

Curriculum Vitae

SACHIN TEOTIA

Professor, Department of Life Sciences J.C. Bose University of Science and Technology, YMCA, Faridabad, 121006, Haryana, India (email: sachin25@gmail.com, sachin.teotia@jcboseust.ac.in, Ph.: +91-9953149924)

1. EDUCATION

Exam	Board/ Univ.	Year of Passing	Specialized Subject(s)
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
M.Sc.	Ch. Charan Singh University, Meerut, India	1998	Botany
B.Sc.	Ch. Charan Singh University, Meerut, India	1996	Botany, Zoology, Chemistry

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 2024-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.

4. PUBLICATIONS IN THE LAST FIVE YEARS

(A) IN INTERNATIONAL JOURNALS:

- Priyanka Keshari, Jyoti Mishra, Rita Singh Majumdar and **Sachin Teotia***: Antidiabetic effect of selenium-laden garlic (*Allium sativum* L.) in streptozotocin-induced diabetic rats; *in press*, **Indian Journal of Pharmaceutical Education and Research** (IF = 0.8) (* As a corresponding author)
- **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**, DOI: 10.1007/s13562-025-00975-8. (IF = 1.6) (* As a corresponding author)

- 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. (IF = 5.7)
- Juan Meng, Weiya Li, Feiyan Qi, 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. (IF = 4.9)
- Jyoti Singh, **Sachin Teotia**, Ajay Kumar Singh, et al. (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*, 25:42 doi: 10.1186/s12863-024-01196-z. (IF = 1.9)
- **Sachin Teotia**, Xiaoran Wang, Na Zhou, Mengmeng Wang, Haiping Liu, et al. (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)
- 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*, 37:1534–1542. (IF = 0.3) (* As a corresponding author)
- Yafan Zhao, Xiaofan Zhang, Yuan Cheng, Xiangxiang Du, **Sachin Teotia**, Chunbo Miao, Huawei Sun, et al. (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, et al. (2022): Osa-miR528 promotes seedling growth by enhancing nitrate uptake under nitrogen deficiency in rice; *Environmental and Experimental Botany*, 202, 105040 (IF = 6.028)
- 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)
- 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)

- Mukesh Kumar, Veena Chaudhary, Manoj Kumar Yadav, Chetan Chauhan, Ravi Kumar, Deepali Singh, and **Sachin Teotia** (2025): RNAi: A Potent Biotechnological Tool for Improvement of Ornamental Crops, *Plant Molecular Biology Reporter* (2025) 43:23–40.
- Ujjwal Sirohi, Mukesh Kumar, Vinukonda Rakesh Sharma, **Sachin Teotia**, Deepali Singh, Veena Chaudhary, Priya and 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**, and 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) (* As a corresponding author)

Manuscripts under revision/submission phase:

- **Sachin Teotia***, Deepali Singh, Dabing Zhang and Guiliang Tang: The gene regulatory networks of microRNA165/166 in Arabidopsis and rice revealed by short tandem target mimic (STTM); *to be submitted in Scientific Reports*. (IF = 4.37) (* As a co-corresponding author)
- **Sachin Teotia***, Deepali Singh and Guiliang Tang: microRNA165/166-regulated gene networks control phosphate homeostasis in Arabidopsis and rice; *to be submitted in Plant Physiology*. (IF = 8.34) (* As a co-corresponding author)
- Chingwen Li, Christine E. Li, **Sachin Teotia**, Xiaoqing Tang and Guiliang Tang: microRNA Informatics: A comprehensive platform for miRNA structural analysis; *to be submitted in Nucleic Acids Research*. (IF = 11.14)

(B) BOOK CHAPTERS:

- Naveen Kumar Saroha, Deepali Singh and Sachin Teotia[✉] (2025) Long noncoding RNAs: Regulatory mechanisms and applications in crop breeding facing global climate change; in **Functional RNAs in Plants: Developing Climate-Resilient and Stress-Resistant Crops** [Jen-Tsung Chen (Ed.)] with Elsevier, Chapter 9, *in press*. ([✉] Author for correspondence).
- **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 and **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**

(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.

5. RESEARCH GUIDANCE

Ph.D. guidance: Awarded -04, Undergoing -03

6. 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 through silencing of genes encoding for BADC proteins using the CRISPR/Cas9 system" (~50 lakhs)

➤ **Sharda Seed fund (2020)** "Development of bakanae and sheath blight resistance in rice utilizing molecular targets specific to rice- pathogen interactions." (2 lakhs).

7. 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