




Shivaji College Faculty Details Proforma

Title	First Name	Last Name	Photograph
Dr.	Smita	Tripathi	
Designation	ASSISTANT PROFESSOR		
Address	Department of Botany, Shivaji College, Ring Road, Raja Garden, New Delhi-110027, India		
Office Phone No.	011-25116644, 011-25155551		
Residence	-		
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Web-Page	http://www.fctliitkgp.in/menu.php?page=home/alumni/index		
Educational Qualifications	M.Sc., Ph.D.		
Degree	University/Institute	Year	
Ph.D.	Agricultural & Food Engineering Department, Indian Institute of Technology, Kharagpur, West Bengal, India	2009	
M.Phil./M.Tech.	-		
PG	M.Sc. (Botany), Hindu College, University of Delhi, India	2003	
UG	B.Sc. (Hons.) Botany, Shivaji College, University of Delhi, India	2001	
Any Other Qualification	-		
Career Profile			

After completing M.Sc. in Botany from University of Delhi worked as Contract Researcher at Agricultural & Food Engineering Department, Indian Institute of Technology-Kharagpur. Thereafter, worked as Women Scientist for two years in the same Institution and was involved in mycotoxin research. Completed my Ph.D on enzymatic detoxification of aflatoxins in 2009. Also worked as Assistant Professor for brief period at Amity University, Noida. Joined Laboratory of Plant Physiology & Biochemistry, Department of Botany, University of Delhi as Young Scientist. Here, I was involved in detection & characterization of newly discovered phytohormone "Strigolactones" and understanding its crosstalk with other plant hormones in controlling physiological responses. Working as Assistant Professor in Botany at Shivaji College on regular basis since 2014.

Administrative Assignments

- Teacher Incharge, Department of Botany (2018-19)
- Admission Incharge, Department of Life Sciences (2017-18)
- Member, Internal Assessment Committee since April 2018
- Member, Sexual Harassment Committee, Shivaji College (2015-16)
- Member, Women Development Cell (2014-16)
- Member, Eco Club (2014-16)
- Member, Placement Cell (2016-18)
- Member, Garden Committee (2016-18)

Also involved in screening of various non teaching positions (2014) & teaching positions (Assistant Professor-preliminary screening, 2017).

Areas of Interest/Specialisation

Plant Physiology (Plant Signalling & Behavior, Phytohormones & Associated Physiological Responses); Biochemistry (Enzyme kinetics, Protein Purification); Food Quality Control (mycotoxins); Analytical Techniques [HPLC (analytical as well as semi-preparative), ESI-MS, GC-MS, FTIR & FT-NIR Spectroscopy].

Subjects Taught

Introduction to Biology, Biology II, Genetics & Genomics, Ecology, Developmental Biology & Plant Physiology, Plant Anatomy & Embryology, Biodiversity, Archegoniate, Mycology & Phytopathology, Microbiology & Phycology, Anatomy of Angiosperms, Industrial & Environmental Microbiology, Biofertilizers, Biostatistics

Innovation Project/Research Projects (Major Grants/Research Collaboration)

Major Grants

1. Project grant from Department of Science & Technology, Govt. of India, India.

(Principal Investigator)

Title of the project: Development of process technology for *invitro* enzymatic detoxification of food infected with aflatoxin B₁ (AFB₁) using horse radish peroxidase enzyme (HRP)

Duration: 2years

Total cost of the project: Rupees 5, 25,550.00

Status: Completed

Place of Work: Agricultural & Food Engineering Department, IIT-Kharagpur

2. Project grant from Science & Engineering Research Board, Govt. of India, India.

(Principal Investigator)

Title of the project: “Does a crosstalk exist between strigolactones (a new emerging plant growth regulator) and nitric oxide in eliciting auxin-induced adventitious rooting?”

Duration: 3years

Total cost of the project: Rupees 19, 48,500/-

Status: Completed

Place of Work: Laboratory of Plant Physiology & Biochemistry, Department of Botany, University of Delhi

Innovation Project

‘A comparative chemical analysis of commercially available edible oils for their efficacy for human consumption, using defined parameters’ (SHC-310) sanctioned by University of Delhi, during year 2015-2016, as Principal Investigator (PI).

