Nanoparticles from Biomedical to Construction Industry: An approach of sustainability. Anindita Dey, **Monalisa Chakraborty**, Sumanta Dey and Papiya Nandy, *International Journal of Biomed Research*, 2834-5029, 01, 1-18, 2021
- **Chakraborty M**, Bagchi B, Das S, Basu R, Nandy P. **2018**. Study the dose dependent insulin secretagogues action of eucalyptus oil & its Hepatoprotective and Nephroprotective activity on Streptozotocin induced diabetic mice model. "Springer: Clinical Phytoscience.(Peer reviewed) ISSN: 2199-1197, 4, 1-10.
- **Chakraborty M**, Kar S, Das S, Basu R, Nandy P. **2017**. A pharmacological aspect of nanomedicine Cuprum metallicum on rapid wound healing activity: An in vivo approach. "American Journal of Homeopathy Medicine. (Peer reviewed) ISSN: ISSN. 1934-2454,110(3), 14-17.
- **Chakraborty M**, Dey A, Bala N, Das S, Basu R, Nandy P. **2015**. Rapid single step green synthesis of copper oxide nanoparticles from *Vigna radiata* using three copper salts and study its antimicrobial nature. "International Journal of pharmacy.(Peer reviewed) ISSN : 2249-1848; 5(1) , Page no.- 93-97.
- **Chakraborty M**, Das S, Basu R, Nandy P. **2015**. Study of the Altered Anisotropy of Erythrocyte Ghost Membrane upon Interaction with Phytoreduced Negatively Charged Gold Nanoparticle from *Celosia cristata* and *Vigna radiata*." *American Journal of Nanoscience and Nanotechnology Research* (Peer reviewed), ISSN 2574-2651 ,3(1): 1-11.
- **Chakraborty M**, Ghosh S, Das S, Basu R, Nandy P. **2015**. Effect of Different Potencies of Nanomedicine *Aconitum Napelles* on Its Spectral and Antibacterial Properties. "International Journal of Innovative Research in Science, Engineering and Technology. (Peer reviewed) ISSN: 2347-6710, 4(8), 6861-6867.

- **Chakraborty M, Das S, Manchanda K.R ,Basu R, Nandy P.2015** .Application of nanomedicine Cuprum metallicum as an agent for remediation of an azo dye, methyl orange and study its associated antimicrobial activity. “International Journal of Environmental Sciences. (Peer reviewed quarterly). ISSN:0976-4402, 6(3) 345-351.
- Bala N, Saha S, **Chakraborty M**, Maiti M, Das S, Basu R and Nandy P. **2015**.Green synthesis of zinc oxide nanoparticles using Hibiscus subdariffa leaf extract: effect of temperature on synthesis, anti-bacterial activity and anti-diabetic activity."RSC Advances. (Peer reviewed). ISSN: 2046-20695, 4993-5003.
- Ghosh S, **Chakraborty M**, Das S, Basu R, Nandy P. **2014**.Effect of Different Potencies of Nanomedicine Cuprum metallicum on Membrane Fluidity-a Biophysical Study."American Journal of Homeopathy Medicine. (Peer reviewed) ISSN : 1934-2454, 107(4), 161-169
- Kar S, Bandyopadhyay P, Chakraborty S, **Chakraborty M** , Paul .B, Ghosh S, Basu R, Das S, Bhar S.D, Manchanda R, Khurana A, Nayak D, Nandy P. **2015**. Derivation of an empirical relation between the size of the nanoparticle and the potency of homeopathic medicines. “International Journal of High Dilution Research.(Peer Reviewed) ISSN:1982-6206, 14 (4), 2-7.
- Kar S, **Chakraborty M**, Nandy P, Basu R, Das S, Bhar S D, Manchanda K R, Khurana A, Nayak D. **2017** Characterization and haemocompatibility of Aurum metallicum for its potential therapeutic application. “Indian Journal of Research in Homeopathy. (Peer reviewed). ISSN: 0974-7168,11(1), 41-47.
- Bera D, **Chakraborty M**, Paul K. B, Bandhyopadhyay P, Das Sukhen, Bardhan S, Bhar S. D, Nandy P. **2017**. Antibacterial activity of Silicea, Calc carb, Sulphur on gram negative bacteria E.coli."International Journal of Current Medical and Pharmaceutical Research.(Peer reviewed) ISSN: 2395-6429 ; 3(12), 2774-2777.
- Koner A, **Chakraborty M**, Nandi N, Chowdhury P, Chakraborty S. **2012** Detoxification of Homeopathic Potency using Eukaryotic System.” World Journal of Science and Technology. ISSN: 2231 2587, 2(7).

