Name: Dr. Praveen Kumar Mehta
Designation: Assistant Professor (Centre for Molecular Biology)
Qualification: Ph.D. (Biotechnology)
Specialization: Microbial Biotechnology,
Enzyme Technology and Molecular Biology
Contact no: +91-9419382962
Email: mehtapkbiotech@gmail.com
Address: Centre for Molecular Biology
Central University of Jammu, Jammu, 180011

Area of Interest:

Protein and Enzyme Engineering, Exploitation of enzymes and whole cell systems for synthesis of pharmaceutical important drugs, Molecular Directed Evolution of Enzymes, Enzymes in Organic solvents, Bioprocess and Biosystems Engineering, Flavor chemistry, Pigments and Nutraceuticals.

Educational qualifications

Ph.D. (Biotechnology), Himachal Pradesh University (HPU), Shimla, India (2007-2013)
M.Sc. (Biotechnology) Himachal Pradesh University (HPU), Shimla, India (2004-2006)
B.Sc. (G) Deen Dyal Upadhyaya college, Delhi University (DU), India (2000-2003)

Professional Training & Research Experience:

- ✓ One year Post-doctorate from the Laboratory for Molecular and Applied Biocatalysis, Faculty of Biotechnology and Food Engineering, **Israel Institute of Technology (IIT)-Technion**, Haifa, Israel. The work was focused on "**Improving lipase stability in methanol for generating a robust biocatalyst for biodiesel synthesis using Iterative saturation mutagenesis**. (2015-2016)

- ✓ One year Post-doctorate from Department of Biotechnology, **Federal University of Sergipe**, Brazil. The work was focused on "**Development of Aroma Essences from Northeastern Regional fruits for application in the food industry**" (2014-2015).

- ✓ Ph.D. from Department of Biotechnology, Himachal Pradesh University, Shimla, India under the guidance of Prof. Tek Chand Bhalla entitled "**Isolation, characterization and application of thermostable amidase of *Geobacillus* sp. RL-2a**" (2013).

- ✓ Hands on training in the UGC-NRCBS summer school training programme on "**PCR applications**" organized by NRCBS centre of Madurai Kamraj University during 17th March-31st March 2010.

- ✓ Two month external internship on project entitled "**Cloning and expression of GS from *Camellia sinensis***" under the direct supervision of Dr. Sudesh kumar, scientist (Biotechnology) at Institute of Himalayan Bioresource Technology, Palampur (H.P).

- ✓ One year M.Sc. Project entitled "**Isolation of xylanase producing organism and optimization of reaction conditions**" under the direct supervision of Dr. Duni Chand, Dept of Biotechnology, HPU, Shimla.

- ✓ Participated in the DBT, Govt. of India sponsored Workshop-cum Training Programme on "**Tools and Techniques for Nucleic Acid and Protein Sequence Analysis**" organized by Bioinformatics centre, Himachal Pradesh University, Summer-hill, Shimla.

Awards and achievements

- ✓ Awarded a Postdoctoral Fellowship in Technion's Faculty of Biotechnology and Food Engineering, **Israel Institute of Technion (IIT)** (2015-2016)
- ✓ Received the National Program of Post Doctorate **PNPD/CAPES scholarship**, Government of Brazil (2014-2015) in Fedral University of Sergipe, Aracaju, Brazil.
- ✓ Qualified for **National Overseas scholarship (NOS),** Govt. of India (2012-2013) for Post Doctoral research in biotechnology.
- ✓ Qualified UGC (NET) - June 2007 **All India National Level Test** examination essential for Junior Research Fellowship and Lecturer ship in Indian Universities
- ✓ Qualified DBT-JRF - June 2007 **All India National Level Test** examination essential for Junior Research Fellowship (DBT)
- ✓ Qualified UGC (NET) - June 2006 **All India National Level Test** examination essential for Lectureship-category in Indian Universities
- ✓ Awarded Scholarships from **Department of Biotechnology (DBT),** Govt. of India (July 2004-June 2006) for M. Sc. Biotechnology programme.

