

Curriculum Vitae

SACHIN TEOTIA

Professor, Department of Biotechnology, Sharda University, Greater Noida, U.P., 201306, India.
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1. EDUCATION

Exam	Board/ Univ.	Year of Passing	Specialized Subject(s)	% Marks	Div./ Grade
Ph.D.	The Ohio State University, Columbus, Ohio, U.S.A.	2009	Molecular, Cellular and Developmental Biology with specialization in Plant Molecular Biology and Biotechnology	GPA= 3.71/4	A
M.Sc.	Ch. Charan Singh University, Meerut	1998	Botany	69.0%	I
B.Sc.	Ch. Charan Singh University, Meerut	1996	Botany, Zoology, Chemistry	70.0%	I

2. RESEARCH EXPERIENCE

- **Postdoctoral Research Scientist** (January 2014 – April 2017): Involved in investigating functional conservation and diversification of conserved and functionally important plant miRNAs in some crops species and developing artificial miRNA system, at Department of Biological Sciences, Michigan Technological University, Houghton, MI, U.S.A., in collaboration with Henan Agricultural University, Zhengzhou, China.
- **DAAD Postdoctoral Researcher** (Sept. 2013 – Dec. 2013): Project aimed to identify fungal effectors interfering with conserved components of the plant immune system using maize-*Ustilago maydis* pathosystem, at Department of Organismic Interactions, Max Planck Institute for Terrestrial Microbiology, Marburg, Germany.
- **Postdoctoral Researcher** (Dec. 2009 - June 2010): On a project to find out the molecular mechanisms of *RCD1* (*RADICAL-INDUCED CELL DEATH1*) and *SRO1* (*SIMILAR TO RCD ONE1*) in controlling the developmental pathways of *Arabidopsis thaliana*, at Department of Plant Cellular and Molecular Biology, The Ohio State University, Columbus, U.S.A.
- **Ph.D.** (2003 - 2009): Worked at Ohio State University, U.S.A on projects:
 - Characterization of two genes encoding a WWE domain and a PARP (poly-ADP ribose polymerase) domain, *RCD1* (*RADICAL-INDUCED CELL DEATH1*) and *SRO1* (*SIMILAR TO RCD ONE1*) in *Arabidopsis thaliana*.

- Study of transcriptional regulation of flower development in *Arabidopsis thaliana* particularly focusing on identification of direct targets of transcription factor, *PERIANTHIA (PAN)*, through ChIP-chip.
- **Research project** (part-time, 2002-2003): Worked in a research project namely, “Regeneration ability of transgenic eggplants over-expressing polyamine biosynthesis genes”, at Department of Genetics, University of Delhi - South Campus, India.

3. WORK EXPERIENCE/POSITIONS HELD

- **Professor**, Department of Life Sciences J.C. Bose University of Science and Technology, YMCA, Faridabad, 121006, Haryana, India, July 2025-Till date
- **Professor**, Department of Biotechnology, Sharda University, Greater Noida, U.P., India, August 2023-June 30, 2024.
- **Associate Professor**, Department of Biotechnology, Sharda University, Greater Noida, U.P., India, July 2017-July 2023.
- **Postdoctoral Research Scientist**, Department of Biological Sciences, Michigan Technological University, Houghton, MI, U.S.A., January 2014 – April 2017.
- **DAAD Postdoctoral Researcher**, Department of Organismic Interactions, Max Planck Institute for Terrestrial Microbiology, Marburg, Germany, Sept. 2013- Dec. 2013.
- **Assistant Professor**, School of Biotechnology, Gautam Buddha University, Greater Noida, U.P., India, July 2010 -Dec 2015.
- **Postdoctoral Researcher**, Department of Plant Cellular and Molecular Biology, Ohio State University, U.S.A., Dec. 2009- June 2010.
- **Graduate Teaching/Research Associate**, Department of Plant, Cellular and Molecular Biology and Introductory Biology Program, at The Ohio State University, Columbus, OH, U.S.A., Oct. 2003- Nov. 2009.
- **Lecturer** (permanent position), Department of Botany, M.M. College, Modinagar (affiliated to C.C.S. Univ. Meerut), U.P., India, April 2001- September 2003.
- **Lecturer**, Department of Botany, Meerut College, Meerut, U.P., India, 1999-2000.

