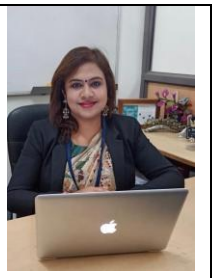
NAME	Dr. Pooja Vijayaraghavan	
DESIGNATION	Professor	
EMAIL ID	vrpooja@amity.edu	
CONTACT NUMBER	0120-4392195	
RESEARCH INTERESTS:	Antifungal drug discovery and development. Exploring antifungal mode of action of natural products and their derivatives, novel antifungal drug targets and drug resistance in infectious diseases.	

EDUCATIONAL QUALIFICATIONS: PhD

Name of College / University	Degree	Year
CCS University Meerut	BSc	1997
Jamia Hamdard	MSc Biochemistry	1999
Jamia Hamdard	PhD	2004

Title of Ph.D. thesis:
Expression, Purification and Characterization of Bioactive Gonadotropic Hormone FSH and LH in Baculovirus expression Vector system

EXPERIENCE (in chronological order)

Designation	Type of post held (teaching/ research)	Name of the Institute	Year (From – To)
Scientist	Research	Bharat Biotech International Ltd	Jan 2004-June2005
Lecturer	Teaching	St. Francis Degree College, Affiliated to Osmania University, Hyderabad	April 2006-March 2009
Associate Professor	Teaching and Research	Amity University Uttar Pradesh	July 2014-June 2018
Professor	Teaching and Research	Amity University Uttar Pradesh	2018 onwards
Professor and Off. Head	Teaching and Research		2023 0nwards

No. of Ph.D. students supervised	**Ph.D. students supervised:** 1. Ms. Shanu Hoda, Ph.D. thesis title: Identification of Antifungal Molecules from Plant Sources Targeting Cell Wall Organization and Virulence in *Aspergillus fumigatus* (Awarded) 2. Ms. Lovely Gupta, Ph.D. thesis title: Determination of Antifungal Activity of Plant Derived Small Molecules and their analogs against *Aspergillus fumigatus* (Awarded) 3. Ms. Pooja Sen, Ph.D. thesis title: Epidemiological Studies And Molecular Identification of Azole Resistant Isolates in *Aspergillus* Species 4. Ms. Ashwini Vasudevan, Ph.D. thesis title: Development and Evaluation of Nano Fiber Based Bio Scaffolds as Potential Regenerative Therapy for Liver Injury

	5. Ms. Aastha Chauhan, Ph.D. thesis title: Target based drug designing to target virulence proteins and their antifungal efficacy in *Mucorales* 6. Ms. Muskan Sayeed, Ph.D Thesis title: Integrating genomes-scale metabolic modelling and ML for predicting anti-fungal resistance in *Mucorales* spp. (co-guide)
	M.Tech and M.Sc Thesis supervised ***1.*** Mr. Aniket Sharma, B.Sc. + M.Sc. - Biotechnology (Dual Degree), Thesis title: Inhibition of Melanin Biosynthesis, Hyphal Growth, and Appressorium Formation in *Magnaporthe oryzae* by Myristica fragrans Extract: Exploring Therapeutic Potential for Fungal Pathogenicity **2.** Simran Kaur Ahluwalia, B.Tech. + M.Tech (Biotechnology) Dual Degree, Thesis title: Molecular Insights into Understanding the Genes Responsible for Appresporium Formation, Conidiogenesis and Pathogenecity in *Magnaporthe oryzae* **3.** Himanshu, M.Sc. (Biotechnology), Thesis title: Exploring Antifungal Strategies: A Comprehensive Investigation into Targeting Virulence Proteins/Genes Velb and Thr through Gene Expression, Molecular Docking, and Molecular Dynamics Studies in *Curvularia lunata* **4.** Mr. Mukund, B.Sc. + M.Sc. - Biotechnology (Dual Degree), Thesis title: Investigating In-vitro Antifungal and Antibiofilm Activity of eugenol against Azole-Resistant Environmental Isolates of *Aspergillus fumigatus* **5.** Mr. Atul Bhardwaj, M.Tech (Biotechnology), Thesis title: Bioactive Compounds Modulates the Expression of Genes Involved in Biofilm Formation. **6.** Ms. Swapnil Sharma, M.Tech (Biotechnology), Thesis title: Understanding the Mechanism of Interlocking Pathogenesis of Melanised Fungus *Curvularia lunata* on Plants and Animals. **7.** Ms Saba Masood, M.Tech (Biotechnology), Thesis title: Diversity of Resistant Determinants, Virulence Factors and Mobile Genetic Elements in *Aspergillus* Sp. From India **8.** Mr Dhruv Jain, B.Tech. + M.Tech (Biotechnology) Dual Degree, Thesis title: Identification of Virulence Proteins and Their Sequence Alignment in Various Fungal Strains of Mucormycosis using Computational Approach. **9.** Ms Vanshika Sharma, M.Tech (Biotechnology), Thesis title: Exploring Virulence Genes in *Mucorales* **10.** Ms Poojasvi Singh, M.Sc. (Biotechnology), Thesis title: Understanding the Emergence of *Aspergillus flavus* as an Opportunistic Pathogen in the Environment
No. of UG students supervised	**Thirty Five**