Book/ Chapter Published

- Nanotheranostics: A promising approach to parkinson's disease. Nilakshi Patel, **Monalisa Chakraborty**, *Compendium of "Research Insight of Life Science students, 978-93-91342-27-2, 3, 924-926, 2021*
- P. Nandy, P. Bandyopadhyay, **M. Chakraborty**, A. Dey, D. Bera, B. K. Paul, S. Kar, A. Gayen, R. Basu, S. Das, D. S. Bhar, R. K. Manchanda, A.K. Khurana, D. Nayak. **2018**. Chapter: Homeopathic Nanomedicines and Their Effect on the Environment. Handbook on Modern Environmental Materials Management, Springer International Publishing Print, ISBN-978-3-319-73644-0 (2018).
- B.K.Paul, P. Bandyopadhyay, S. Ghosh, **M.Chakraborty**, S. Kar, A.L. Gayen, D. Bera, D.Mondal, A.K. Singh, R. Basu, S. Das, D.S. Bhar, P. Nandy. **2019**. Chapter: Evidences of Nano-particle aspect of homeopathic medicine. Recent Trends in Materials Physics and Chemistry. Stadium Press (India) Private limited. ISBN – 9789385046322

Reviewer: Clinical phytoscience springer **2019-2022**

RESEARCH PROJECTS:

- Developing the fastest, low-cost easy methods of synthesizing pharmacologically active nano-particles and understanding the role of metabolites as therapeutics.
- Study the nanoparticle (drug) interaction with the artificial lipid membrane (DPPC) and erythrocyte ghost cell membrane by analyzing the membrane anisotropy and change of phase transition temperature, motionally restricted lipid molecule, Van't Hoff Enthalpy. Also calculated the percentage hemolysis to ensure drug hemocompatibility.
- Triturated drug Cuprum metallicum adsorbed in MMT (Montmorillonite) clay used as a therapeutic agent for treating artificial wound in animal model.
- Dose dependant study of insulin secretagogues action of Eucalyptus essential oil from *Eucalyptus globulus* and analyze the hepatoprotective & nephroprotective activity on induced diabetic mice model with the help of biochemical and histopathological assay. Comparative study of parameters including body weight, blood glucose and other serum

enzymes of liver, kidney and pancreas and change of cell morphology(Histology) before induction and after induction of diabetes and after treated with different dose of plant extract was done.

Professional Presentations

- Phytoreduction of copper oxide nanoparticles from *Vigna radiata* and its antibacterial activity,"**2017** at National symposium on Nanotechnology; From materials to Medicines and their social impact organized by Centre for interdisciplinary Research and Education, Birla Industrial and Technological Museum, West Bengal University of Technology, Adamas University Kolkata, India (**Poster Presentation**).
- Application of nanomedicine *Cuprum metallicum* as an agent for remediation of an azo dye, methyl orange and also study its antimicrobial properties,"**2016** at National conference on science behind homeopathy. Center for Interdisciplinary Research and Education, Birla Industrial and Technological Museum, Kolkata, India (**Poster Presentation**).
- A green approach towards nanotechnology,"**2015** at International Conference on Frontiers in Biological Sciences. National Institute of Technology, Rourkela, Odisha, India (**Poster Presentation**).
- A Pharmacological aspect of nanomedicine *Cuprum metallicum* on rapid wound healing activity: An in vivo approach,"**2015** at Condensed Matter Physics Research Centre. Jadavpur University, Jadavpur, Kolkata, India. (**Poster Presentation**).
- Effect of Different Potencies of Nanomedicine *Cuprum metallicum* on Membrane Fluidity-a Biophysical Study,"**2013** at National conference on photosciences: Contemporary Challenges and Future Prospectives. Indian Photobiological society, Jadavpur University, Jadavpur, Kolkata, India (**Poster Presentation**).
- Recent trends in Biotechnology,"**2010** at National seminar on recent trends in Biotechnology Department of Biotechnology, University of Burdwan, Burdwan, India (**Poster presentation**).