4. PUBLICATIONS

(A) In International Journals:

- Saber Delpasand Khabbazi, Sang-Hyuck Park, Byeong-Ryeol Ryu, Jose F. Da Cunha Leme Filho, Güngör Yilmaz, Afsaneh Delpasand Khabbazi, Deepali Singh and **Sachin Teotia** (2026) Drought stress in *Cannabis sativa* L.: current knowledge, research gaps, and future perspectives – a review, *Frontiers in Plant Science*, in press.
- Mukesh Kumar, Veena Chaudhary, Vidisha Chaudhary, Ravi Kumar, Ujjwal Sirohi, Rajat Singh, Deepali Singh, **Sachin Teotia*** (2026) CRISPR/Cas system and AI tools for effective gene editing in vegetable crops: a systematic review, *Discover Applied Science* 8, 459.

- Priyanka Keshari, Jyoti Mishra, Rita Singh Majumdar, **Sachin Teotia*** (2026) Antidiabetic Effect of Selenium-Laden Garlic (*Allium sativum* L.) in Streptozotocin-Induced Diabetic Rats *Indian Journal of Pharmaceutical Education and Research*, 60 (2) S575-S583.
- **Sachin Teotia***, Kengo Morohashi, and Rebecca s. Lamb (2025): A systems approach identifies putative targets of the bZIP transcription factor, PERIANTHIA, in *Arabidopsis thaliana*, *Journal of Plant Biochemistry and Biotechnology*, 34, 814–819.
- Mukesh Kumar, Veena Chaudhary, Manoj Kumar Yadav, Chetan Chauhan, Ravi Kumar, Deepali Singh, **Sachin Teotia** (2025): RNAi: A Potent Biotechnological Tool for Improvement of Ornamental Crops, *Plant Molecular Biology Reporter*, (2025) 43:23–40.
- Haoran Tian, Rongxia Wang, Jialu Li, Shuaibing Zhao, **Sachin Teotia**, Boyan Gao, Yuan Cheng, Fei Li, Ye Liu, Jing Zhang, Yafan Zhao, Quanzhi Zhao, and Ting Peng (2024): Regulation of Rice Grain Weight by Fatty Acid Composition: Unveiling the Mechanistic Roles of *OsLIN6* by *OsARF12*, *Journal of Agricultural and Food Chemistry*, 72 (44): 24655-24667.
- Juan Meng, Weiya Li, Feiyan Qi 1, Tianxiao Yang, Na Li, Jiong Wan, Xiaoqi Li, Yajuan Jiang, Chenhui Wang, Meilian Huang, Yuanyuan Zhang, Yongqiang Chen, **Sachin Teotia**, Guiliang Tang, Zhanhui Zhang and Jihua Tang (2024): Knockdown of microRNA390 Enhances Maize Brace Root Growth. *International Journal of Molecular Sciences*. 25(12):6791.
- **Sachin Teotia**, Xiaoran Wang, Na Zhou, Mengmeng Wang. Haiping Liu, Jun Qin, Dianwei Han, Chingwen Li, Christine E. Li, Shangjin Pan, Haifeng Tang, Wenjun Kang, Zhanhui Zhang, Xiaoqing Tang, Ting Peng and Guiliang Tang (2023): A High-Efficiency Gene Silencing in Plants by Two-Hit Asymmetrical Artificial microRNAs; *Plant Biotechnology Journal*, 21(9):1799-1811, doi: 10.1111/pbi.14091 (IF = 13.8)
- Jyoti Singh, **Sachin Teotia**, Ajay Kumar Singh, Meenakshi Arya, Ajaya Kumar Rout, Bijay Kumar Behera, Shahana Majumder (2024): Whole genome sequence analysis of shallot virus X from India reveals it to be a natural recombinant with positive selection pressure *BMC Genomic Data* 6;25(1):42 doi: 10.1186/s12863-024-01196-z.
- Priyanka Keshari, Shilpi Sharma, Vineeta Yadav, Rita Singh Majumdar and **Sachin Teotia*** (2023): Effect of Selenium treatment on the physico-chemical and phytochemical properties of *Allium sativum* L; *Vegetos*, 10.1007/s42535-023-00701-6. (IF = 0.3) (* As a corresponding author)
- Yafan Zhao, Xiaofan Zhang, Yuan Cheng, Xiangxiang Du, **Sachin Teotia**, Chunbo Miao, Huwei Sun, Guoqiang Fan, Guiliang Tang, Hongwei Xue, Quanzhi Zhao, Ting Peng (2023): The miR167-OsARF12 module regulates grain filling and grain size downstream of miR159: *Plant Communications*, 4(5), 100604; PMID: 37085993. (IF = 10.5)
- Yafan Zhao, Juan Liu, Yuan Li, Huili Wen, **Sachin Teotia**, Xiaofan Zhang, Jing Zhang, Huwei Sun, Yuan Cheng, Shuaibing Zhao, Quanzhi Zhao, Ting Peng (2022): Osa-miR528 promotes seedling growth by enhancing nitrate uptake under nitrogen deficiency in rice; *Environmental and Experimental Botany*, 202, 105040 (IF = 6.028)