PUBLICATIONS: Last 5 years	1. A Comprehensive in vitro and in silico Assessment of Eugenol Glycoconjugates against Azole and Amphotericin B Resistant Rhizopus delemar var arrhizus. Pooja Sen, Lovely Gupta[1] Aastha Chauhan[1] Lakshmi Goswami[2], Asish K Bhattacharya[2], Abhishek Sengupta[1]Pooja Vijayaraghavan. ***Mol Biol Reports* 2025 doi** 10.21203/rs.3.rs-6360712/v1 2. Exploring the Antimicrobial Potential of Hesperetin: A Study on Clinically Relevant Bacterial and Fungal Pathogens. Assim Verma, Jyoti Bakshi, Garvit Kumar, Himanshu Kamboj, Rekha Verma, Pooja Vijayaraghavan, Aman Singh, Naveen Kumar, Sanjay Barua and Santosh Kumari. ***J Pure Appl Microbiol***. **2025**. doi: 10.22207/JPAM.19.1.49 **3.** Systems Biology Approach Reveals Succinyl-CoA and Hydroxycitrateas potential therapeutics for the treatment of Vulvovaginal Candidiasis Priyanka Narad AbhishekSengupta; Sudeepti Kulshrestha; Ritu R edhu;Ankur Chaurasia; Payal Gupta; Muskan SyedPooja Vijayar aghavan; Somesh Gupta.. ***Next Research* 2025** https://doi.org/10.1016/j.nexres.2025.100190 4. *E*xploring Host Immunity and Virulence in Mucorales. Aastha Chauhan, Pooja Sen, Aman Singh, Krishna Prajapati, Vanshika Jain and Pooja Vijayaraghavan. ***Springer Nature* 2025** https://doi.org/10.1007/978-981-97-8739-5_18 ***5.*** *In-vivo* transplantation of intrahepatic cholangiocyte organoids with decellularized liver-derived hydrogel support hepatic cellular proliferation and differentiation in chronic liver injury. Ashwini Vasudevan, Arka Sanyal, AkashKumar Mourya, Aarti S harma, Archana Rastogi, Sourabh Ghosh, Pooja Vijayaraghavan, ShivKumar Sarin, Savneet Kaur, Dinesh Mani Tripathi. ***Journal of Materials Chemistry B,* 2025.** DOI: 10.1039/D4TB01503G ***6.*** Injectable Hydrogels for Liver: Potential for Clinical Translation. Ashwini Vasudevan; Doyel Ghosal; Sita Ram Sahu; Narsing Kumar Jha; Pooja Vijayaraghavan; Sachin Kumar; Savneet Kaur. ***Chemistry - An Asian Journal,* 2024. https://doi.org/10.1002/asia.202401106** ***7.*** Understanding Molecular Pathogenesis of *Aspergillus fumigatus.* .Pooja Sen, Lovely Gupta, Aman Singh, Lokesh Kumar, Rajan Kumar Mishra, Pooja Vijayaraghavan. Published in Book Recent Advances in Human Fungal Diseases.. DOI : 10.1007/978-981-97-4909-6. ***Springer Nature Singapore,* 2024** 8. An Update on Human Fungal Diseases: A Holistic Overview, Shweta Singh, Pooja Vijayaraghavan, Sandhya Devi, Saif Hameed. Published in Advances in Antifungal Drug Development: Natural Products with Antifungal Potential. Pg 3-