Publications:

- ✓ Bhatia, S. K., **Mehta, P. K.,** Bhatia, R. K., & Bhalla, T. C. (2013). An isobutyronitrile-induced bienzymatic system of Alcaligenes sp. MTCC 10674 and its application in the synthesis of α-hydroxyisobutyric acid. *Bioprocess and biosystems engineering*, 36(5), 613-625.
- ✓ Bhatia, R. K., Bhatia, S. K., **Mehta, P. K.,** & Bhalla, T. C (2013). Production and characterization of acyl transfer activity of amidase from Alcaligenes sp. MTCC 10674 for synthesis of hydroxamic acids. *Journal of Microbial & Biochemical Technology*. 5:1
- ✓ **Mehta, P. K.,** Bhatia, S. K., Bhatia, R. K., & Bhalla, T. C. (2013). Purification and characterization of a novel thermo-active amidase from *Geobacillus subterraneus* RL-2a. Extremophiles, 17(4), 637-648.
- ✓ Bhatia, R. K., Bhatia, S. K., **Mehta, P. K.,** & Bhalla, T. C. (2013). Bench scale production of benzohydroxamic acid using acyl transfer activity of amidase from Alcaligenes sp. MTCC 10674*. Journal of industrial microbiology & biotechnology*, 40(1), 21-27.
- ✓ Bhatia, S. K., **Mehta, P. K.,** Bhatia, R. K., & Bhalla, T. C. (2014). Simultaneous purification of nitrile hydratase and amidase of Alcaligenes sp. MTCC 10674. *3 Biotech*, 4(4), 375-381.
- ✓ Bhatia, S. K., **Mehta, P. K.,** Bhatia, R. K., & Bhalla, T. C. (2014). Purification and characterization of arylacetonitrile-specific nitrilase of Alcaligenes sp. MTCC 10675. *Biotechnology and applied biochemistry*, *61*(4), 459-465.
- ✓ **Mehta, P. K.,** Bhatia, S. K., Bhatia, R. K., & Bhalla, T. C. (2014). Bench scale production of nicotinic acid using a versatile amide-hydrolysing Geobacillus subterraneus RL-2a isolated from thermal spring of Manikaran, India. *Journal of Molecular Catalysis B: Enzymatic*, *105*, 58-65.

- ✓ Bhatia, S. K., **Mehta, P. K.,** Bhatia, R. K., & Bhalla, T. C. (2014). Optimization of arylacetonitrilase production from Alcaligenes sp. MTCC 10675 and its application in mandelic acid synthesis. *Applied microbiology and biotechnology*, *98*(1), 83-94.
- ✓ Bhatia, R. K., Bhatia, S. K., **Mehta, P. K.,** & Bhalla, T. C. (2014). Biotransformation of nicotinamide to nicotinyl hydroxamic acid at bench scale by amidase acyl transfer activity of Pseudomonas putida BR-1. *Journal of Molecular Catalysis B: Enzymatic*, *108*, 89-95.
- ✓ **Mehta, P. K.,** Bhatia, S. K., Bhatia, R. K., & Bhalla, T. C. (2015). Thermostable amidase catalyzed production of isonicotinic acid from isonicotinamide. *Process Biochemistry*, *50*(9), 1400-1404.
- ✓ Singh R, Kumar M, Mittal A, and **Mehta P.K** (2016). Microbial enzymes: industrial progress in 21st century. *3 Biotech.* 6:174.
- ✓ Bhatia, R. K., Bhatia, S. K., **Mehta, P. K.,** & Bhalla, T. C. (2016). Bio-statistical enhancement of acyl transfer activity of amidase for biotransformation of N-substituted aromatic amides. *The Journal of general and applied microbiology*, *62*(2), 90-97.
- ✓ Singh R, Kumar M, Mittal A, and **Mehta P.K** (2016). Lignocellulolytic enzymes: Biomass to biofuel. *International Journal of Advanced Research***.** 10: 2175-2182.
- ✓ Singh R, Kumar M, Mittal A, and **Mehta P.K** (2016). Microbial Cellulases in Industrial Applications. *Annals of Applied Bio-Sciences.* 3 (4).
- ✓ Singh R, Mittal A, Kumar M and **Mehta P.K** (2016). Amylases: A Note on Current Applications. *International Research Journal of Biological Sciences.* 11: 27-32.
- ✓ **Mehta P.K,** Bhatia S.K, Bhatia R.K and Bhalla T.C. (2016) Enhanced production of thermostable amidase from *Geobacillus subterraneus* RL-2a MTCC 11502 via optimization of physicochemical parameters using Taguchi DOE methodology. *3 Biotech.* 6: 1-12.
- ✓ Singh R, Mittal A, Kumar M and **Mehta P.K** (2016). Microbial Proteases in Commercial Applications. *Journal of Pharmaceutical Chemical and Biological Sciences.* 4: 365-374.
- ✓ Singh R, Kumar M, Mittal A, and **Mehta P.K** (2016). Microbial metabolites in nutrition, healthcare and agriculture. *3 Biotech.*