Ms. Nandini Desai

Research Publications:

- “Prevalence of Polycystic Ovary Syndrome among Women in Mumbai and Association of its Symptoms with Work Hours” , Madhu Kumari¹, Rutuja Walavalkar¹, Madiha Shaikh¹, Anupma Harshal², Shailaja Rane³, **Nandini D**⁴ , *International Journal of Innovative Research in Science, Engineering and Technology*, Vol. 6, Issue 7, July 2017.

Oral/poster presentations:

- “Isolation and Identification of Foliar Endophytic Fungi from *Hibiscus rosa-sinensis*” **Nandini Desai** and Devangi Chachad at XLII All India Botanical Conference of The Indian Botanical Society and National Symposium on “INNOVATIONS AND INVENTIONS IN PLANT SCIENCE RESEARCH” held at University of Calicut, Calicut from November 6-8, 2019.
- “Review on Myco-endophytes from *Aegle marmelos* & *Murraya koenigii* leaves”, **Nandini Desai** and Devangi Chachad at XLV All India Botanical Conference on CLIMATE CHANGE: BIODIVERSITY, ADAPTATION AND MITIGATION held at University of Lucknow, Lucknow from October 14-16, 2022.
- “Myco-endophytes: A possible solution to chemical pesticides”, **Nandini Desai** at 17TH AAVISHKAR- 2022 held at Department of Students’ Development, University of Mumbai on December 2022.

Ph. D research project:

- “Metabolomics of Foliar Endophytic Fungi from selected Medicinal plants” under the guidance of Dr. Devangi Chachad at Department of Botany, Jai Hind College, Mumbai.

Ms. Vedika Bane: Oral Presentation:

- “Study of antimicrobial properties of Pomegranate peel extract and Ginger extract and preparation of its oral medicament”. **2020**. National Conference “Innovative Approaches and Emerging Issues in Food and Pharmaceutical Microbiology”, KBP College, Vashi.
- “Studies on Red Pigment Producing Bacteria Isolated from Soil and Its Pigment

Producing Potential” 2016. Research Scholar Meet, K.B.P. College, Vashi.

Ms. Ruqayya Mansawala

- Shruti S., Soumyashree G., **Ruqayya M., (2021)** Insilico screening of prime PCOS biomarkers for identification of a potential model organism, International Journal of Scientific Research in Science and Technology (IJSRST), Volume 8, issue 6 (448-454), ISSN: 2395-6011.
- **Ruqayya M.,** Shiza S and Kruti P., (2021) Molecular and Insilco approach towards identification of a pigment producing soil isolate, International Journal of All Research Education and Scientific Methods (IJARESM), Volume 9 (5), Impact Factor: 7.429, ISSN: 2455-6211
- **Ruqayya M.,** Shiza S and Kruti P., (2016) Preliminary study and characterization of a prodigiosin producing soil bacteria and applications of biopigment in natural cosmetics. IICAR Vol 5 (12): 1544-1547. ISSN: 2319-6475.
- **Ruqayya M.,** Shiza S and Kruti P., 16S rRNA partial gene sequence for *Serratia marcescens* strain RSK submitted to GenBank on 21-04-2017. Accession No: KY967712.

