

**Dr. NEHA SINGH**  
**(CURRICULAM VITAE)**

**Residential address:** House No. 638, FF, Surya Nagar, Phase-2  
Sector-91, FBD-121013

**Email:** singh.neha.du@gmail.com

**Phone:** +91 (0) 9643781988

**NET-Qualification:** Qualified LS/NET from CSIR June 2014



### **EDUCATION**

<b>Year</b>	<b>Institution</b>	<b>Examination/Course</b>	<b>Division</b>
2012-2017	Department of Botany, Delhi University	Ph.D.	-
2010-2012	Department of Botany, Delhi University	M.Sc. (Botany)	1 <sup>st</sup> (70%)
2007-2010	Gargi College, Delhi University	B.Sc. Botany (Hons.)	1 <sup>st</sup> (75.6%)
2006-2007	Govt. Girls Sr. Sec. School (Sri Niwaspuri, New Delhi)	CBSE, Class XII	1 <sup>st</sup> (77.2%)

### **DETAILS OF EMPLOYMENT**

Assistant Professor (Permanent) in Department of Botany, Gargi College, University of Delhi, w.e.f. 9<sup>th</sup> October, 2023.

### **Awards and Honours**

- 2023, Resource person in meditation session on the topic “**Connect I with God**” organized by Zenith Association, Gargi College, University of Delhi.
- 2019, Awarded "**Augmenting Writing Skills for Articulating Research (AWSAR)**" award from **Department of Science and Technology** in the **Post-doc** category.
- 2015, Awarded **First Prize for Oral Paper Presentation** “National Seminar on New Frontiers in Plant Sciences and Biotechnology” held at Goa University.
- 2015, Participated in 2<sup>nd</sup> National workshop on “Citation Analysis, Impact Factor, Patent and Copyrights for Maximizing Research Impact” held at New Delhi.

- 2012, Received the **Best Speaker award** in Professor B.M. Johri Shield Paper Presentation Competition 2011-2012, held at Department of Botany, University of Delhi, Delhi.

**RESEARCH PUBLICATIONS: (Total impact factor: 44.507 as on October, 2023)**



S. No.	Title	Impact factor
14.	Soni R, <b>Singh N</b> , Singh G and Raj S. Significance of Plants in Vedic Astrology, Their Socio-Religious Beliefs, Conservational and Therapeutic Aspects. <b>Ecology, Environment and Conservation</b> . (2023); <b>29</b> (1): <b>273-297</b> . <a href="http://doi.org/10.53550/EEC.2023.v29i01.043">http://doi.org/10.53550/EEC.2023.v29i01.043</a> ISSN 0971-765X	
13.	<b>Singh N</b> and Bhatla SC. Heme oxygenase-nitric oxide crosstalk-mediated iron homeostasis in plants under oxidative stress. <b>Free Radical Biology and Medicine</b> (2022); <b>182: 192-205</b> . doi.org/10.1016/j.freeradbiomed.2022.02.034 ISSN No. 0891-5849	<b>8.1</b>
12.	<b>Singh N</b> , Jain P, Gupta S, Khurana JM and Bhatla SC. <i>N</i> -Nitrosomelatonin, an efficient nitric oxide donor and transporter in Arabidopsis seedlings. <b>Nitric Oxide</b> . (2021); <b>113-114, 50-56</b> . <a href="https://doi.org/10.1016/j.niox.2021.05.001">https://doi.org/10.1016/j.niox.2021.05.001</a> ISSN No. 1089-8603	<b>3.9</b>
11.	Bhatla SC, Gogna M, Jain P, <b>Singh N</b> , Mukherjee S and Kalra G. Signaling mechanisms and biochemical pathways regulating pollen-stigma interaction, seed development and seedling growth in sunflower under salt stress. <b>Plant Signaling and Behavior</b> . (2021); <b>16(11):1958129, 1-15</b> <a href="https://doi.org/10.1080/15592324.2021.1958129">https://doi.org/10.1080/15592324.2021.1958129</a> . ISSN No. 1559-2316	<b>2.9</b>
10.	Shakya R, <b>Singh N</b> and Bhatla SC. Iron homeostasis regulates maturation of tomato (climacteric) and capsicum (non-climacteric) fruits. <b>Journal of Plant Biochemistry and Biotechnology</b> . (2021); <b>30, 392-395</b> . doi 10.1007/s13562-020-00611-7. ISSN No. 0974-1275	<b>1.525</b>
9.	<b>Singh N</b> and Bhatla SC. Hemoglobin as a probe for estimation of nitric oxide emission from plant tissues. <b>Plant Methods</b> . (2019); <b>15:39, 1-8</b> ISSN No. 17464811	<b>5.781</b>
8.	<b>Singh N</b> , Bhatla SC and Demidchik V. Plants and human beings engage similar molecular crosstalk with nitric oxide under stress conditions. <b>Functional Plant Biology</b> . (2019); <b>46(8) 695-701</b> doi.org/10.1071/FP19018 ISSN No.1445-4408.	<b>3</b>