Book Chapter:

- ✓ Bhalla TC, **Mehta P K**, Bhatia SK, Thakur N and Pratush A (2008) Microorganisms for Food and Feed. In: Fundamentals of Food Biotechnology, Anne Publisher, New Delhi.

Techniques learned/Equipments handled:

Isolation, characterization and maintenance of bacterial cultures, identification of bacteria, screening of microbes for industrial enzymes, strain preservation (lyophilization), Protein purification and characterization, Gel permeation, ion exchange & affinity chromatography, SDS & native PAGE, Microbiological techniques, Technological combination, Various Chromatographic techniques like HPLC, GC-FID, GC-MS/MS, MALDI-Toff, Lyophilizer, Bead beater, Sonicator, Microscopy, Fermenter, Assay of various enzyme, immobilization of enzymes, zymography, Transformation of *E. coli*, genomic DNA isolation from bacteria, plant & blood, plasmid isolation, restriction digestion & ligation of DNA, DNA amplification by PCR, cloning and expression of proteins using bacterial expression system, Computer skill: Internet, Microsoft Word, Excel, Power

Point, Publisher, Adobe Photoshop, Bioinformatic skills: NCBI and associated tools and databases, FastA, BLAST, ClustalW, ORF searching, Primer designing, Data analysis skills: phylogenetic analysis Phylip, MEGA 5 software, Quiletek-4, GraphPad Prism software, etc.

Teaching Experience

Teaching and Practical demonstration of Microbiology techniques, Enzyme technology, Recombinant DNA Technology experiments to B. Sc. and M. Sc. Life science students.

Oral and Poster presentation

- ✓ **Mehta PK,** Bhatia SK, Bhatia RK, Kumar V and Bhalla T C (2014) Bench scale production of nicotinic acid using a versatile amide-hydrolysing *Geobacillus subterraneus* RL-2a isolated from thermal spring of himachal Pradesh. **In: XXIV Congress and Brazilian Science and Food Technology (xxiv CBCTA), 25-29 Sep. Centre for Sergipe conventions, Aracaju, Brazil.**
- ✓ Bhalla TC, **Mehta PK**, Sharma NN and Bhatia SK (2009) Production of isonicotinic acid using agar entrapped whole cells of *Nocardia globerula* NHB-2. **In: XVII International Conference on Bioencapsulation, 24-26 Sept. Groningen, Netherland.**
- ✓ Gihaz S, Weiser D, Poppe L, **Mehta PK** and Fishman A (2015) Immobilization of a methanol-stable lipase in a ternary sol-gel system for biodiesel production. **In: 3rd Conference of Israel Society for Biotechnology Engineering (ISBE), December 13, 2015, Tel Aviv, Israel.**
- ✓ **Mehta PK**, Bhatia SK, Bhatia RK, Kumar V and Bhalla T C (2011) Thermostable amidase from *Geobacillus* sp. RL-2A: isolation and screening. **In: 52nd annual conference of Association of Microbiologist of India on internal conference on microbial biotechnology for sustainable development. 3-6 Nov. Chandigarh, India.**
- ✓ **Mehta PK**, Bhatia SK, Bhatia RK, Kumar V and Bhalla TC. Optimization of production conditions for biosynthesis of nicotinic acid from nicotinamide using resting cells of thermostable *Geobacillus* sp. RL-2a. **Poster presented in International conference on Advances in Biological Sciences (ICABS-2012) March 15-17, 2012. Department of Biotechnology and Microbiology, Kannur, Kerala, India.**