Poster Presentation:

- **Ruqayya M,** Ashika S, Shiza S, Shalini RC, Mayuri G, Bhumika W, Supriya G, Ira V, January 2019. Probing the properties of spent tea waste and its potential in development of a preservative film. Symbiotek 2019, organized by Department of Bioscience and Bioengineering, IIT-Bombay.
- **Ruqayya M,** Ashika S, Shiza S, Shalini RC, Mayuri G, Bhumika W, Supriya G, Ira V, December 2018. Valorization of vegetable waste to develop alternate bacteriological media. International Conference on Present Day Biology, organized by Department of Biochemistry-Biotechnology, St. Xavier’s College (Autonomous), Ahmedabad.
- **Ruqayya M,** Shiza S, Kruti P, February 2017. Molecular Characterization and study of industrial applications of prodigiosin producing soil prokaryote. Jigyasa Research Meet organized by Department of Biotechnology, KC College, Mumbai.

- **Ruqayya M, Shiza S, Kruti P, January 2017.** Evaluation of efficacy of a promising antibacterial pigment Prodigiosin as a natural colorant in the field of cosmetics. Konark Research Meet organized by VES College of Arts, Science and Commerce, Mumbai.
- **Ruqayya M, Shiza S, Kruti P, December 2016.** Preliminary characterization of prodigiosin producing soil bacteria and application of pigment in cosmetics. Avishkar Research Convention held by University of Mumbai at Bhavans Hazarimal Somani College, Mumbai.

Oral Presentation:

- **Ruqayya M, Shiza S, Kruti P, September 2016.** Preliminary study and characterization of a prodigiosin producing soil bacteria and applications of biopigment in natural cosmetics. PICASSA III organized by ISCC and Department of Cosmetics and Perfumery, KET's VG Vaze College, Mumbai.

1) **Courses offered**

Sr.No	Course name	diploma/certificate	Aided/Self-financed
1.	B.Sc in biotechnology		Self-Financed

2) **Supporting Staff:**

Name	Designation
Ms. Dipali Surve	Laboratory assistant
Mr. Rohit Kadam	Laboratory attendant
Mr. Ombir Singh	Laboratory attendant

3) **Society/cell under department – Genaces 2023**

Department of Biotechnology organized its annual festival Genaces 2023 – Bioflix on 25-1-23 Under IIC. Students of Class S. Y. B.Sc Biotechnology planned and volunteered in the organization of the festival with the help of F. Y. BSc Biotechnology students and few T. Y. BSc Biotechnology students. The festival is celebrated with the objective of fostering scientific temperament, Innovation, Entrepreneurial mind set amongst students pursuing Basic Sciences.

Ms. Krishma Shah, Cofounder of Clinibiz – who was featured as young Women Entrepreneur in Forbes was invited as a special Guest at Bioflix- 2023. She is also **an alumnus** of Jai hind Biotechnology.

Following six events below were organized under Bioflix 2023.

1. The Big Shot Game Show- Marketing event
2. The Biologist's Gambit – Scientific Quiz
3. Bioheist – Biological Treasure Hunt
4. Escape Room- Mini Games
5. Action Reel-ay (Online)
6. The Meme Booth (Online)

Bioflix was attended by nearly 140 + students from different college in Mumbai. For offline events Volunteers had closed taking entries due to overwhelming responses



Genaces is organized annually by the students of the Department under the guidance of faculty.

OTHER ACTIVITIES

Department is also active in organization of Seminars/ Workshops/ Webinars/ Industrial visits/ Visit to Research institutes. Even during pandemic times Department of Biotechnology had organized webinars and virtual tours for students.