Publications Profile (Research Papers/Books)

Research Papers

International

1. Bharti, N., **Tripathi, S.**, & Bhatla, S. C. (2015). Photomodulation of strigolactone biosynthesis and accumulation during sunflower seedling growth. *Plant Signaling & Behavior*, 10(8), e1049792. <http://doi.org/10.1080/15592324.2015.1049792> **Citations: 2**
2. **Tripathi S** and Mishra HN. (2010). Enzymatic coupled with UV degradation of Aflatoxin B₁ in red chili powder. *Journal of Food Quality*, (33): 186-203 **Citations: 10**
3. **Tripathi S** and Mishra HN. (2009). A rapid FT-NIR method for estimation of aflatoxin B₁ in red chilli powder. *Food Control*, 20:840-846, **citations: 97**
4. **Tripathi S** and Mishra HN. (2009). Modeling and Optimization enzymatic degradation of aflatoxin- B₁ in red chili powder using response surface methodology. *Food & Bioprocess Technology*, 4 (5), 770-780, **Citations: 22**
5. **Tripathi S** and Mishra HN. (2009). Nutritional changes in powdered red pepper upon *in vitro* infection of *Aspergillus flavus*. *Brazilian Journal of Microbiology*, 40:139-144, **Citations :15**
6. **Tripathi S** and Mishra HN. (2009). Effect of feeding enzymatically detoxified Aflatoxin-B₁ diet on liver function test of wistar rats. *Nutrition and Food Science*, 39(3): 235-242, **citations :2**
7. **Tripathi S** and Mishra HN. (2009). Studies on the efficacy of physical, chemical and biological aflatoxin B₁ detoxification approaches in red chilli powder. *International Journal of Food Safety, Nutrition and Public Health*,2(1):69-77, **Citations :12**

National Journals/Popular Articles/Review

8. Yadav M, **Tripathi S** and Yadav D (2016). Trap Cropping: An organic pest control

- management method. *Contemporary Plant Science* Volume 2, pp 1-3 (ISSN: 2393-8676)
9. **Tripathi, S** and Bharti, N. (2012). Strigolactones: A Wonder Molecule - Journey from Redundant Substance to the Essential Phytohormone controlling diverse functions in plants. *The Botanica* 62: 134 – 147
 10. P.Prabuths, **Smita Tripathi**, P.P Srivastava, Mishra HN. (2009). Health benefits of *Morinda citrifolia* (Noni). *Nutrition and Food Sciences*
 11. Prabuthas, P., **Tripathi, S.**, Srivastav, P.P., and Mishra, H.N. (2009). A review on utilization of the single cell Protein- *Spirulina*. *Int. J. of Food Science, Technology & Nutrition*, 2(2):135-164
 12. Mishra HN and **Tripathi S.** (2008). Concept of *in vitro* enzymatic detoxification of foods infected with aflatoxin b₁ (afb₁) using peroxidases. *Times food processing Journal*, 5 (12): 22-29
 13. Sinija V.R., **Smita Tripathi**, S.K. Bag and H.N. Mishra. (2007). Lupin (*Lupinus albus*) – Potential Food Applications. *Processed Food Industry, December*, pp 27-33
 14. **Tripathi, S.** and Mishra, H.N. (2008). Effect of the addition of some herbal mixtures on antioxidant and sensory quality of the extruded snack product. *Beverage & Food World*, 35(11),27-30