- Ujjwal Sirohi, Mukesh Kumar, Vinukonda Rakesh Sharma, **Sachin Teotia**, Deepali Singh, Veena Chaudhary, Priya, Manoj Kumar Yadav (2022): CRISPR/Cas9 System: A Potential Tool for Genetic Improvement in Floricultural Crops: *Molecular Biotechnology*, 64(12): 1303–1318 doi: 10.1007/s12033-022-00523-y. (IF = 3.35)
- Aishwarya Chaudhary, **Sachin Teotia**, Deepali Singh (2022): Tools for engineering resistance against pathogens in plants: *Journal of Plant Biochemistry and Biotechnology*, 30(4): 459–488, (IF = 1.9).
- Jiwei Chen, **Sachin Teotia**, Ting Lan and Guiliang Tang (2021): MicroRNA Techniques: Valuable Tools for Agronomic Trait Analyses and Breeding in Rice: *Frontiers in Plant Science*, 12:744357. doi: 10.3389/fpls.2021.744357 (IF= 5.6)
- Naveen Kumar, Aishwarya Chaudhary, Deepali Singh and **Sachin Teotia*** (2020): Transcriptional regulation of seed oil accumulation in *Arabidopsis thaliana*: role of transcription factors and chromatin remodelers; *Journal of Plant Biochemistry and Biotechnology*. **29**, 754–768. (IF = 1.9)
- Ting Peng*, Mengmeng Qiao*, Haiping Liu*, **Sachin Teotia***, Zhanhui Zhang*, Yafan Zhao, et al. (2018): A Resource for Inactivation of MicroRNAs Using a Short Tandem Target Mimic Technology in Model and Crop Plants; *Molecular Plant* 11(11):1400-1417 (* **Equal contribution as first author**). (IF = 27.5)
- Yafan Zhao, Ting Peng, Hong-Zheng Sun, **Sachin Teotia**, et al (2018): miR1432-*OsACOT* (Acyl-CoA thioesterase) module determines grain yield via enhancing grain filling rate in rice; *Plant Biotechnology Journal*, 17(4):712-723 (IF = 13.80). **(The article was featured on the cover page of this issue)**
- Tianxiao Yang, Yongyan Wang, **Sachin Teotia**, Zhaohui Wang, et al (2019): The interaction between miR160 and miR165/166 in the control of leaf development and drought tolerance in *Arabidopsis*; *Scientific Reports*, 9(1):2832; doi: 10.1038/s41598-019-39397-7 (IF = 4.37)
- Zhanhui Zhang, **Sachin Teotia**, Jihua Tang and Guiliang Tang (2019): Perspectives on microRNAs and Phased Small Interfering RNAs in Maize (*Zea mays* L.): Functions and Big Impact on Agronomic Traits Enhancement; *Plants*, 8(6):170; doi:10.3390/plants8060170. (IF = 4.5)
- Ting Peng, **Sachin Teotia**, Guiliang Tang and Quanzhi Zhao (2019): MicroRNAs Meet with QTLs: Small Powerful Players in Regulating Quantitative Yield Traits in Rice; *WIREs RNA*, 10(6), e1556. doi: 10.1002/wrna.1556. (IF = 7.3)
- Tianxiao Yang, Yongyan Wang, **Sachin Teotia**, Zhanhui Zhang and Guiliang Tang (2018): The Making of Leaves: How Small RNA Networks Modulate Leaf Development; *Frontiers in Plant Science*, 9:824, DOI:10.3389/fpls.2018.00824. (IF = 5.6)

