

Heena Tabassum

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Objective

To build a career that makes me an asset to an organization that values team work and meritocracy, and helps me explore my capabilities and realize my potential to the fullest.

Educational Qualifications

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| 2019 | Integral University, Lucknow, India Course: Doctor of Philosophy (Biotechnology) (Thesis submitted) |
| 2014 | Integral University, Lucknow, India Course: Master of Technology(Biotechnology) |
| 2012 | Integral University, Lucknow, India. Course: Bachelor of Technology (Biotechnology) |
| 2008 | Isabella Thoburn College , Lucknow, India. Course: Intermediate |
| 2006 | Seventh Day Adventist School , Bahraich, India. Course: High School |

Current Position and Work

- 1) **Junior Research Fellow** in the Ministry of AYUSH sponsored project.(Completed).
- 2) **Ph.D Scholar** at Department of Bioengineering, Integral University, Lucknow, India (October 2014 to present). Thesis submitted

AIM AND OBJECTIVE OF THE WORK

The study of my research is based on “*Study of anticancer potential of Nigella sativa L. sprout and its nanoformulation on liver carcinoma cell line*”.

Research Description:

1. Study of cyto-toxicity and anti-cancer activities of *Nigella sativa L.* fifth day extracts in different germination stages of seed on liver carcinoma cell line (*in vitro*).
2. Study of apoptotic potential (anti-cancer) of *N. sativa L.* fifth day extract during germination by using biomarkers.
3. Study of Hepatoprotective Activity of *N. sativa L.* fifth day extracts in during germination phases (*in silico*).
4. To formulate and characterize nanoformulation of fifth day extract of *N. sativa L.* as liver cancer drug.

Teaching Experience

1.5 years teaching experience as **Teaching Assistant** at the Department of Bioengineering, Integral University, Lucknow, India

Projects and Training

- Yeast expression of a Novel insecticidal protein toxic to Whitefly from **NBRI (CSIR LAB) Lucknow (6 month)**.
- Molecular docking studies of plant derived natural compounds as inhibitor of “Signal Transducer and Activator of Transcription” from **Integral University (4 months)**.
- Mini project on “Study of nature of venoms derived from 5 poisonous animals with the help of tools of bioinformatics” **from Integral University (1 Month 11 Days)**
- Certification in Bioinformatics (CIB), **Institute of Biological Sciences, IBS. (1 Month 11 Days)**.
- Industrial biotech training, **Biotech Park (2 months), Lucknow**.

Technical Expertise

➤ Cell culture and Microscopy:

Establishment and Maintenance of Animal Tissue Culture Laboratory

Handling & culturing mammalian cell lines

Media preparation for mammalian cell lines

DNA & RNA isolation

Fluorescence Microscopy

Cell viability analysis

Cytotoxic analysis

Genotoxic analysis

Reactive species generation monitoring

➤ Molecular Biology, Biophysical and Genetics Techniques:

High Pressure Liquid Chromatography (HPLC)

Thin Layer Chromatography (TLC)

Polymerase Chain Reaction (PCR)

SDS-PAGE and Agarose Gel Electrophoresis

Western Blotting

Publications

Book Chapters

1. Sidrah Parvez, Iffat Zareen Ahmad, **Heena Tabassum**. Cyanobacterial peptides with respect to anticancer activity: structural and functional perspective in "Studies in Natural Products Chemistry" (Bioactive Natural Products), edited by Prof. Atta-ur-Rahman, FRS, published by Elsevier Science Publishers, The Netherlands, 2018 (accepted).
2. Iffat Zareen Ahmad, **Heena Tabassum**, Asad Ahmad, Abdul Mabood. Plant-Environment Interaction in Medicinal Plants to Mitigate Abiotic Stress.
3. Ahmad, I.Z., **Tabassum, H.**, Ahmad, A. and Kuddus, M., 2018. Food Enzymes in Pharmaceutical Industry: Perspectives and Limitations. In Enzymes in Food Technology (pp. 41-62). Springer, Singapore.

4. Iffat Zareen Ahmad, Asad Ahmad, **Heena Tabassum**, Abdul Mabood and Mohammad Kuddus. A cosmeceutical perspective of engineered nanoparticles. In 'Handbook of Nanomaterials for Industrial Applications', Elsevier publishers, 2017 (accepted).
5. Iffat Zareen Ahmad, Abdul Mabood, Asad Ahmad, **Heena Tabassum** and Mohammad Kuddus. Applications of Nanoparticles in the Treatment of Waste Water. In 'Handbook of Ecomaterials', L.M.T. Martínez et al. (eds.), Springer International Publishing AG 2017. https://doi.org/10.1007/978-3-319-48281-1_37-1
6. Iffat Zareen Ahmad, Asad Ahmad, Abdul Mabood and **Heena Tabassum**. Effects of different types of abiotic stresses on the antioxidant defence systems of medicinal plants, In 'Reactive Oxygen Species and Antioxidant Systems: Role and Regulation under Abiotic Stress', Springer publishers, 2017, 215-256.