Book Chapters

15. **S.Tripathi**, VR Sinija, S Bag, V Shibby, R. Pande, A Deswal, HN Mishra. (2018). Rapid Method for Food Quality Analysis, In *Food Product and Process Innovations*, New India Publishing Agency, ISBN 978-93-86546-12-9
16. C Das Mukhopadhyay, **S Tripathi**, HN Mishra. (2018). Enzymatic Detoxifications of Aflatoxin B₁ in foods, In *Food Product and Process Innovations*, New India Publishing Agency, ISBN 978-93-86546-12-9
17. N. Bharti, **S. Tripathi**, D Mulley. (2017). Mushroom: A Fungus with Great Medicinal Potential, Pp 249-256, In *Scope of Phytochemically Unexplored Medicinal Plants*. ISBN: 978-1-63535-013-5
18. **S. Tripathi**, N. Bharti, M Yadav, S Shukla. (2015). Prospects of Organic Farming in Controlling Climate Change. Pp: 34-40, In *Climate change: Impacts, Adaptation, Mitigation Scenario and Future Challenges in Indian Perspective*. ISBN: 978-93-5235-335-4
19. M Yadav , **S. Tripathi**. (2015). Influence Of Temperature Stress on Lipoxygenase, Oxylinin Production and Antioxidant. Pp: 134-139, In *Climate change: Impacts, Adaptation, Mitigation Scenario and Future Challenges in Indian Perspective*. ISBN: 978-93-5235-335-4

Conference/Seminar/Faculty Development Programme/Workshop

International

1. Poster Presented on **“Effect of Climate change on prevalence of Plant Pathogenic Fungi-A Major Human Health & Food Security Issue”** , at *Int. Conf. & outreach Programme on “Environment & Ecology: Sustainability & Challenges”* organised by Sri Venkateshwara College on Jan 4-6, 2017
2. Presented Paper titled **“Environment friendly and Socially Responsible Marketing Strategies in Food Products Sector”** at *“International Conference on “Indian Mind and Societal Concerns: An Interdisciplinary Dialogue”* being organized by Ramanujan College (University of Delhi) during 2-3 April, 2016.
3. Presented Paper titled **“Back to Life!”** at *International Conference on “Indian Mind and Societal Concerns: An Interdisciplinary Dialogue”* being organized by Ramanujan College (University of Delhi) during 2-3 April, 2016.
4. Poster Presentation on **Significance of edible oil constituents for diminishing the chance of cardiovascular diseases**, in the *International conference on “Public Health: Issues, Challenges, Opportunities, Prevention, Awareness”* organized by Daulat Ram College from January 15-16, 2016
5. Bharti N, **Tripathi S** and Bhatla, SC (2014). **Photomodulation of Strigolactone and physiological effect of associated biomolecules during sunflower seedling growth.** Presented and Abstract published at *International Symposium on Plant Signalling and Behaviour* (7-10th March, 2014)
6. Participated in International Conference on **“Integrating Medicinal Plants with Forestry Sector”** organised by National Medicinal Plants Board, Department of Ayus Ministry of Health & Family Welfare, Govt. of India (November 8-9, 2014)
7. **Tripathi, Smita & Mishra, H.N. A rapid FTNIR method for detection of ascorbic acid in red chili powder.** Accepted at International Conference *“IFCON-December 2008”*, CFTRI, Mysore

National

8. Presented Poster on **“Climate change-Change in Plant Pathology & Control Mechanism-A new challenge for Agriculture Sector”** in *National Conference on Challenges and Strategies to Improve Crop Productivity in Changing Environment: An Integrated Approach* organised by Zakir Hussain College on 12th January, 2018
9. Poster Presented on **“Medicinal Plants Cultivation-Arbuscular Mycorrhizal Fungi-Strigolactones: Can there be a link?”**at *National Seminar on “A Paradigm shift towards empowerment of Women: A Scientific View”* organised by Kalindi College on 3-4th Feb, 2017
10. Smita Tripathi, Misha Yadav, Deepika Yadav, Palak Shards and Pratima Verma (2016). **Edible Oil Consumption Trends and Associated Health Implications**, Poster presented at the