- Yafan Zhao; Huili Wen; **Sachin Teotia**; Hongzheng Sun; Yanxiu Du; Jing Zhang; Junzhou Li; Guiliang Tang; Ting Peng and Quanzhi Zhao (2017): Suppression of microRNA159 impacts multiple agronomic traits in rice (*Oryza sativa* L.); ***BMC Plant Biology***, 17(1):215. doi: 10.1186/s12870-017-1171-7 (IF = 5.3)
- **Sachin Teotia**, Dabing Zhang and Guiliang Tang (2017): Knockdown of rice microRNA166 by Short Tandem Target Mimic (STTM); ***Methods in Molecular Biology***, 1654:337-349 doi: 10.1007/978-1-4939-7231-9_25. (IF = 1.17)
- **Sachin Teotia** and Guiliang Tang (2017): Silencing of stress-regulated miRNAs in plants by Short Tandem Target Mimic (STTM) approach; ***Methods in Molecular Biology***, 1631:337-348 doi: 10.1007/978-1-4939-7136-7_22. (IF = 1.17)
- **Sachin Teotia**, Deepali Singh, Xiaoqing Tang, and Guiliang Tang (2016): Essential RNA-based technologies and their applications in plant functional genomics; ***Trends in Biotechnology***, 34(2):106-23. (IF = 17.3)
- **Sachin Teotia** and Guiliang Tang (2015): To bloom or not to bloom: Role of microRNAs in plant flowering; ***Molecular Plant***, 8(3):359-377. (IF = 27.5) **(was selected as Editor's choice article of that issue)**
- Rebecca S. Lamb, Matteo Citarelli, **Sachin Teotia** (2012): Functions of the poly(ADP-ribose) polymerase superfamily in land plants; ***Cellular and Molecular Life Sciences***, 69(2):175-89. (IF = 8)
- **Sachin Teotia** and Rebecca S. Lamb (2011): *RCD1* and *SRO1* are necessary to maintain meristematic fate in *Arabidopsis thaliana*; ***Journal of Experimental Botany***, 62(3):1271-84. (IF = 6.9)
- Matteo Citarelli, **Sachin Teotia**, Rebecca S. Lamb (2010): Evolutionary history of the poly(ADP-ribose) polymerase gene family in eukaryotes; ***BMC Evolutionary Biology***, 10:308. (IF = 3.4)
- **Sachin Teotia**, Sivaramakrishnan Muthuswamy, Rebecca S. Lamb (2010): *RADICAL-INDUCED CELL DEATH1* and *SIMILAR TO RCD ONE1* and the stress-induced morphogenetic response; ***Plant Signaling & Behavior***, 5 (2): 143-145. (IF = 2.9)
- **Sachin Teotia** and Rebecca S. Lamb (2009): The paralogous genes *RADICAL-INDUCED CELL DEATH1* and *SIMILAR TO RCD ONE1* play partially redundant functions during *Arabidopsis thaliana* development; ***Plant Physiology***, 151 (1): 180-198. (IF = 7.4)