	37, ***Springer Nature, Singapore***, **2024** 9. Integrating In-silico and In-vitro Approaches to Identify Plant-Derived Bioactive Molecules against Spore Coat Protein CotH3 and High Affinity Iron Permease FTR1 of Rhizopus oryzae Lovely Gupta, Pawan Kumar, Pooja Sen, Aniket Sharma, Lokesh Kumar, Abhishek Sengupta, Pooja Vijayaraghavan. ***Current Research in Microbial Sciences*** **2024.** https://doi.org/10.1016/j.crmicr.2024.100270 10. Biomarker Identification for Preterm Birth Susceptibility: Vaginal Microbiome Meta-Analysis Using Systems Biology and Machine Learning Approaches. Sudeepti Kulshrestha, Priyanka Narad, Brojen Singh, Somnath S Pai, Pooja Vijayaraghavan, Ansh Tandon, Payal Gupta, Deepak Modi, Abhishek Sengupta. ***American Journal of Reproductive Immunology,*** **2024**. https://doi.org/10.1111/aji.13905 11. FRI-547-YI Regenerative matrix-based hydrogels repair hepatocellular damage and promote cellular proliferation in pre-clinical models of acute liver injury. Ashwini Vasudevan, Arka Sanyal, AkashKumar Mourya, Aarti S harma, Archana Rastogi, Sourabh Ghosh, Pooja Vijayaraghavan, ShivKumar Sarin, Savneet Kaur, Dinesh Mani Tripathi. ***Journal of Hepatology.*** **2024.** https://doi.org/10.1016/S0168-8278(24)01163-2 12. Precision nutrition-based strategy for management of human diseases and healthy aging: Current progress and challenges forward. Vipin K Singh, Hu Xiaohu, Amit K Singh, Manoj K Solanki, Pooja Vijayaraghavan, Rajpal Srivastav, Naveen C Joshi, Madhuree Kumari, Sandeep Kumar Singh, Zhen Wang, Ajay Kumar. ***Frontiers in Nutrition***.**2024** https://doi.org/10.3389/fnut.2024.1427608 13. cyp51A Mutations, Protein Modeling, and Efflux Pump Gene Expression Reveals Multifactorial Complexity towards Understanding Aspergillus Section Nigri Azole Resistance Mechanism. Pooja Sen, Lovely Gupta, Mukund Vijay, Jata Shankar and Pooja Vijayaraghavan**,** ***Nature Scientific Reports*** **2024**. DOI: 10.1038/s41598-024-55237-9 14. Unveiling the Cell Wall-Targeting Mechanisms and Multifaceted Virulence Modulation by a Eugenol Glycoconjugate against Aspergillus fumigatus: Insights from in vitro and in ovo Studies. Lovely Gupta, Shalini Verma, Lakshmi Goswami, Himanshu Kamboj, Pooja Sen, Asish K. Bhattacharya, Pooja Vijayaraghavan. **2024** ***Journal of Applied Microbiology***. DOI: 10.1093/jambio/lxae009 15. Liver Extracellular matrix based Nanofiber scaffolds for the culture of primary hepatocytes and drug screening. Vasudevan, Ashwini; Kaur, Impreet ; Majumder, Nilotpal ; M Tripathi,

Dinesh ; Sundarrajan, Subramanian; Venugopal, Jayarama; Vijayaraghavan, Pooja; Singh, Neetu; Ramakrishna, Seeram; Ghosh, Sourabh; Kaur, Savneet. ***ACS Biomater. Sci. Eng***. **2023** DOI: 10.1021/acsbiomaterials.3c01216

16. Systems-wide analysis of A. fumigatus using kinetic modeling of metabolic pathways to identify putative drug targets. Narad P, Kulshrestha S, Chikara A, Gupta V. Kakrania M, Saxena R, Gupta P, Gupta L, Vijayaraghavan P, Sengupta A.J ***Biomol Struct Dyn***. **2023**. doi: 10.1080/07391102.2023.2223726