- National symposium on “Lifestyle Disorders: Understanding the Molecular Mechanisms” organized by the Department of Biochemistry, Shivaji College on January 28-29, 2016.
11. Presented Paper titled “ Pro-Environment Green Technologies-A Step Towards Harmonious Development” at "National Conference on Vistas of Scientific Approach for Welfare of Society" (NCVSAWS-2016)” organized by K. N. Government Post Graduate College, Gyanpur, Bhadohi, UP held on 30-31 March 2016
 12. Presented Paper titled “Role of Green Buildings in Climate Change Mitigation” at NATIONAL CONFERENCE ON CLIMATE CHANGE: CHALLENGES TO PLANT BIOLOGIST” organized by Udai Pratap College (Autonomous), Varanasi on 27th March, 2016
 13. Co-authored and presented poster titled “Recycling of Waste Edible Oil-Promising Approach for Greener Environment” at “National Conference in Chemistry Environment & Harmonious Development” being organized by Shyamlal College, University of Delhi during April 7- 8, 2016
 14. Smita Tripathi and Misha Yadav (2015). *FT-NIR Spectroscopy As A Quality Control Tool In Pharmaceutical Preparations And Prospects In Plant Drug Analysis*, Poster Presented in the National Seminar on Innovative, Advance Research in Bio-Medical and Environmental Dynamics organized by Dayal Singh College on October 9-10,2015.
 15. Smita Tripathi and Niharika Bharti (2015). Presented Paper on “Sustainable Agricultural Practices - Towards Organic Farming” in National Seminar on “*Population, Environment and Health*” at SBPG College, Varanasi, 28th -29th March, 2015
 16. Poster Presentation on “Prospects of Organic Farming in Controlling Climate Change” in National Conference on ‘Climate Change: Impacts, Adaptaion, Mitigation Scenario and Future Challenges in Indian Perspective’ organized by Department of Botany, Deen Dayal Upadhyaya College, University of Delhi, on March 2-3, 2015.
 17. Poster Presentation on on “Influence of temperature stress on Lipoxygenase, Oxylipin Production and Antioxidant Potential” in National Conference on ‘Climate Change: Impacts, Adaptaion, Mitigation Scenario and Future Challenges in Indian Perspective’ organized by Department of Botany, Deen Dayal Upadhyaya College, University of Delhi, on March 2-3, 2015.
 18. Abstract published as co-author on “Analysis of physiological roles of strigolactones in sunflower seedlings” in “National seminar on New Frontiers in Plant Sciences and Biotechnology” organized by University of Goa, 29th-30th Jan, 2015
 19. Participated in National Seminar on ‘Relevance of Medicinal Plants in 21st Century’ organized by Department of Botany, Ramjas College, University of Delhi on February 10-11, 2015
 20. Tripathi, Smita & Mishra, H.N. Influence of some physical, chemical and biological treatments on aflatoxin B₁ content of powdered red pepper. *Presented at National conference “ICFOST –December2007”, Indian Institute of Technology, Kharagpur, West Bengal*

21. Tripathi, Smita & Mishra, H.N. Role of Peroxidase in aflatoxin B₁ degradation. Paper presented at the National Conference “ICFOST – November 06”, ANGARU, Hyderabad.
22. Tripathi, Smita & Mishra, H.N. Aspergillus flavus growth and quality changes in powdered red pepper (Capsicum annum L.). Paper presented at National Conference on Microbes in foods and pharmaceuticals- March 06, Vidyasagar University, Midnapore, West Bengal.
23. Tripathi, Smita & Mishra, H.N. Determination of radical scavenging activity of few traditional Indian medicinal plants. Paper Presented at National conference on Advances in agroprocessing industries: Rural Empowerment, organized by Agricultural Engineering Society of West Bengal, February, 2006.
24. Tripathi, Smita & Mishra, H.N. Analysis of few Indian Traditional herbs for phenolic content. Presented at National conference “ICFOST –December2005”, CFTRI Campus, Mysore.

UGC-HRDC Courses

- Attended **Refresher course** in Life Sciences from 9th-30th December, 2014 organized by CPDHE, UGC-ASC, University of Delhi.
- Attended **Orientation Course** organised by UGC-HRDC, RTM Nagpur University and TLCHS, MGAHV, Wardha from 14th May-10th June 2018.

Faculty Development Courses

Attended Following FDPs:

- **Biostatistics**-Theoretical and Practical aspects. DDU College under DBT Star College Scheme. 14 - 18th March, 2018. (5Days)
- **Industrial & Environmental Microbiology**. Daulat Ram College under DBT Star College Scheme. 19-20th March, 2018.
- Two weeks appreciation course for college Teachers and Lecturers on “**Food safety and Quality**” organized by Quality Council of India and School of Agriculture, Indira Gandhi National Open University (IGNOU), New Delhi at IGNOU (14th – 25th, June, 2010).
- **Research Methodology** (Science & Technology Based) at Amity University, Noida (11-12th May, 2010).