In Proceedings

1. Rashmi Singh, **Heena Tabassum** and Iffat Zareen Ahmad. Effect of graphene nanoparticles on the photosynthetic machinery of *Anabaena variabilis*: a step towards biosensor development. Proceedings of International Seminar on Modern Trends in engineering and Sciences MTES) organized by Integral University, Lucknow, August, 2017.
2. Iffat Zareen Ahmad, Naseema Khatoon, **Heena Tabassum**. "Treatment of groundwater from different regions of Lucknow by *Nostoc muscurum* for bioremediation of metals". In proceedings of National conference "Ground Water in Uttar Pradesh: Issues, Challenges & Management" organized by Central Ground Water Board, Govt. of India, Lucknow on 30 March 2016.

Research Papers

1. **Tabassum, H.**, Ahmad, A. and Ahmad, I.Z., 2018. *Nigella sativa* L. and its bioactive constituents as hepatoprotectant: a review. Current pharmaceutical biotechnology, 19(1), pp.43-67.
2. **Tabassum, H.** and Ahmad, I.Z., 2019. Evaluation of the anticancer activity of sprout extract-loaded nanoemulsion of *N. sativa* against hepatocellular carcinoma. Journal of microencapsulation, pp.1-14.
3. **Tabassum, H.** and Ahmad, I.Z., 2019 "Molecular Docking and Dynamics Simulation Analysis of Thymoquinone and Thymol compounds from *Nigella Sativa* L. that Inhibits P38 Protein: Probable Remedies for Hepatocellular Carcinoma. Medicinal Chemistry 15 · April 2019.10.2174/1573406415666190416165732.

4. Asad Ahmad, **Heena Tabassum**, Iffat Zareen Ahmad. Formulations of *Nigella sativa* L. and its bioactive constituents for various pharmacological activities, *Phytochemistry Reviews* (IF: 3.853, communicated).
5. Iffat Zareen Ahmad, Mohammad Kuddus, Asad Ahmad, **Heena Tabassum** and Abdul Mabood. Applications of surface modified nanoparticles in cancer theranostics, *Current Drug metabolism*, 2017; 18(11):983-999. doi: 10.2174/1389200218666171002122039. (IF- 2.659).
6. Iffat Zareen Ahmad, Ulfat Fatima, **Heena Tabassum**, Abdul Mabood, Asad Ahmad, Gaurav Srivastava and Mainak Das. Evaluation of the nutrient profile of *Trachyspermum ammi* L. seed under the influence of nanoparticles during germination, *Cellular and Molecular Biology* (Noisy le Grand), 2017, Vol. 63 (6), 7-11, NAAS rating 6.92. (IF- 0.92).
7. Farooqui, A.R.E.E.B.A., **Tabassum, H.E.E.N.A.**, Ahmad, A.S.A.D., Mabood, A.B.D.U.L., Ahmad, A.D.N.A.N. and Ahmad, I.Z., 2016. Role of nanoparticles in growth and development of plants: a review. *Int. J. Pharm. Bio. Sci*, 7(4), pp.22-37.
8. Bano, D., **Tabassum, H.**, Ahmad, A., Mabood, A. and Ahmad, I.Z., 2016. The medicinal significance of the bioactive compounds of trigonella foenum-graecum: a review. *International Journal of Research in Ayurveda & Pharmacy*, 7(4), pp.84-91.
9. Ahmad IZ, Kuddus M, **Tabassum H**, Ahmad A, Mabood A. Advancements in applications of surface modified nanomaterials for cancer theranostics. *Current drug metabolism*. 2017 Nov 1;18(11):983-99.
10. Ahmad, I.Z., Ahmad, A., Mabood, A. and **Tabassum, H.**, 2017. Effects of different metal stresses on the antioxidant defense systems of medicinal plants. In *Reactive Oxygen Species and Antioxidant Systems in Plants: Role and Regulation under Abiotic Stress* (pp. 215-256). Springer, Singapore.
11. Ahmad, S., **Tabassum, H.** and Alam, A., 2016. Role of microbial bioremediation of heavy metal from contaminated soils: an update. *Int J Biol Pharm Allied Sci*, 5, pp.1605-1622.
12. Syed Salman Abbas¹, Mohd Haneef, Mohtashim Lohani, **Heena Tabassum**, Ahamad Faiz Khan. Nanomaterials Used As A Plants Growth Enhancer: An Update. *International Journal of Pharma Research & Review*, July 2016;5(7):17-23
13. Urooj Bano, Ahamad Faiz Khan, Farina Mujeeb, Neeraj Maurya, **Heena Tabassum**, Mohd. Haris Siddiqui, Mohd. Haneef, Khwaja Osama and Alvina Farooqu. Effect of plant growth regulators on essential oil yield in aromatic plants. *Journal of Chemical and Pharmaceutical Research*, 2016, 8(7):733-739

