

**Dr. Vikas Srivastava**

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**Academic Qualifications**

Ph.D (Botany, 2014)	University of Lucknow/ CSIR-Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP), Lucknow, UP, India
M.Sc (Botany, 2006)	University of Allahabad, UP, India
B.Sc (Biology, 2004)	University of Allahabad, UP, India

**Post Doc Experience**

National Institute of Plant Genome Research, New Delhi  
(~3 Years; As NIPGR-PDF and CSIR-RA)

**Regular Employment**

26-07-2016 onwards (Assistant Professor, Department of Plant Sciences, Central University of Jammu, Jammu)

**Area of Interest:** Hairy Root research, Secondary metabolism, Plant-microbe interaction, Genomics and Stress biology.

**Area of Specialization:** Medicinal plant research, Micropropagation, Plant biotechnology.

**Awards/ Scholarship**

- Gold Medal in B.Sc. (2004) ; Smt. Yamuna Devi Memorial Medal ; Dudgeon Memorial Medal ; Sri Ayodhya Nath Srivastava Memorial Medal ; Dr. S. N Bhattacharya Memorial Medal ; Dr. Mitra Memorial Medal ; Dr. Lalit Mohan Srivastava Memorial Medal and Scholarship.
- UGC-NET (2006) in Life Science.
- ICMR-JRF (2007) in Life Science.
- CSIR-JRF (2007) in Life Science.
- GATE (2007) in Life Science.
- ICAR-NET (2009) in Plant Physiology and Biochemistry.
- ICAR-NET (2010) in Basic Plant Science.
- DBT-Research Associateship in Biotechnology and Life Science (2014).
- CSIR-Research Associateship in General Biology (2015).
- SERB-National Post Doc Fellowship (2016).
- IInd Prize in Oral presentation under subject theme “Botany and Agriculture” in 12<sup>th</sup> JK Science Congress (2017).

## Publications

### A. Research Article

- Kumar K, **Srivastava V**, Purayannur S, Kaladhar V, Cheruvu PJ, Verma PK. WRKY domain-encoding genes of a crop legume chickpea (*Cicer arietinum*): Comparative analysis with *Medicago truncatula* WRKY family and characterization of group-III gene(s). **DNA Research** (2016), 23(3); 225-239.
- **Srivastava V.** and Verma PK. Genome Wide Identification of LIM Genes in *Cicer arietinum* and Response of Ca-2LIMs in Development, Hormone and Pathogenic Stress. **PloS one** (2015), 10(9); p.e0138719.
- Mehrotra S, **Srivastava V**, Rahman LU, Kukreja AK. Overexpression of a *Catharanthus* tryptophan decarboxylase (*tdc*) gene leads to enhanced terpenoid indole alkaloid (TIA) production in transgenic hairy root lines of *Rauwolfia serpentina*. **Plant Cell Tissue Organ Culture** 115 (2013); 377-384
- **Srivastava V**, Kaur R, Chattopahyay SK, Banerjee S. Production of industrially important cosmaceutical and pharmaceutical derivatives of betuligenol by *Atropa belladonna* hairy root mediated biotransformation. **Industrial Crops and Products** 44 (2013); 171– 175.
- **Srivastava V**, Negi AS, Ajayakumar PV, Khan SA, Banerjee S. *Atropa belladonna* Hairy Roots: Orchestration of Concurrent Oxidation and Reduction Reactions for Biotransformation of Carbonyl Compounds. **Applied Biochemistry and Biotechnology** 166 (2012); 1401–1408.
- **Srivastava V**, Khan SA, Banerjee S. An evaluation of genetic fidelity of encapsulated microshoots of the medicinal plant: *Cineraria maritima* following six months of storage. **Plant Cell Tissue Organ Culture** 99 (2009); 193- 197.

### B. Review Article

- Mehrotra S, **Srivastava V**, Rahman LU, Kukreja AK. Hairy root Biotechnology- Indicative timeline to understand missing links and future outlook. **Protoplasma** (2015): 1-13.
- Mehrotra S, Goel MK, **Srivastava V**, Rahman LU. Hairy root biotechnology of *Rauwolfia serpentina*: a potent approach for the production of pharmaceutically important terpenoid indole alkaloids. **Biotechnology letters** 37 (2015): 253-263.

### C. Book Chapter

- Mehrotra S, **Srivastava V** (2017). Hairy root in-vitro systems: a suitable biological matrix for plant based remediation of environmental pollutants. **Chemical pollution control with microorganisms**, Editor: Naser A. Anjum, Nova Science Publishers (ISBN: 978-1-53611-034-0).