2022-23		
Workshop /Seminar Conference	Topic	Resource Person
Hands on Training Workshop	Super Heros V/ S Super bugs- antimicrobial Resistance- Foldscope	Dr. Anupma Harshal
Webinar and Virtual Lab Tour	Cryo Electronmicroscopy	Dr. Zenia Motiwala,
Webinar and Virtual Lab Tour	Advances in Biomedical Engineering	Ms. Ashika Singh , Ms. Calin Gonyea University of Delaware
Seminar	Biological research - An insider's perspective	Dr. Nikhil Bardeskar, Nanavati hospital and Research Center
Seminar	Lipid Signalling	Ms. Amruta Naik, Senior Research Fellow, NCBS Bangalore
Visit	NCMR, Pune and ACTREC, Panvel	Research institute
Visit	Bioera Pune	Industry
Visit	ICT	Educational institute

2021-22		
Webinar	Biosafety and Regulations in Academia and Industries	Dr. Girish Mahajan, Ph.D, FSAB, Vice President HiMedia Laboratories Pvt. Ltd.
Virtual Lab Tour	An insight into cell culture and scale up technology' organized by IQAC and Department of Biotechnology	Mr. Babu Padmanabhan
Workshop	An insight into cell culture and scale up technology' organized by IQAC and Department of Biotechnology	Dr. Abhishek Mule, Application Scientist, Eppendorf India Pvt. Ltd.
Seminar	Broad Horizons – Prospects and Opportunity in Contemporary Biosciences	Nikhil Bardeskar
Workshop	'Soft Skills, Resumé Building And Interview Ethics'	Faculty of Biotechnology Department
2020-21		
Webinar	How to Crack Entrance Exams	Ms. Amruta Naik, Senior Research Fellow, NCBS Bangalore
Webinar	'Scope in Biotechnology and Allied Sciences	Nikhil Bardeskar
2019-20		
Hands on Training Workshop	Immunodiagnosics using ELISA	Mr. Bruno Fernandes (HiMedia)

		Dr. Girish Pai (HiMedia)
Hands on Training Workshop	Nutrition Health and Wellness	Ms. Jyoti Mehta Ms. Mary Benny (VLCC)
Seminar	Careers Biological Research	Nikhil Bardeskar
Workshop	How to read Scientific Literature	Dr. Anupma Harshal, MANAV HUMAN ATLAS initiative
Visit	TIFR, ICT, NMIMS, IWSA, NIO, Brewery, Goa	Research institute
2018– 2019		
Seminar	Options and scenario of research in Biological Science in the United States.	Dr. Ambreen Sayeed
Visit	SGNP, IWSA	Nature park

4) **Student Achievement year-wise**

Academic year	Name of the student	Event
2018-19		
	Aditi Pathak, Akshata Shelar Madhura Sohoni, Nikita Chowdhary	Xplore -19 1st price
	Soumyashree Ghosh, Srashti Bajpai, Sabeeha Shaikh Shruti Shashtri	Xplore -19 2nd price

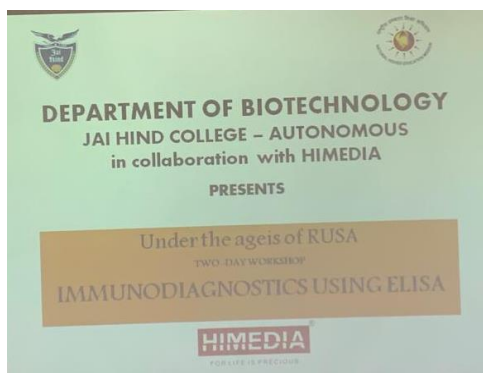
	Ronit Jain, Ishwarya Bhandari Nigel Fernandes, Deep Adwani	Xplore -19 3rd price
2019-2020		
	Urja Choudhary, Vedikka Kalati Shikha Kushwaha, Alicia Pulikottil	Xplore – 20, 1st price
	Himakshi Rekha Goswami	Master of Ceremony (2nd position) On Republic Day Camp 2020, Best singer award in Kalyan NCC camp. Served and initiated in NCC yoga day activities, figure of speech. Served in a paid live show for 3 months under the handle Tamasha. Live
	Nikita Chowdhary	Sumitomo Scholarship
	Melita Fernandes, Ronit Jain Aditi Pathak	19th National Microbiolympiad 2nd (1st runner up)
	Lymraina D'silva, Steephen D'souza, Melita Fernandes Ronit Jain	Xplore, 1 st prize
	Nikita Chowdhary, Aditi Pathak Akshata Shelar, Madhura Sohoni	Xplore 2 nd Prize
	Quratulen Khan, Zahra Jagmag	Xplore 3rd price
	Soumyashree Ghosh	Xplore Consolation Prize
	Sabeeha Shaikh	9th rank at University level Intercollegiate Shooting tournament
2020-2021		
	Siddhant Chawla, Rashi Tiwari	Xplore 2nd Prize
	Nilakshi Patel	Sumitomo Scholarship