Abstract Publication:

1. Iffat Zareen Ahmad, **HeenaTabassum**, Abdul Mabood, Dilkash Bano, Syed Salman Abbas. A novel approach to evaluate titanium dioxide nanoparticle –enzyme interaction through docking: An insight into Diosgenin Synthesis International Conference on Emerging Trends in Biomedical Sciences(March 6-8,2016) Organized by Department of Biochemistry faculty of life Sciences Aligarh Muslim University ,in collaboration with DST-PURSE and DBT Welcome Trust funded Programme.
2. Aftab Alam,**Heena Tabassum**, Abdul Mabood, S Anand. S.Khatoun,S.M Salman& I.Z.Ahmad .Effect of titanium and graphene oxide nanoparticles on the morphological and biochemical parameters of germinating Traccyspermum Ammi L Seed Advancing Frontiers in Biotechnology for Sustainable Agriculture and Health (AFBSAH-2016)” scheduled on 25.02.2016 – 26.02.2016.
3. Sayeed Ahmad,Mohammad Ajmal Husain,Isma Khatoon,Abdul Mabood, **Heena Tabassum** and IffatZareen Ahmad. Effect of some heavy metals on Morphological parameters of components of *Trigonella foenum-graecum* L. during germination.Advancing Frontiers in Biotechnology for Sustainable Agriculture and Health (AFBSAH-2016)” scheduled on 25.02.2016 – 26.02.2016.
4. **HeenaTabassum**, Nida Fatima, Hera Chaudhry, Alisha Paul, Ulfat Fatima, Gaurav Srivastava and Iffat Zareen Ahmad. Effect of nanoparticles on the morphological parameters of different Indian spices during germinating In- National Level Conference on“NanoSciences, NanoToxicology, and NanoInformatics” - Present and Future Prospective (2015-NANO-LSFI-IU, 14th & 15th, March, 2015) Organized by Department of Bioengineering and Biosciences, Integral University, Lucknow In collaboration with Department of Nanobiotechnology, Life Science foundation, Karnataka.
5. Nida Fatima, Hera Chaudhry, Abdul Mabood, **HeenaTabassum**, Rashmi Singh, GauravSrivastava and IffatZareen Ahmad. Effect of nanoparticles on Cyanobacterial efficacy as a biofertilizer In- National Level Conference on“NanoSciences, NanoToxicology, and NanoInformatics” - Present and Future Prospective (2015-NANO-LSFI-IU, 14th & 15th, March, 2015) Organized by Department of Bioengineering and Biosciences, Integral University, Lucknow In collaboration with Department of Nanobiotechnology, Life Science foundation, Karnataka.
6. **HeenaTabassum**, Abdul Mabood, Anupam Dhasmana, MohtashimLohani, IffatZareen Ahmad. Toxic effects of graphene nanoparticles on the biosynthesis of diosgenin: a chemiinformatics approach in Bioinformatics Panorama in Agriculture and Health” jointly organized by Society of Bioinformatics and Department of Computational Biology and Bioinformatics, Sam Higginbottom Institute of Agriculture and Technology and Sciences held from Oct. 5-6, 2015.

7. Abdul Mabood, Ulfat Fatima, **Heena Tabassum**, Gaurav Srivastava, Iffat Zareen Ahmad. Evaluation of the nutrient profile of *Trachyspermum ammi* L. seed under the influence of nanoparticles during germination. International Conference on Translation Biotechnology(BIOSANGAM 2016) organized by Department of Biotechnology, MNNIT, Allahabad held on 4-6th Feb, 2016.
8. **Heena Tabassum**, Alisha Paul, Abdul Mabood, Gaurav Srivastava, Iffat Zareen Ahmad. Alterations in Phytochemicals and Antibacterial activities of *Trigonella foenum-graecum* L. seed under the influence of nanoparticles during germination International Conference on Translation Biotechnology (BIOSANGAM 2016) held on 4-6th Feb, 2016.
9. Abdul Mabood, **Heena Tabassum**, IffatZareen Ahmad, Effect of some heavy metals on nutritional components of *Trigonella foenum-graecum* L. during germination.Advancing Frontiers in Biotechnology for Sustainable Agriculture and Health (AFBSAH-2016)” scheduled on 25.02.2016 – 26.02.2016
10. **Heena Tabassum**, Abdul Mabood, Afroz Jahan, IffatZareen Ahmad. Effect of nanoparticles on the morphological and biochemical parameters of *Trigonellafoenum-graeaacum* L seed during germination" for presentation in the International Conference on Nanotechnology (Aligarh Nano V) to be held from 12-15 March, 2016.

