




INSTITUTE OF HOME ECONOMICS  
UNIVERSITY OF DELHI



Name	Dr. Arti Kumari	Photograph
Designation	Assistant Professor	
E-mail	<a href="mailto:arti.kumari@ihe.du.ac.in">arti.kumari@ihe.du.ac.in</a> ,	
Educational Qualifications: PhD, Microbiology		
<b>Teaching experience:</b> 4 years		
<b>Subjects/Papers Taught:</b> Industrial Microbiology, Bacteriology, Genetics, Food Microbiology, Microbial Biotechnology, Role of Microbes in Biotechnology and Immunology		
<b>Awards received</b> <ul style="list-style-type: none"><li>• National Postdoctoral Fellow award from Science and Engineering Research Board, Department of Science and Technology (DST), Ministry of Science and Technology, Govt of India.</li><li>• Bursary award 2013, in BIOTRANS -2013 conference held in Manchester University Central U.K. during 21<sup>st</sup> July to 25<sup>th</sup> July.</li><li>• Senior Research Fellow (SRF) award by Council of Scientific and Industrial Research (CSIR), Govt. of India.</li><li>• Deutscher Akademischer Austausch Dienst (German Academic Exchange Service) (DAAD) fellowship.</li><li>• Qualified Graduate Aptitude Test in Engineering (GATE) in Life Sciences with 98.2 percentile conducted by Indian Institute of Technology, India</li><li>• Qualified CSIR-UGC-NET Exam from Council of Scientific and Industrial Research (CSIR), Govt. of India.</li></ul>		
<b>Research Interest/Specialization:</b> Interdisciplinary field of Microbiology, Microbial biotechnology, infection biology, nano-toxicology, protein biochemistry, enzyme kinetics, cloning expression, purification and crystallization.		
ORCID No. <a href="https://orcid.org/0000-0001-7288-5993">ARTI KUMARI (0000-0001-7288-5993)</a> - <a href="https://orcid.org/0000-0001-7288-5993">ORCID   Connecting Research and Researchers</a>		

Research Projects		
Title	Funding agency/organization	Duration of Project
Expression analysis of the genes involved in oxidative stress in response to nanoparticle exposure: A case study on soil bacterial communities	SERB-DST	2 years
Over production of lipases in various yeast systems such as <i>Hansenula</i> , <i>Saccharomyces</i> , <i>Arxula</i> and <i>Pichia pastoris</i> .	DAAD-Germany	6 months

### Research papers since 2010

1. Shrivastava P., Ramesh M., Kaushik P, **Kumari A\*** and Aggarwal S. Pyocyanin pigment from *Pseudomonas* species: Source of a dye and antimicrobial textile finish—a review. Proceedings of the Indian National Science Academy. 2022, <https://doi.org/10.1007/s43538-022-00109-x>.
2. Sadaf A, Grewal J, Jain I, **Kumari A** and Khare S. K. (2018), Stability and structure of *Penicillium chrysogenum* lipase in the presence of organic solvents, *Preparative Biochemistry and Biotechnology*, doi.org/10.1080/10826068.2018.1525566.
3. Chaturvedi S, **Kumari A**, Nain L and Khare S.K. (2018), Bioprospecting Microbes for Single cell oil production from starchy wastes. *Preparative Biochemistry and Biotechnology*, doi: 10.1080/10826068.2018.1431783.
4. Chaturvedi S, **Kumari A**, Bhattacharya A, Sharma A, Nain L and Khare S.K. (2018), Banana peel waste management for single cell oil production. *Energy Ecology and Environment*, doi.org/10.1007/s40974-018-0101-3.
5. Sadaf A., **Kumari A** and Khare S. K. (2018), Potential of Ionic liquids for inhibiting the growth and  $\beta$ -lactamase production by *Bacillus cereus* EMB20., *International Journal of Biological Macromolecules*, 107, 1915-1921.
6. **Kumari A**, Ahmad R, Negi S and Khare S. (2017) Biodegradation of waste grease by *Penicillium chrysogenum* for production of fatty acid. *Bioresource Technology* 226: 31-38.
7. **Kumari A**, Khare SK and S, Kundu J (2017), Adverse effect of CdTe quantum dots on the cell membrane of *Bacillus subtilis*: insight from microscopy. *Nano materials and nano objects*, 12:19-26.
8. Gupta R, **Kumari A**, Sial P and Singh Y. (2015) Molecular and functional diversity of yeast and fungal lipases: their prospective role in biotechnology and cellular physiology. *Prog Lipid Res* 57c: 40-54