- Mehrotra S, Mishra S, **Srivastava V** (2016). Bioreactor technology for hairy root cultivation. **Reference Series in Phytochemistry- Bioprocessing of Plant in vitro Systems**, Editor: Atanas Pavlov and Thomas Bley, Springer (ISBN 978-3-319-32004-5).
- **Srivastava V**, Mehrotra S, Mishra S (2016). Biotransformation through hairy roots: perspective, outcome and major challenges. **Reference Series in Phytochemistry- Transgenesis and Secondary Metabolism**, Editor: Sumita Jha, Springer (ISBN 978-3-319-28670-9).
- **Srivastava V**, Mehrotra S, Verma PK (2016). Biotechnological Interventions for Production of Therapeutic Secondary Metabolites Using Hairy Root Cultures of Medicinal Plants. **Current Developments in Biotechnology and Bioengineering, Book 8: Crop Modification, Nutrition, and Food Production**, Editor: Dubey, Sangwan and Pandey, Elsevier.
- Mehrotra S, **Srivastava V**, Goel MK, Kukreja AK (2016). Scale up of *Agrobacterium Rhizogenes* Mediated Hairy Root Cultures of *Rauwolfia serpentina*: A persuasive Approach for Stable Reserpine Production **Protocols for In Vitro Cultures and Secondary Metabolite Analysis of Aromatic and Medicinal Plants, Second Edition (Methods in Molecular Biology)**, Editors: Jain, S.Mohan (Ed.), Springer Protocol, Humana Press.

#### Invited talks / Oral Presentation in conferences

- Investigation of genes coding for LIM domain containing protein in chickpea. **National Symposium on Recent Trends in Biotechnology and Drug Discovery (RTBDD-17)**, 30-31 March, 2017 (Organised by Department of Biotechnology, Shri Mata Vaishno Devi University, Katra).
- Investigation of interaction and modulation of chickpea WRKYs in development and stress. **12<sup>th</sup> JK Science Congress 2017 (Science and Technology: Emerging Trends and Innovations)**, March 2-4, 2017 (Organised by University of Jammu, Jammu and J & K State Science, Technology and Innovation Council).
- Biotechnological interventions of plant hairy root cultures. **Post Graduate Department of Botany, Ewing Christian College, Allahabad (February 8, 2017)**.

#### Poster Presentations in Conferences/Symposium

- **V. Srivastava**, K. Kumar, S. Purayannur, B. Tiwari, P.K. Verma. Identification and modulation of chickpea WRKYs in development and stress. **3 International Plant Physiology Congress Challenges and Strategies in Plant Biology Research, December 11-14, 2015, Convention Centre, JNU, New Delhi, India**
- S. Purayannur, K. Kumar, **V. Srivastava**, Shreenivas K. Singh, P.K. Verma. Interactome analyses in the stress associated signaling cascade: A case for the legume crop chickpea (*Cicer arietinum* L.). **3 International Plant**

**Physiology Congress Challenges and Strategies in Plant Biology Research, December 11-14, 2015, Convention Centre, JNU, New Delhi, India**

- K. Kumar, **V. Srivastava**, S. Purayannur, B. Tiwari, P.K. Verma. The analysis of WRKY superfamily genes in the non-model crop chickpea (*Cicer arietinum*). **7th Annual Convention of ABAP & International Conference on Plant Biotechnology, Molecular Medicine & Human Health (ICPMH-2013), South Campus Delhi University, New Delhi.**
- **V. Srivastava**, A.S. Negi, P.V. Ajayakumar, S. A. Khan, S. Banerjee. *Atropa belladonna* hairy root: oxidoreductive potential in biotransformation. **International conference on current status of aromatic and medicinal plants (AroMed-2010), CSIR-CIMAP, Lucknow, New Delhi.**
- **V. Srivastava**, A.S. Negi, P. Trivedi, D.U. Bawankule, K. Shankar, F. Khan, S. Banerjee. Biotransformation of vanillin using hairy roots of medicinal plants. **80<sup>th</sup> meeting of Society of Biological Chemists (SBC-2011), CSIR-CIMAP, Lucknow, New Delhi.**
- **V. Srivastava**, S.A. Khan, S. Banerjee. Plant regeneration from callus cultures in *Aristolochia indica* through organogenesis. **National Interactive Meet-2008 (November 29-30), CSIR-CIMAP, Lucknow, New Delhi.**

#### **Trainings and workshops**

- Participated in CIMAP Training School on **Advanced Instrumentation and Analytical Techniques for Natural products** (10<sup>th</sup> – 16<sup>th</sup> June, 2009), CSIR-CIMAP, Lucknow, India.
- Participated in CSIR sponsored CIMAP's Winter School – 2008 on **“Recent Techniques in Gene cloning, DNA Analysis and Functional Genomics”** held at Central Institute of Medicinal and Aromatic Plants during 3-12 December 2008, Lucknow, India.

#### **Member in Scientific Societies**

- Life member in Society of Biological Chemists, India (Life membership).

#### **Member in University Committees**

- Games and Sports Committee
- Cultural Committee

#### **As Reviewer (International Journals)**

- ✓ Frontiers in Plant Sciences
- ✓ Natural Product Research

[Vikas Srivastava]