	Sharvari Poojari	Nargis Dutt foundation scholarship
	Shruti Shetty	Scholar's list scholarship
	Vedikka Kalati	public relations (SDU), Outreach (The contratrian), Programme ambassador (E cell)
	Deeksha Poojari, Sharvari Poojari	Explore 1 st Prize
	Shruti Chandani, Alicia Pulikotil	Explore 3 rd Prize
	Nikita Chaudhari	Sumitomo Scholarship
	Aditi Pathak	Sumitomo Scholarship
	Soumyashree Ghosh Shruti Shashtri	Avishkar, 2nd Prize UG category
	Nikita Chaudhari, Steephon D'souza, Akshata Shelar, Madhura Sohoni	E – Shodh Winner
	Ronit Jain	E – Shodh Winner
	Shreya Khot	E – Shodh Winner
	Aron Veigas	E – Shodh Winner
	Shruti Shashtri	Paper Published
	Ronit Jain	1st Prize ,Poster Presentation, KC college,
	Zahra Jagmag, Quratuleen Khan	Xplore 3 rd Prize
	Madhura Sohoni, Sagar Prajapati, Jain Ronit, Melita Fernandes, Shreya Khot Aditi Pathak, Rashmi Rani	Cleared IIT-JAM
	Zahra Mohammedi Jagmag, Ronit Jain, Aditi Pathak	TIFR Nationwide Entrance Examination GS2021 (JGEEBILS)
2021-22		
	Arunima Chattopadhyay	Xplore, 22 1 st Prize

	Janhavi Desai., Anishka Sonia	Xplore, 22 3 rd Prize
	Sakshi Pradip Shigvan	Sumitomo Scholarship
	Sakshi Pradip Shigvan, Shirodkar Saloni Sudhir, Ekta Kailash Vatwani	E – Shodh 1 st Prize
	Stuti Mandal, Rashi Tiwari	Xplore, 22 1st Prize
	Nilakshi Patel	Sumitomo Scholarship Rs. 20000 Compendium of 'Research Insight of Life Science Students' Volume 3. JPS Scientific Publications (National) 978-93-91342-27-2 "Digital technologies and next generation packaging" Compendium of 'Research Insight of Life Science Students' Volume 3. JPS Scientific Publications (National) 978-93-91342-27-2 Cataclysmic meet of HIV-1 and Molecular Motor Proteins Compendium of 'Research Insight of Life Science Students' Volume 3. JPS Scientific Publications (National) 978-93-91342-27-2 Nanotheranostics- A promising role in Parkinson's Disease
	Sancheti Sanjay Chougale	Compendium of 'Research Insight of Life Science Students' Volume 3. JPS Scientific Publications (National) 978-93-91342-27-2 Modulatory role of spastin in microtubule dynamics