(B) Book Chapters:

- Naveen Kumar Saroha, Deepali Singh, **Sachin Teotia*** (2026): Long noncoding RNAs: Regulatory mechanisms and applications in crop breeding for adaptation to global climate

change; in **Developing Climate-Resilient and Stress-Resistant Crops**, [Jen-Tsung Chen (Eds.)] for the book “Functional RNAs in Plants”, **Academic Press**, chapter 9, pages 127-146.

- **Sachin Teotia***[✉], Deepali Singh* and Guiliang Tang[✉] (2020) Technologies to address plant microRNA functions; in **Plant miRNAs (small RNAs): shaping development and environmental responses**, [Célia Miguel, Tamas Dalmay, Inês Chaves (Eds.)] for the Book series "Concepts & Strategies in Plant Sciences" with **Springer Nature**, chapter 2, page 25-43. (* Equal contribution as first author, [✉] Author for correspondence).
- Deepali Singh, Vartika Sinha, Abhinav Kumar, **Sachin Teotia** (2020): Small RNAs and cold stress tolerance; in **Plant Small RNA: Biogenesis, Regulation and Application**, [Praveen Guleria and Vineet Kumar (Eds.)], chapter 11, page 209-230, **Elsevier**
- **Sachin Teotia**, Deepali Singh and Guiliang Tang (2017): Chapter 13- DNA methylation in plants by microRNAs; in **Plant Epigenetics**, [Nikolaus Rajewsky, Stefan Jurga, Jan Barciszewski (Eds.)], **Springer International Publishing AG, Cham, Switzerland**, 247-262, DOI: 10.1007/978-3-319-55520-1_13.
- **Sachin Teotia** and Deepali Singh (2014): Chapter 13- Oxidative Stress in Plants and its Management; in **Approaches to Plant stress and their Management**, [Gaur R.K. and Sharma P. (Eds.)], **Springer, India Pvt. Ltd.**, 227-253.
- Deepali Singh and **Sachin Teotia** (2014): Chapter 19- Fungal Disease Management in Plants; in **Approaches to Plant stress and their Management**, [Gaur R.K. and Sharma P. (Eds.)], **Springer, India Pvt. Ltd.**, 339-352.

(C) Books:

Edited book “**RNA-based technologies for functional genomics in plants**” (2021) (Eds: Guiliang Tang, **Sachin Teotia**, Xiaoqing Tang and Deepali Singh) for the Book series "Advanced Concepts and Strategies in Plant Sciences" with Springer Nature Hardcover ISBN 978-3-030-64993-7, Softcover ISBN 978-3-030-64996-8.

(D) Others:

Developed study material for undergraduates in Indira Gandhi National Open University (IGNOU) in topics related to DNA replication and protein synthesis in 2012.

5. HONORS AND AWARDS

- Awarded travel award by the **RNA Society (2015)** to attend the twentieth annual meeting of the RNA Society, May 26 – 31, 2015, in Madison, Wisconsin, U.S.A.
- Awarded **Biotech Research Center travel award (2014)** by Michigan Technological University, Houghton, MI, to attend International Plant & Animal Genome (PAG) XXIII Conference, January 10-14, 2015, San Diego, CA, U.S.A.

- **German Academic Exchange Service (DAAD)** short-term postdoctoral scholarship (2013) to pursue research at Department of Organismic Interactions, Max Planck Institute for Terrestrial Microbiology, Marburg, Germany.
- Awarded travel grant by **American Society of Plant Biologists (ASPB)**, **2008**, to attend annual meeting of Plant Biology 2008, at Merida, Mexico.
- Awarded **Ray travel award (2008)** for scholarship and service by Council of Graduate Students, The Ohio State University, Columbus, U.S.A., to attend “19th International Conference on Arabidopsis Research” at Montreal, Canada, July 2008.
- Selected by **Uttar Pradesh Higher Education Commission**, Allahabad (U.P.) for the post of Lecturer (2000).
- Qualified for joint CSIR-UGC National Eligibility Test (NET) for Eligibility of Lectureship (June 1998) and was awarded **Junior Research Fellowship** (June 1999) of **Council and Scientific and Industrial Research (CSIR)**, Government of India.