7.	Keisham M, Jain P, <b>Singh N</b> , Toerne CV, Bhatla SC, Lindermayr C. Deciphering the nitric oxide, cyanide and iron-mediated actions of sodium nitroprusside in cotyledons of salt stressed sunflower seedlings. <b>Nitric Oxide. (2019) 88: 10-26.</b> ISSN No. 1089-8603	<b>3.9</b>
6.	<b>Singh N</b> and Bhatla SC. Nitric oxide regulates lateral root formation through modulation of ACC oxidase activity in sunflower seedlings under salt stress. <b>Plant Signaling and Behavior. (2018); 13(5):e1473683:1-7</b> doi.org/10.1080/15592324.2018.1473683. ISSN No 1559-2316	<b>2.9</b>
5.	Arora D, <b>Singh N</b> and Bhatla SC. Electrophoretic detection and confocal microscopic imaging of tyrosine nitrated proteins in plant tissue. <b>Methods Mol Biol (2018); 1747:171-182.</b> doi: 10.1007/978-1-4939-7695-9_14	<b>1.13</b>
4.	<b>Singh N</b> and Bhatla SC. Signaling through reactive oxygen and nitrogen species is differentially modulated in sunflower seedling root and cotyledon in response to various nitric oxide donors and scavengers. <b>Plant Signaling and Behavior. (2017); 12(9): e1365214: 1-14</b> doi.org/10.1080/15592324.2017.1365214. ISSN No. 1559-2316	<b>2.9</b>
3.	<b>Singh N</b> and Bhatla SC. Nitric oxide and iron modulate heme oxygenase activity as a long-distance signaling response to salt stress in sunflower seedling cotyledons. <b>Nitric Oxide. (2016); 53: 54-64.</b> doi: 10.1016/j.niox.2016.01.003. ISSN No. 1089-8603	<b>3.9</b>
2.	<b>Singh N</b> , Kaur H, Yadav S and Bhatla SC. Does <i>N</i> -nitrosomelatonin compete with <i>S</i> -nitrosothiols as a long-distance nitric oxide carrier in plants? <b>Biochemistry Analytical Biochemistry. (2016); 5:1</b> doi: 10.4172/2161-1009.1000262. ISSN No. 2161-1009	<b>1.27</b>
1.	Arora D, Jain P, <b>Singh N</b> , Kaur H and Bhatla SC. Mechanisms of nitric oxide crosstalk with reactive oxygen species scavenging enzymes during abiotic stress tolerance in plants. <b>Free Radical Research. (2016); 50: 291-303.</b> doi: 10.3109/10715762.2015.1118473. ISSN No. 1029-2470	<b>3.3</b>

## CO-CURRICULAR AND EXTRA-CURRICULAR ACTIVITIES

### *Participation in International Symposia*

- 2020, presented poster in “International E-conference entitled NeuroEunoia 2020: A Neuroscience Affair” hosted by Gargi College, University of Delhi, Delhi.
- 2017, presented poster in “International Symposium on Plant Signaling and Behavior” held at Matsue, Japan.
- 2016, presented poster in “International Symposium on Plant Signaling and Behavior” held at St. Petersburg, Russia.
- 2014, Awarded **first prize** for best poster presentation in “International Symposium on Plant Signaling and Behavior” held at Department of Botany, University of Delhi.

### *Participation in National Symposia*

- 2022, Participated in 3 Day Faculty Development Program on “Stress Management” held

at Gargi College, University of Delhi, Delhi.

- 2020, Participated in National level online training programme on “Positive Work Culture” held at Harish Chandra Mathur, Rajasthan State Institute of Public Administration Udaipur, Rajasthan.
- 2015, Participated in “National Seminar on New Frontiers in Plant Sciences and Biotechnology” held at Goa University.
- 2015, Participated in 2<sup>nd</sup> National workshop on “Citation Analysis, Impact Factor, Patent and Copyrights for Maximizing Research Impact” held at New Delhi.