9. **Kumari A** and Gupta R. (2014) Novel Strategy of Using Methyl Esters as Slow-Release Methanol Source during Lipase Expression by mut+ *Pichia pastoris* X33, PLoS ONE, 9(8): e104272
10. **Kumari A**, Baronian K, Gotthard K and Gupta R. (2015) Extracellular expression of YLip11 with a native signal peptide from *Yarrowia lipolytica* MSR80 in three different yeast hosts. Protein expression and purification 110: 138-144
11. **Kumari A** and Gupta R (2015), Functional characterization of novel asprich lipase TALipC from *Trichosporon asahii* MSR54: solvent dependent enantioinversion during esterification of 1-phenylethanol. Biotechnol Lett, 37(1): 121-30.
12. **Kumari A** and Gupta R (2014), Functional Characterisation of Novel Enantioselective Lipase TALipA from *Trichosporon asahii* MSR54: Sequence Comparison Revealed New Signature Sequence AXSXG among Yeast Lipases, Appl Biochem Biotechnol 175(1): 360-71.
13. **Kumari A** and Gupta R (2013), Phenyl alanine to Leucine point mutation in oxyanion hole improved catalytic efficiency of Lip12 from *Yarrowia lipolytica*, Enzyme Microb Technol, 53: 386-390.
14. **Kumari A** and Gupta R (2013), Heterologous expression, purification and characterization of thermostable lip11 from *Yarrowia lipolytica* in *Pichia pastoris* X33, J Prot Proteomics, 4(1), 5-10.
15. Baliyana A, Bhatia P, Gupta BD, Sharma EK, **Kumari A** and Gupta R (2013), Surface plasmon resonance based fiber optic sensor for the detection of triacylglycerides using gel entrapment technique. Sens. Actuators B: Chem. 188: 917-922.
16. **Kumari A**, Verma VV and Gupta R (2012), Comparative biochemical characterization and in-silico analysis of novel lipases Lip11 and Lip12 with Lip2 from *Yarrowia lipolytica*, World J Microbiol Biotechnol., 28(11), 3103-3111.
17. **Kumari A** and Gupta R (2012), Extracellular expression and characterization of thermostable lipases, LIP8, LIP14 and LIP18, from *Yarrowia lipolytica*, Biotechnol Lett., 34(9), 1733-1739.
18. **Kumari A** and Gupta R (2012), Purification and Biochemical Characterization of a Novel Magnesium Dependent Lipase from *Trichosporon asahii* MSR 54 and its Application in Biodiesel Production, Asian J. Biotechnol., 4, 70-82.

Books published/edited: Nil

**Book chapters published/edited :**

**Kumari A**, Ahamad R, Bhattacharya A and Chaturvedi S (2017), Chapter: Biofuels and their Impact Assessment. Book Title: Biofuels: Advances and Perspectives published by Studium press India. Page no. 36-51, ISBN: 978-93-85046-22-3.

**Association with Professional Societies**

- Member, Association of Microbiologist of India (AMI)- (2016 onwards)
- Member, Biotech Research Society of India (BRSI) - (2016 onwards)

Any other:

**Conference contribution (Oral/poster):**

1. Kumari A, Khare S K. (2017), Adverse effect of CdTe quantum dots on the cell membrane of *Bacillus subtilis*: insight from microscopy. Poster presented in Nano India 2017 held at IIT Delhi during 15-16 March, 2017.
2. Kumari A, Khare S K. (2017), Adverse effect of CdTe quantum dots on soil microbiome. Oral presentation in Climate Change, Resource Conservation and Sustainability Strategies (CCRCASS- 2017) held at Guru-Govind Singh Indraprasth University, Delhi during March 16-17, 2017.
3. Kumari A, Gupta R. (2013), Novel Strategy of Using Methyl Esters as Slow-Release Methanol Source during Lipase Expression by mut+ *Pichia pastoris* X33, Presented in BIOTRANS-2013 Conference held at Manchester UK during 21st -25th July, 2013.
4. Kumari A, Gupta R. (2011), "Purification and biochemical characterization of a novel metallo lipase from *Trichosporon asahii* MSR 54 and its application in biodiesel production" Presented in International conference on "Microorganism in environmental management and biotechnology" held at Department of Biotechnology and Bioinformatics centre, Burkhtullah University Bhopal during 28th June to 3rd July 2011.
5. Kumari A, (2008), National symposium on "Bioinformatics & molecular modeling in drug designing" held at Dr. B.R. Ambedkar Centre for Biomedical Research (ACBR), University of Delhi during 25th to 28th Feb 2008.
6. Attended "International conference on Drug design" held at JNU Delhi during April, 7-9, 2017.
7. Attended "National workshop on Accelerator Mass Spectrometry" held at IUAC Delhi during April 21st - 23rd , 2016.
8. Attended Acquittance program at Central University of Panjab Bhatinda during 4th April 2016.
9. Kumari A, Khare S K. (2017), Adverse effect of CdTe quantum dots on *Bacillus subtilis*. Poster presented in Industry day, IIT Delhi during 23 September, 2017.
10. Attended "National workshop on Geochronology" held at IUAC Delhi during November, 16-17, 2017.