6. RESEARCH GUIDANCE

Ph.D. guidance:

- Comparative pharmacognostic and antidiabetic studies of normal and selenium treated *Allium sativum* L
- Genome-wide Characterization and Expression Analysis of Abiotic Stress Responsive Transcription Factors in *Eragrostis tef*
- Whole genome sequencing and molecular characterization of an Allexivirus species infecting *Allium cepa* var. aggregatum

Guided Masters students for dissertation projects on:

- Expression and purification of β 1-3 glucanase from *Arabidopsis thaliana*
- Expression and purification of a chitinase family protein of *Arabidopsis thaliana*
- Identification of drought resistant cultivar(s) of *Cicer arietinum* L.
- Phylogenetic and functional analysis of the respiratory burst oxidases in plants.
- Expression profiling of genes in response to salinity and cold stress in *Brassica juncea* L.
- Antimicrobial activity of Avocado fruit extracts.
- Antimicrobial activity of guava leaf and fruit extracts.
- Computational Study of miR156 and miR157 orthologs in *Brassica juncea*: Structural, Functional and Phylogenetic Analysis

7. RESEARCH GRANT/PROPOSALS

- **Research project sanctioned by DBT, Govt. of India (2024-2027):** “CRISPR/Cas9-mediated genome editing for improving yield and nutritional quality of Indian oilseed mustard” a multi-institutional project involving NIPGR -New Delhi, NIPB-New Delhi and Univ. of Delhi (~3 crores)

- **Research project sanctioned by DST-SERB (2019-2023):** “Increasing seed oil content in Indian mustard (*Brassica juncea* L.) by de-repressing acetyl CoA carboxylase” (~50 lakhs)
- **Sharda Seed fund** “Development of bakanae and sheath blight resistance in rice utilizing molecular targets specific to rice- pathogen interactions.” (2 lakhs).

8. ADMINISTRATIVE EXPERIENCE

- Dean, Faculty of Life Sciences, J.C. Bose University of Science and Technology (YMCA), Faridabad, Haryana.
- NBA coordinator, Department of Biotechnology, Sharda University
- Member of BOS of Department of Biotechnology, Sharda University. Involved in making new courses, programs, syllabi at the department level for B. Tech and M. Tech students.
- Research and PhD coordinator, Department of Biotechnology, Sharda University
- NAAC coordinator 2018-2019, Department of Biotechnology, Sharda University
- Deputy coordinator of curriculum development at Gautam Buddha University. Involved in proposing new courses and programs at the University level for B. Tech and M. Tech students.
- Member of Board of Studies in the School of Biotechnology, Gautam Buddha University and Sharda University. Involved in developing new courses, curricula and syllabi for B. Tech and M. Tech programs in School of Biotechnology, Gautam Buddha University.
- *In charge* of departmental time-table committee, School of Biotechnology, Gautam Buddha University.
- Involved in laboratory and classroom space management and planning in the School of Biotechnology, Gautam Buddha University.
- Member of University Proctorial Board, Gautam Buddha University.
- Chairman of Equipment Procurement Committee, School of Biotechnology, Gautam Buddha University.

9. TALKS/POSTER PRESENTATION IN CONFERENCES

International:

- **Invited Talk:** “**A high-efficiency gene silencing in plants using two-hit asymmetrical artificial microRNAs**”, International Conference on Biochemical and Biotechnological Approaches for Crop Improvement (IBBACI), October 30-November 1, 2023, NASC, New Delhi.
- **Poster presentation** titled: “**The gene regulatory networks of microRNAs in model and crop plants revealed by Short Tandem Target Mimic (STTM)**”, 4th International Plant Physiology Congress, CSIR-National Botanical Research Institute, December 2-5, 2018, Lucknow, India.