	Shruti Chandani Alicia Pulikotil	Compendium of 'Research Insight of Life Science Students' Volume 4. JPS Scientific Publications (National) Studying and analogizing the evolution of Diagnostic Kits in the COVID-19 Pandemic
	Nilakshi Patel, Sancheti Sanjay Chougale	Paper Presentation in Two- Days National Virtual Conference, Organized by HSNC University 1st Prize in undergraduate category
	Shikha Kushwaha, Ashandeep Kaur Shruti Chandani, Vedikka Kalati	E – Shodh 1st Prize
	Nilakshi Patel, Sancheti Sanjay Chougale	E – Shodh 1st Prize
	Anshika Agarwal	Cleared GATE
2022-23		
	Siddhant Chawla, Mansha Nathani, Priya Singh, Prachi Sagar	Three 16srRNA Gene Sequences submitted to NCBI
	Farheena Farhidi	Sumitomo Scholarship
	Pooja Srinivasan	Xplore, 23 2 nd Prize
	Pracheta Singh	Xplore, 23, 3 rd Prize
	Divyanka Tanna	Sumitomo Scholarship
	Naisha Nair, Rashi R Somani, Arjun Nambisar, Suhani Gupta	Australian National University Frugal Innovation Case Study competition, Selected amongst Top Ten teams
	Naisha Nair	E – shodh, Third position
	Hardik Dilip Naik	Sumitomo Scholarship
	Sakshi Shigvan	Sumitomo Scholarship
	Saloni Sudhir Shirodkar, Ekta	E – shodh, 1 st Position

	Vatwani, Sakshi Shigvan	
	Nitin Sharma	Explore 2023, 2 nd Prize
	Sakshi Shivgan	TIFR Nationwide Entrance Examination GS2021 (JGEEBILS)



- 5) Video – A brief video of the department(optional)

https://drive.google.com/file/d/1KBzfNTEFGAYuT-6bCV2yVbdAy7sNjfTY/view?usp=share_link

- 6) ELIGIBILITY REQUIREMENTS (if applicable)

Students who have secured 60 % and above in class XII, Science with Biology are eligible to apply for BSc in Biotechnology at Jai hind College. Students who have not opted for mathematics in class XII will be eligible but will have to undergo a bridge course offered by the department.

- 7) FAQ

1. What is the scope of biotechnology?

Ans. Biotechnology is the combination of technology with biological science and has a broad scope in the fields of health, immunology, virology, agriculture, food and pharma. There is a huge demand for biotechnologists around the globe. A student pursuing this course will adept with strong theoretical knowledge and practical skills and will be ready to enter various job sectors.

2. Which subjects will be taught under biotechnology?

Ans. Subjects such as Genetics, Immunology, Biochemistry, Molecular and cell biology, Virology, Bacteriology, Nanobiotechnology, Plant and Animal cell culture, Biostatistics, Bioinformatics, Neurobiology, stem Cell Biology, Molecular diagnostics, Food and fermentation technology, nutrition, and dietetics, Research Methodology, Entrepreneurship, among others.

3. Do I need to give any specific entrance exam for pursuing biotechnology in Jai Hind College?

Ans. Admission is on merit based on class XII marks and please visit Jai Hind college website for any relevant updates.

4. Which different courses can I pursue after completing bachelors in biotechnology?

Ans. B. Sc Biotechnology graduate can qualify and get admission to institute of National and International repute for only masters or integrated Masters and doctoral programs in biotechnology and allied fields like Genetics, Immunology, Cell Biology, Cancer and HIV studies, Biological Sciences, Tissue Culture and other relevant fields.

Students can opt to undergo more specific training and diversify to other fields such as Clinical Research, Patent Law, Quality Control and Quality Assurance, Bioanalytical Sciences, Biomedical engineering and MBA among others.

5. Which jobs can I apply for after I pursue biotechnology?

Ans. Biotechnology students can apply for various jobs such as Process engineers, Biomedical engineers, Regulatory affairs manager, Research officer, medical

technologists, Biostatistician, Bioinformatician and Scientific communications to list a few. Students can opt for a career in Research after accomplishing required higher studies. They can start their own entrepreneurship venture and provide relevant service or products.

6. Which subjects are compulsory for securing admission in B. Sc Biotechnology.

Ans. Student who wants to pursue B. Sc in Biotechnology must have taken Biology in Class XII.

7. Do I need Mathematics in class XII for Admission in B.Sc. Biotechnology?

Ans. It is preferable to have Mathematics in class XII. However, the Department offers a bridge course in Mathematics for students who did not take Mathematics in class XII.