17. Design and Synthesis of 1,3-Diynesas Potent Antifungal Agents Against Aspergillus fumigatus. Lakshmi Goswami; Lovely Gupta; Sayantan Paul; Pooja Vijayaraghavan*; Asish Kumar Bhattacharya*. ***ChemmedChem.*** **2023** DOI: 10.1002/cmdc.202300013

18. 4-Allyl-2-methoxyphenol Modulates the Expression of Genes Involved in Efflux Pump, Biofilm Formation and Sterol Biosynthesis in Azole Resistant Aspergillus fumigatus. Pooja Sen, Lovely Gupta, Mukund Vijay, Maansi Vermani Sarin, Jata Shankar, Saif Hameed and Pooja Vijayaraghavan. ***Frontiers in Cellular and Infection Microbiology, section Fungal Pathogenesis*** **2023** doi: 10.3389/fcimb.2023.1103957

19. Gene expression, molecular docking and molecular dynamics studies to identify potential antifungal compound targeting virulence proteins/genes ClVelB and THR as a possible drug target against Curvularia lunata Himanshu Kamboj, Lovely Gupta, Pawan Kumar, Pooja Sen1, Abhishek Sengupta and Pooja Vijayaraghavan ***Frontiers in Molecular BioSciences.*** **2022** https://doi.org/10.3389/fmolb.2022.1055945
20. Understanding the Environmental Drivers of Clinical Azole Resistance in Aspergillus Species. Pooja Sen, Mukund Vijay, Shweta Singh, Saif Hameed* and Pooja Vijayaraghavan* ***Drug Targets Insights*** . **2022** DOI: 10.33393/dti.2022.2476
21. Design and Synthesis of Eugenol/Isoeugenol Glycoconjugates and Other Analogues as Antifungal Agents Against Aspergillus fumigatus†Lakshmi Goswami, Lovely Gupta, Sayantan Paul, Maansi Vermani, Pooja Vijayaraghavan* and Asish K. Bhattacharya. ***RCS Medicinal Chemistry*** **2022**, DOI: 10.1039/d2md00138a
22. Isoeugenol Affects Expression Pattern of Conidial Hydrophobin Gene RodA and Transcriptional Regulators MedA and SomA Responsible for Adherence and Biofilm Formation in Aspergillus fumigatus. Lovely Gupta, Pooja Sen, Asish Bhattacharya, Maansi Vermani and Pooja Vijayaraghavan. ***Archives of Microbiology*** **2022**, https://doi.org/10.1007/s00203-022-02817-w
23. Understanding the fundamental role of virulence determinants to combat Aspergillus fumigatus infections: exploring beyond cell wall Lovely Gupta, Shanu Hoda, Maansi Vermani and Pooja Vijayaraghavan***.*** ***Mycological Progress*** **2021** DOI:https://doi.org/10.1007/s11557-021-01677-w