- Invited Talk and poster: “**Application of Short Tandem Target Mimics (STTMs) For Deciphering Functions and Regulatory Networks of microRNAs in Crop Plants**”, ASPB annual Plant Biology meeting, July 26- 30, 2015, Minneapolis, MN, U.S.A.
- Poster presentation titled: “**Application of Short Tandem Target Mimics (STTMs) For Deciphering Functions and Regulatory Networks of microRNAs in Crop Plants**”, 20th Annual Meeting of the RNA Society, Madison, Wisconsin, May 26–31, 2015, Madison, WI, U.S.A.
- Invited Talk: “**Inactivating microRNAs by Short Tandem Target Mimics and Silencing Coding Genes by Artificial microRNAs and Their Applications**”, International Plant & Animal Genome (PAG) XXIII Conference, January 10-14, 2015, San Diego, CA, U.S.A.
- Poster presentation titled “**Targeting microRNAs for Destruction in Crop Plants by Short Tandem Target Mimic (STTM)**”, International Plant & Animal Genome (PAG) XXIII Conference, January 10-14, 2015, San Diego, CA, U.S.A.
- Poster presentation titled “**Functions of *RCD1* and *SRO1*, two paralogous Poly (ADP-ribose) polymerases, in the model plant species *Arabidopsis thaliana***”, ASPB annual Plant Biology meeting, July 18- 22, 2009, Honolulu, Hawaii, U.S.A.
- Poster presentation titled “**The paralogous PARPs *RCD1* and *SRO1* share developmental functions in *Arabidopsis***”, 19th International Conference on Arabidopsis Research (ICAR), on July 23-27, 2008, Montreal, Canada.
- Poster presentation titled “**The paralogous PARPs *RCD1* and *SRO1* share developmental functions in *Arabidopsis***”, ASPB annual Plant Biology meeting on June 26- July 1, 2008, Merida, Mexico.
- Poster presentation titled “**Two putative Poly (ADP-ribose) polymerases, *RCD1* and *SRO1* play important, partially redundant, roles in *Arabidopsis* development**”, ASPB annual Plant Biology and Botany congress, on July 7-11, 2007, Chicago, IL, U.S.A.

National:

- Invited Talk: “**Unravelling gene regulatory networks for crop improvement and sustainable agriculture**”, National Symposium on “Integrating Pathogenomics and Eco-Friendly Approaches for Sustainable Plant Health”, January 23, 2026, ICAR- National Institute for Plant Biotechnology (NIPB), New Delhi.
- Invited Talk: “**A high-efficiency gene silencing in plants using two-hit asymmetrical artificial MicroRNAs**”, DBT and DST (SERB)-sponsored National Conference cum Workshop on “Sustainable Biotech Solutions for Global Challenges”, Feb. 19-21, 2025, Jamia Hamdard, New Delhi, India
- Invited Talk: “**RNA-Based Approaches for Functional Genomics in Crop Plants**”, DST-SERB sponsored Karyashala (Hands-on-Training) on Pre-Breeding and Cytogenetic Approaches for Crop Improvement: Advancement, Challenges and Opportunities, March 04-13, 2024, ICAR-National Institute of Plant Biotechnology (NIPB), New Delhi, India.
- Invited Talk: “**A high-efficiency gene silencing in plants using two-hit asymmetrical artificial microRNA**”, National Conference of Plant Physiology on Physiological and Molecular Approaches for Climate Smart Agriculture, December 09-11, 2023, ICAR-IARI, New Delhi, India.

