Brief Profile of Dr. R.S. Sengar

Name : **Prof. Rakesh Singh Sengar**

Educational Qualification : M.Sc. and Ph.D.

Designation and Department : Director training and Placement
Professor and Head,
Division of Plant Biotechnology,
College of Biotechnology,
Sardar Vallabhbhai Patel University of Agriculture and Technology Meerut-250110

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Area of Interest/Specialization : Biotechnology, Stress Physiology, Plant Tissue Culture, Seed Development, Molecular Biology Genetic Engineering, Biochemistry, Climate Change, Environmental Science and Botany.

Professor : About 15 years
Teaching Experience - 30 years
Research Experience - 25 years

Qualification

Qualification	University	Year	Subject(s)/ Topic(s)
(Doctor of Philosophy)	M.J.P.R. University, Bareilly, U.P.	1992	Plant Science (Ammonium Assimilation in Maize Seeding Under Different Environmental Conditions)
Post-Graduation	M.J.P.R. University, Bareilly, U.P.	1988	Plant Science
Graduation	M.J.P.R. University, Bareilly, U.P.	1985	Botany, Zoology and Chemistry

Research Guidance

	No. of Students guided As	
Name of Programme	**Major Advisor**	**Advisory Committee**
Ph.D	23	81
M.Sc/M.Tech	16	80

Post Doctoral UGC Kothari Fellowship	1	-
UGC Rajiv Gandhi Fellowship	1	6
DST/Women Scientist	3	-
Project Trainees	15	-

ADMINISTRATIVE EXPERIENCE/POST(S) & RESPONSIBILITIES HELD

Designation	Organization	Period		Total Period
		From	To	
Director training and Placement	S.V.P.U.A.&T., Meerut	30-10-2022	Continue	2 years 6 months
Nodal Officer ICAR Cell	S.V.P.U.A.&T., Meerut	July 2016	April 2019	About 2-½ Years
Professor	Agriculture Biotechnology, SVPUAT, Meerut	01-07-2010	Continue	About 15 Years
Professor & Head	Agriculture Biotechnology,	01-04-2016, 30-05-2022	24-05-2019 31-05-2025	3 year 2 Month , 3 years and 1 day
Professor & Head	Division of Plant Biotechnology	30-01-2023	Continue	About 2 years
Associate Director Extension (Head, KVK)	KVK, Ghaziabad	23-12-2003	05-05-2006	2 Years 5 Months
Officer In-charge -Department of Physiology and Biochemistry -Department of Finger Printing and DNA Recombination	College of Biotechnology, S.V.P.U.A.&T., Meerut	6-05- 2006	28-12-2006	7 Month 22 Days
Associate Professor Agriculture Biotechnoloy	College of Agriculture, S.V.P.U.A.&T., Meerut	29-12-2006	30-06-2010	5 Years
University Media Officer Incharge	S.V.P.U.A.&T., Meerut	18-01-2005	Continue	About 17 Years
University Right to Information Officer	S.V.P.U.A.&T., Meerut	26-10-2005	12-06-2006	8 Months
University Associate InformationOfficer	S.V.P.U.A.&T., Meerut	13-06-2006	19-07-2006	1 Month
University NSS Programme Co-ordinator	S.V.P.U.A.&T., Meerut	20-02-2006	2025	19 Years

Major Achievements

Tele Agriculture Program-	Ist Time in India, this program was started to solve farmer problems through WhatsApp groups in 2020 during Covid – 19 and still active.
Development of Sugarcane Synthetic Seeds	Ist Time in India this was developed for the benefits of farmers involved in cultivation of sugarcane.
Vallabh Agri-Business Development Innovation and Incubation Centre	Started this Innovation and Incubation Centre with Approximate cost of 12 crore at SVPUAT, Meerut.
Sanctioning of Projects	Lots of Various projects sanctioned from DST, DBT, UPCST, UPCAR, ICAR, UGC, CSIR, ICMR, Horticulture Board New Delhi, MSME and Ministry of Environmental Science
Bridging Academia Industrial Gap	Brought 74 companies for 172 placements of student in 2022-2023,2023-2024 and 2024-2025
Project in Organic Farming	Led various project on organic farming and received recognition from leading Organization with wider publication in Magazines and Social media for the Successful impact of organic on sustainable agriculture.
Drought Resistant Crop Varieties	Developed a roadmap for drought Resistant crop varieties to address critical challenges in agriculture under the changing climatic condition.
Academic Collaboration	Actively engaged in academic collaborations, resulting in significant advancements in plant biotechnology and the release of innovative research outcomes.
Extension and Out Reach	Contributed to community outreach by popularizing advanced agricultural practices through numerous articles, radio talks, and TV programs in regional languages.