	24. Insights on the molecular targets in the progression of rice blast and new approaches to combat it. Lovely Gupta, Maansi Vermani Simran K Ahluwalia, and Pooja Vijayaraghavan ***Mycology***, **2021** https://doi.org/10.1080/21501203.2020.1868594 2021 25. In-silico Structure-Based Drug Discovery of Candidate Drugs against Novel Protein Receptor Complex Nsp10-Nsp16 of SARS-CoV-2 using Drug Repurposing Approach. Abhishek Senguptaa, Pooja Vijayaraghavana, Priyansh Srivastavaa, Lovely Gupta, Chaitanya Chandwania and Priyanka Narad. ***Coronavirus*** **2021** DOI : 10.2174/2666796701999201014161604 26. Cis-9-hexadecenal, a natural compound targeting cell wall organization, critical growth factor and virulence in Aspergillus fumigatus. Shanu Hoda, Lovely Gupta, Jata Shankar, Alok Gupta and Pooja Vijayaraghavan. ***ACS Omega*** **2020** DOI: 10.1021/acsomega.0c00615 27. Anti-melanogenic activity of Myristica fragrans extract against Aspergillus fumigatus using phenotype based screening. Shanu Hoda, Maansi Vermani, Rajesh. K. Joshi and Pooja Vijayaraghavan ***BMC Alternative and complementary Therapies*** **2020** https://doi.org/10.1186/s12906-020-2859-z. 28. SEM and qRT-PCR revealed quercetin inhibits swelling of conidia via modulating calcinerrin-Crz1 signal pathway in Aspergillus flavus. Sonia Kumari Shishodia, Shraddha Tiwari, Shanu Hoda, Pooja Vijayaraghavan and Jata Shankar. ***Mycology*** **2020** https://doi.org/10.1080/21501203.2020.1711826
BOOKS PUBLISHED: 1	**Recent Advances in Human Fungal Diseases: Progress and Prospects.** Publisher: *Springer Verlag, Singapore* (ISBN: 9789819749089). **Editors:** Saif Hameed and Pooja Vijayaraghavan
PATENTS: 5 ***(Granted)***	1. Novel effect of spices on demelanization of pathogenic fungus (1627/DEL/2011) V. Pooja, Seema Bhatnagar, Hina Sanwal, Ashwani K. Srivastava 2. Novel bioactive extract for prevention treatment of Acne Megha Rikki, Swati Kaushik, V. Pooja, Hina Sanwal, Seema Bhatnagar and Ashwani K. Srivastava 2909/DEL/2010 3. A method for the preparation of disinfectant air purifier and hand sanitizer using combination of plant extracts. Swati Kaushik, Megha Rikki , Hina sanwal, V. Pooja, Ashwani K. Srivastava, Seema Bhatnagar 2740/DEL/2010 4. Novel composition of natural extracts as disinfectant and air purifiers Swati Kaushik, Megha Rikki , V. Pooja, Ashwani K. Srivastava, Seema Bhatnagar (2473/DEL/2011) 5. Biocompatible and bio-polymer based herbal coating for enhancement of shelf life of perishable fruits Pooja Vijayaraghavan, Lovely Gupta, Aniket Sharma, Gaurav Raj, Shivangi Gulati (No 201811045273)

PATENTS *(filled)* 10	1. Novel effect of medicinal plant as antifungals leading to reduced pathogenicity (1625/DEL/2011) Megha Rikhi , Seema Bhatnagar,.Hina Sanwal , .V. Pooja , .Ashwani K. Srivastava 2. Novel effect of citrus plant as antifungal leading to reduced pathogenicity. (1626/DEL/2011) Swati Kaushik, Hina Sanwal , V. Pooja, Ashwani K. Srivastava, Seema Bhatnagar 3. Novel Bioactive extract of ratanjot to inhibit/Decrease the melanin production in melanocytes (2472/DEL/2011) V. Pooja, Hina Sanwal, Seema Bhatnagar and Ashwani K Srivastava 4. Novel effects of orange peel exhibiting bactericidal property against *Micrococcus* Swati Kaushik, Hina Sanwal , V. Pooja, Ashwani K. Srivastava, Seema Bhatnagar (2471/DEL/2011) 5. Novel bioactive extract for prevention treatment of Acne Megha Rikki, Swati Kaushik, , V. Pooja, Hina Sanwal, Seema Bhatnagar and Ashwani K. Srivastava 2909/DEL/2010 6. A methanolic extract of lichen Parmelia as potent anti-*Helicobacter pylori* agent. Rajashree Das, V. Pooja, Sweta Mahant, Hina Sanwal and Seema Bhatnagar (3856/DEL/2012) 7. Biphenyl-2,6-diethanone analogs and their derivatives as antifungal agents. Megha Rikhi, Shanu Hoda, Swati Kaushik, Seema Bhatnagar, V. Pooja, Anjali Soni, B. Jayaram(1673/DEL/2015) 8. Cis-9 hexadecanal binding with the polyketide synthase protein for virulence of conidal structure of A. fumigatus. Shanu Hoda and Pooja Vijayaraghavan (No. 201711016937) 9. Fungicidal effect of Isoeugenol in azole resistant Aspergillus fumigatus. Shanu Hoda, Meenakshi Jeena and Pooja Vijayaraghavan (201711016284) 10. Natural Small molecules as potential biopesticide against Rice blast fungus, *Magnaporthe oryzae* Lovely Gupta, Chintu Mani, Aniket Sharma, Deepak Konwar and Pooja Vijayaraghavan (No. 201811003270)
Products commercialized/In process 3	**1.** Herbal Hand Sanitizer-**Technology Transferred to Nagarjuna Argo Chemicals Ltd, Hyderabad:** Inventors **Dr. Pooja Vijayaraghvan** and Dr. Seema Bhatnagar. **2.** Biocompatible, Plant based film for Enhancement of shelf life of perishable fruits- **NDA/MTA signed with Lawrancedale Agro, Ooty::** Inventor **Dr. Pooja Vijayaraghvan** **3.** Biopesticide to combat Rice Blast Disease: Product under initial phase of NDA/MTA signing: Inventor: **Dr. Pooja Vijayaraghvan**
RESEARCH PROJECTS: completed 8.	1. DST-SERB, Govt. of India; Melanin Synthesis Pathway as a possible drug target against Aspergillosis 2013-2016 2. NE-DBT, Govt. of India Twinning Project; Exploring the inhibitory effect of bio- pesticide on virulence and pathogenicity in *Magnaporthe oryzae* amounting 2016-2018 3. DST-TEC Sponsored Intramural Project: Biocompatible and biopolymer based herbal coating for enhancement of shelf life of perishable fruits. 2020-21