## **CONTRIBUTION AS TECHNICAL SUPPORT IN AN INTERNATIONAL BOOK**

**Authors:** Bhatla SC, Lal MA

**Title:** Plant Physiology, Development and Metabolism. First edition. 2018

**Publisher:** Springer Nature Singapore Pte Ltd. ISBN 978-981-13-2022-4

## **TEACHING EXPERIENCE**

1. Guest lecturer: July, 2017- March, 2019: Assistant Professor (guest) in Department of Botany in Miranda House and Acharya Narendra Dev College, University of Delhi
2. Ad-hoc: August, 2019-2023: Assistant Professor (Ad-hoc) in Department of Botany, Gargi College, University of Delhi

## **RESEARCH EXPERIENCE**

### ***Doctoral and Post-doctoral Training***

**Title of Ph.D. Thesis:** Nitric Oxide-Heme oxygenase crosstalk and modulation of redox homeostasis during seedling growth in sunflower (*Helianthus annuus* L.)

**Post-doctoral work:** Indo-Israel Project entitled “Calcium and auxin signaling during root and adventitious root development and analysis of possible nitric oxide crosstalk” (2017-2019) Department of Botany, University of Delhi.

## **ADDITIONAL PROFESSIONAL/ADMINISTRATIVE ROLES**

### **Worked/working as an organizing member**

- 2023-2024, **Organizing member** in “**Alumni Lecture Series 2023-2024**” organized by the Department of Botany, Gargi College, University of Delhi.
- 2023, **Organizing member** in Two-day National Conference on ‘**National Education Policy 2020: Perspectives, Challenges and Way Forward**’ will be held on November 3<sup>rd</sup> and 4<sup>th</sup> organized by the Gargi College, University of Delhi.
- 2021-2024, **Faculty Adviser** in “**TARU**” Gargi College Botanical Society of Gargi

College, University of Delhi.

- 2021-2024, **Faculty Adviser** in “**AVNI: The Eco Club**” of Gargi College, University of Delhi.
- 2021-2024, **Organizing member** in “**Garden Committee**” of Gargi College, University of Delhi.
- 2020-2024, **Faculty Adviser** in “**Zenith**” Gargi College Life Science Association, Gargi College, University of Delhi.
- 2022-2023, **Organizing member** in “**Inter College Online Add-On Course: Advances in Plant Sciences**” organized by the Department of Botany, Gargi College, University of Delhi.
- 2023, **Technical Assistant** in **Two- day International Multidimensional Conference** on Revisiting Wellbeing: Perspectives, Challenges, And The Road Ahead February 1-2, organized by the Gargi College, University of Delhi.
- 2021-2022, **Organizing member** in “**Alumni Lecture Series 2021-2022**” organized by the Department of Botany, Gargi College, University of Delhi.
- 2021, **Organizing member** in virtual “**Alumni Meet 2021**” and “**Alumni Interaction session**” with B.Sc. (H) Botany 2020 Batch” organized by the Department of Botany, Gargi College, University of Delhi.
- 2020, **Organizing member** in National webinar on Virtual classes Tools: Google classroom, Google meet and you tube organized by the Department of Botany, Gargi College, University of Delhi.
- 2020, **Organizing member** in **National level virtual short-term** course on “**Plant Systematics: Classical to Molecular Approach**” organized by the Department of Botany, Gargi College, University of Delhi.
- 2019, **Organizing member** in an Intercollege Workshop on “**Laboratory Methods and Techniques**” organized by the Department of Botany, Gargi College, University of Delhi.
- 2014, **Organizing Secretary** at the “**International Symposium on Plant Signaling and Behavior**” held on March 7-10<sup>th</sup>, 2014 at the Department of Botany, University of Delhi.
- 2009, **President** in the Gargi College Botanical Society “**TARU**” from July 2009- March 2010 in the Department of Botany, Gargi College, University of Delhi.

## **PROFESSIONAL TRAINING**

### **1. Enzymes/Biomolecules analyzed**

Heme oxygenase

Ethylene biosynthetic enzymes: ACC oxidase

Melatonin biosynthetic enzymes: *N*-acetylserotonin-*O*-methyltransferase (HIOMT)

Biliverdin

Hemoglobin

Melatonin

Reactive oxygen species

Nitric oxide

Cyanide

Iron

Reactive nitrogen species (ONOO<sup>-</sup>)

Tyrosine nitrated proteins

Reactive oxygen species (H<sub>2</sub>O<sub>2</sub> and O<sub>2</sub><sup>•-</sup>)

## **2. Sub-cellular detection analyses using fluorescence imaging by confocal laser scanning microscopy (CLSM)**

- Plastids/Chloroplast
- Mitochondria
- Nucleus
- Secretory canals

## **3. Tools and Techniques (expertise in)**

Spectrofluorometric analysis	Confocal Laser Scanning Microscopy
Spectrophotometric analysis	Fluorescence Microscopy
2-Dimensional electrophoresis	Zymographic analysis of enzymes
SDS-PAGE analysis	Western Blotting of proteins
Gas-Chromatography	High-Performance Liquid Chromatography
Iso-electric focusing	Immunolocalization by confocal microscope

## **LANGUAGE**

- English
- Hindi