Workshops

- Workshop on **Biofertilizers** organised by Zakir Hussain College (University of Delhi) from 14-16, July 2016
- Workshop on **Ethnobotany** organised by Institute of Lifelong Learning and Hansraj College (University of Delhi) from 16-17th Sep, 2016

Research Guidance (Supervision of Doctoral Thesis/Dissertations)

NIL

Awards and Distinctions

SALIENT SCHOLASTIC ACHIEVEMENTS

- ❖ Innovation Project title “ A Comparative chemical analysis of commercially available newer brands of edible oils for their highlighted benefits for human consumption” by PIs Dr. Misha Yadav, Dr. Smita Tripathi & Dr. Deepika Yadav was selected for research display at the convocation ceremony and was awarded with certificate of ***Most significant Societal Impact*** on 19th November, 2016
- ❖ **Best Article** award by Delhi University Botanical Society (2012-13)
- ❖ **Young Scientist Fellowship** under Fast-track Scheme, Science & Engineering Research Board, Govt. of India (2012)
- ❖ **Women Scientist Fellowship** by Department of Science & Technology, Govt. of India (2006)
- ❖ Qualified GATE in Life Sciences (2005)
- ❖ **Certificate of merit** for standing first class first in university undergraduate examinations in Shivaji College (1999-2001)
- ❖ Selected for **Summer Research Fellowship** Programme at JawaharLal Nehru Centre for Advanced Scientific Research, Jakkur , Bangalore (2000)
- ❖ **Silver Medal** in National Talent Search Contest in Sciences, Govt. Of India (1991)
- ❖ Qualified **39th Annual General Knowledge Test** organised by USO, India, A VEC for the United Nations

Memberships

Delhi University Botanical Society

Other Academic Activities

- ❖ Member of the Core Organizing Committee for National Conference “ICFOST” at IIT-Kharagpur, December-2007
- ❖ Member Editorial Board of the First Newsletter Launched by Placement Cell, Shivaji College (March, 2018)
- ❖ Resource person in the Workshop ‘Lab Skill Training Workshop for Laboratory Assistants/Attendants in Chemical and Life Sciences’ organized by Shivaji College, University of Delhi, from July 10-14, 2017.
- ❖ Resource person in the INSPIRE (Innovation in Science Pursuit for Inspired Research) Science Camp organized by Shivaji College, University of Delhi, on December 14-18, 2016
- ❖ Resource person for Technical Session II of Interdisciplinary Workshop ‘Sharing Science, Rising Together: Workshop for Faculty of Sciences’ organized by Department of Botany, Shivaji College, University of Delhi, on October 1, 2016
- ❖ Convenor in the Workshop ‘Lab Skill Training Program for Laboratory Assistants/Attendants in Chemical and Life Sciences’ organized by Shivaji College, University of Delhi, from 16-18 July, 2014.
- ❖ Member, Organizing Committee, for Workshop ‘Ankuran’ on ‘Development of Herbal Garden’ organized by Eco-Club of Shivaji College, University of Delhi held on January 29, 2015.

Cultural/Extracurricular Activities

Organised Following Educational Visits:

- ❖ Lab visit for Botany (Hons.) 4th semester students to Center for Rural Development and Technology, Indian Institute of Technology, Delhi (April 16th, 2018)
- ❖ Industrial Visit for Botany (Hons.), 6th semester students to Yakult Plant, Sonapat, Haryana (March 27, 2018)

Also, accompanied students for Environmental Sciences Field Visit:

- Field trip to *Yamuna Biodiversity Park* with students of Botany (H), 2nd semester to make an inventory of local flora on 20th April, 2015
- Field trip to *Kamla Nehru ridge (University of Delhi)* with students studying Environment Sciences (compulsory paper) on 10th April, 2015

Other activities:

- Member of *Alumni Organizing Committee* for alumni meet held on 8th March, 2015 and May, 2016 at Shivaji College

- Convener of Salad Making Event of Annual Science Fest “Convergence” organized jointly by Department of Biochemistry, Botany, Chemistry and Zoology on 12th Marc,2015 at Shivaji College

Signature of Faculty Member