	4. DST, Govt. of India, Extramural Grant; An Integrated Approach for Phenotype based Identification and Target Validation of Antifungal Compounds Active against *Aspergillus fumigatus* 2017-2020 5. International Grant from Bayer, Germany: Target specific lead compound identification and validation for the production of MPI based bio-pesticides effective against pathogenic fungal strains. 2019-20 6. Luxor Pvt. Ltd, India: Validation of the efficacy Claims of various cleaning and disinfectant products. 2021-2022 7. Lifecare Innovations: Efficacy testing of antifungal molecules against resistant Aspergillus environmental and Clinical Isolates. 2022-2023 8. Absolute Agri: Integrated Pest and Disease Management for Thirty Two Key Agricultural Crops: 2023-24
AWARDS & HONOURS/ DISTINCTIONS	1. Awarded 100% scholarship from **European Confederation of Medical Mycologist** to attend and present in 11th Advances against Aspergilliosis and Mucormycosis in Milan Italy from 24th to 27th January 2024. 2. Selected as Fellow of **Royal Society of Biology** (FRSB), The Royal Society, U.K 3. Awarded 100% scholarship by **Bill and Melinda Gates foundation** (2018) for Keystone symposia for 21st Century Drug Development in Berlin, Germany 16-20 Oct. 2018 4. Awarded best poster award in Mycocon 2018, held at Aerocity, New Delhi. Inhibition of *Aspergillus fumigatus* biofilm formation and cytotoxicity studies of novel plant derived small molecule. Shanu Hoda, Gaurav raj and Pooja Vijayaraghavan 5. Awarded best paper award in Identification of biopesticide on inhibition of fungal infection and enhancement of rice plant growth. Lovely Gupta and V. Pooja, DST, DAAD, RSC and INSA funded conference on pesticide and human health. 2-5 Nov 2017, Bangalore India. 6. 50% Bursary awarded by **Wellcome Trust**, to attend advanced training on small molecule drug discovery at Genome campus, Cambridge, UK. 7. 100% Scholarship awarded at Advances against Aspergillosis conference, Manchester U.K. to present research work (2016) 8. Awarded **Young Scientist Grant** by Department of Biotechnology, Govt. of India (2013). 9. 100% scholarship Awarded **Bill and Melinda Gates Global Health Travel Award** (2012) to present research findings at Keystone Symposium in Santa-Fe, USA.
Professional/ Academic bodies	• Fellow of Royal Society of Biology • DST-GoI, Expert reviewer for CRG grants • Member of ASM Microbe • Member of ESCMID, EU • Member of ISHAM • Frontiers of Fungal Biology (Review Editor)

	• ACS Infectious Biology (Editorial Board)