- Poster presentation titled: **“Gene Regulatory Networks of microRNA165/166 Revealed by Short Tandem Target Mimic (STTM) in Arabidopsis, Rice and Maize”**, National Symposium on Emerging Innovations in Plant Molecules for Achieving Food and Nutritional Security (EIPMAFNS), September 22-23, 2022, Navsari Agricultural University, Navsari, India
- Invited Talk: **“CRISPR/Cas9 System: an efficient approach to genome editing for crop improvement”**, Lecture series on contemporary issues in Biosciences, June 22, 2020, Mahatma Gandhi Central University, Motihari (Bihar), India.
- Invited Talk: **“Effective Gene Silencing in Plants by Two-Hit Asymmetrical Artificial microRNAs”**, 10th RNA group meet, May 2–4, 2019, Rajiv Gandhi Centre for Biotechnology, Trivandrum, India.
- Invited talk: **“The paralogous PARPs RCD1 and SRO1 share developmental functions in Arabidopsis”**; Midwest ASPB meeting, on March 21-22, 2009, Hanna City, IL, U.S.A.
- Invited talk: **“Two putative Poly (ADP-ribose) polymerases, RCD1 and SRO1 play important, partially redundant, roles in Arabidopsis development”**; Midwest ASPB meeting, on March 24-25, 2007, Michigan State University, East Lansing, MI, U.S.A.

10. TRAINING/WORKSHOP

- As a trainee in Bioinformatics skill development program on, **“Hierarchical clustering and RNA-seq data analysis in Linux”**, December 14-20, 2022, at Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow, India.
- As a trainee in a workshop on: **“Genes to Pathways”**, October 5-16, 2020, online by Decode Life.
- As a trainee in a MHRD (Govt of India) sponsored GIAN workshop on: **“Metabolic Engineering”**, November 25 to November 29, 2019, at Central University of Haryana, Mahendergarh, Haryana, India
- As a trainee in faculty development program (FDP) on **“Computational Biology and Translational Bioinformatics”**, Sept. 30 to October 4, 2019, at IIT Roorkee, India.
- As a trainee in a workshop: **“Genome Editing in Plants”**, May 27 to May 31, 2019, at Department of Genetics, University of Delhi, South Campus, New Delhi, India
- As a trainee in a MHRD (Govt of India) sponsored GIAN workshop on: **“Genome Manipulations, Editing and Interference by VIGS, CRISPR and RNAi”**, March 5 to March 14, 2019, at Department of Bio & Nano Technology, Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India
- As a trainee in a workshop: **“Training on Transcriptome Sequencing and Analysis”**, April 16 to April 21, 2018, jointly organized by- The Institute of Trans-disciplinary Health Sciences & Technology (TDU) and Bengaluru Genomics Centre (BGC), Bengaluru, India.
- As a trainee in a workshop: **“A Journey towards system biology: Biocomputing of Hi-throughput omics data”** October 8 to October 11, 2018, at G. B. Pant University of Agriculture and Technology, Pantnagar, UK, India
- As a resource person in a training workshop [Supported by National Science Foundation (NSF), USA]: **“Modulating plant microRNAs using Short Tandem Target Mimic (STTM)”**, December 15 to December 28, 2017, at Department of Biological Sciences, Michigan Technological University, Houghton, MI, 49931, USA

- As a trainee for the workshop on “**Application of Techniques of Molecular Biology for Crop Improvement**”, sponsored by Department of Science & Technology, Government of India, in March 1998, under the supervision of Prof. P.K. Gupta in the Department of Agricultural Botany, C.C.S. University, Meerut, India.

11. MEMBERSHIP OF PROFESSIONAL BODIES

- American Society of Plant Biologists (ASPB)
- The Society of Plant Biochemistry and Biotechnology (SPBB)
- Indian Society of Plant Physiology (ISPP)

12. EDITORS/REVIEWERS OF INTERNATIONAL JOURNALS

- Associate Editor of Frontiers in Plant Science
- On Editorial board of Plant Physiology Reports
- On Editorial board of Discover Plants
- Reviewers in prestigious journals like The Plant Journal, International Journal of Molecular Sciences, Plant Science, Genes, Plant Physiology and Biochemistry, Current Plant Biology among others