Seminars and Conferences

1. Participated in National Conference on “Intellectual Property Rights: A Significant Tool For Sustainable Agriculture” organized by Intellectual Property Rights Management Cell (IPRMC), Integral University, lucknow from 2nd and 3rd April 2016.
2. Participated in International Conference on “Nanotechnology & STEM-ER” organized Department of Physics, Z.H College of Engineering & Technology, Aligarh Muslim University, Aligarh from March 12 to 15, 2016.
3. Participated in International Conference on “Translational Biotechnology (Biosangam 2016)” organized by Department of Biotechnology, Motilal Nehru National Institute of Technology Allahabad (MNNIT) from February 4th-6th, 2016.
4. Participated in National Conference on “Bioinformatics Panorama in Agriculture and Health (NCBPAH)” Organisedby society of bioinformatics and department of computational biology and bioinformatics,Jacob School of biotechnology and Bioengineering, Sam Higginbottom Institute of Agriculture Technology and Sciences, Allahabad from 5-6 October, 2015.

5. Participated in National Conference on “Innovation and Biopreneurship for sustainable & Rural Development” Organized by Council of Science & Technology-UP and Uttar Pradesh Technical university and hosted by S R Group of Institutions, Lucknow from 9th may, 2015.
6. Participated in National Conference on “Nanosciences, Nanotoxicology and Nanoinformatics Present and Future Perspectives” Organized by Department of Bioengineering and Biosciences, Integral University, Lucknow from 14-15 March, 2015.
7. Participated in Seminar on “Many Dimensions of Indian Atomic Energy Programme” Organised by University Institute of Engineering and Technology, Chhatrapati Shahuji Maharaj University, Kanpur in association with Bhabha Atomic Research Center (BARC), Mumbai from 25 February, 2015.
8. Participated in National Conference on “Nanoscience and Biotechnology – Present Future Prospectives” Organized by Department of Nano biotechnology, Life Science Foundation India, Karnataka In Colaboration with Department of Bioengineering, Integral University, Lucknow from 20 April 2013.
9. Participated in workshop on Subtractive genomics approach based identification and validation of novel drug targets in pathogens” held at Bioinformatics Infrastructure facility (BIF), Centre of Excellence in Bioinformatics (COEBI) Department of biochemistry, University of Lucknow, Lucknow from 6-7 January, 2016.
10. Participated in Workshop on “IPR and Related Issues: Present & Future Needs” organized by “GI, IPR’s and Organic Facilitation Cell” U. P. Council of Agricultural Research, Lucknow (U. P.) India. From 27-28 March 2015.
11. Participated in Workshop on “Nurture Biopreneurship” Organized by Associated of Biotechnology Led Enterprises from 10th March, 2015

AWARDS/ HONOURS/DISTINCTIONS RECEIVED

- **Bioved Young Scientist Associate Award-2018** for outstanding contribution in the field of Plant Biotechnology and Herbal Medicine.
- **Award in Zonal Student Research Convention “Anveshan” for best research proposal**

Ms. Heena Tabassum and Mr. Abdul Mabood, Research Scholars working under the supervision of Prof. (Dr.) Iffat Zareen Ahmad, Department of Bioengineering, Integral University participated in the Zonal Student Research Convention “Anveshan”. The Convention was organized by Association of Indian Universities (AIU) from Jan 20th, 2017 to Jan 21st, 2017 at Chitkara University, Punjab. They presented a research project on “*In silico and in vitro* antituberculous activity of *Nigella sativa* L. sprout” in the first and second

phases of the Convention and were awarded with Third Prize in the Health Sciences and Allied subjects representing the North zone of India. Now, they will represent Integral University in the third phase of the Convention at the national level.

References

1- Dr. Iffat Zareen Ahmad, D.Phil

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Personal Details

Date of birth : 22nd August, 1990.

Nationality : Indian

Gender : Female

Marital Status : Single

Father's name : Late Mohd. Kaleem

Languages Known : English, Hindi ,and Urdu.

Permanent Address : Nazirpura, Near Peerimli, Bahraich-271801.

Hobbies : Reading books and communicating with people

Declaration :

I hereby declare that the above furnished information is true to the best of my knowledge.

Place : Lucknow

Date : 3/07/2019

Heena Tabassum