Honours/Awards and Distinctions

Honours/Awards Received	Year	Awarding Agency
1. **Best young Agriculture Writer Award**	1999	Centre for Agriculture and Rural Development, New Delhi, India
2. Award for outstanding contribution in **popularization of Science** through Hindi. The award was given by Hon'ble Science and Technology Minister **Shri Bachi Singh Rawat**, Govt. of India, New Delhi.	2000	CSIR Technology Prize by Vigyan Bharti, Lucknow
3. Best Extension Worker Award For outstanding contribution in Agri Extension	2002	Shah Times, Haldawani, (Uttarnchal)
4. Man of the year Award	2003	American Biographical institute Inc. U.S.A.
5. Research Board of Advisors Award	2005	American Biographical Institute, Inc. U.S.A.
6. Utkristh Lekhan Samman	2006	Vishwa Agro Marketing and communication Kota-Rajeshthan
7. Young Scientist Award For outstanding contributions in the field of Agriculture and Science Extension	2007	Lok Vikas Sansthan Ajitmal-Etawah
8. Kunwar Saxena Bahadur SRDA Award For outstanding contributions in the field of crop physiology/tissue culture	2008	Society for Recent Development in Agriculture, Meerut
9. Young Scientist Award For enhancement of Agriculture Production	2009	MAC Krishi Jagran, Centre for Agriculture and Rural Production, New Delhi
10. Honoured for the organization of Earth Day	2009	L. Venkateshwar Lu, Vice chancellor & Commissioner, SVPUA&T., Meerut
11. Aryabhat Award	2010	Vigyan Bahrti, New Delhi
12. Aryabhat Samman For best paper presentation in the National Conference, New Delhi	2010	Vigyan Bahrti, New Delhi
13. Fellow of Society of Plant Research	2011	Society of Plant Research, Bareilly
14. Hitech Horticulture Society Gold medal	2011	Hitech Horticulture Society, Meerut
15. J.C.Edward Medal	2012	BIOVED Research Society, Allahabad
16. Scientist of the Year	2013	The Academy of Environmental Biology, Lucknow
17. Life Time Achievement Award	2014	Dr. Babasaheb Ambedkar National Institute of Social Sciences, Dr. Ambedkar Nagar (Mhow) M.P.
18. Honoured for the organization of cultural program in Kisan Mela	2014	Prof. H.S. Gaur, Vice Chancellor of SVPUA&T, Meerut
19. Fellowship Award	2015	Society of Recent Development in Agriculture, Meerut
20. Dr. R.B. Lal Vishisht Sikshak Puruskar This award was given by Hon'ble U.P. Governor Shri Ram Nayak Ji in CSA University of Agri. & Tech., Kanpur	2015	Uttar Pradesh Academy of Agricultural Sciences, Lucknow
21. Fellowship Award	2016	Gramin Vikas Avam Siksha Prasar Samiti, Agra
22. Farm and Food Award	2016	Farm and Food, New Delhi
23. TSBAS Fellow	2016	Technical Society for Basic and Allied Sciences, New Delhi
24. Young Achiever Award	2016	Society for Plant Research, Bareilly
25. Honoured for the organization of cultural program in Kisan Mela	2017	Prof. Gaya Prasad, Vice Chancellor of SVPUA&T, Meerut

26. Best Scientist Award for Sugarcane Development This award was given by Hon'ble, Sri. Suresh Rana ji, State Sugarcane Minister, U.P.	2018	NCR Journalist Association, Meerut
27. Emerging Scientist Award-2018	2018	Agricultural Technology Development Society (ATDS), Ghaziabad, Uttar Pradesh
28. Guru Siksha Samman	2018	Dainik Jagran, Meerut
29. Fellow Award	2019	Society for sugar Research and Promotion, New Delhi
30. Eminent Scientist award	2019	Royal Association for Science –led Socio-Cultural Advancement. (RASSA), New Delhi
31. P.H.S.S. Foundation award for science communication	2019	Professor H.S. Srivastava foundation for science and society, Lucknow.
32. Scientist and Best Researcher Award (IVCEMBBS-2020)	2020	SynBiogenical Labs, India, ACEIPL Singapore and Pegaso Canton, Compagnia delle Indie Orientali per Scienza E Technologia, Italy
33. Farm and Food Krishi Samman	2024	Delhi Press Patra Prakashan Pvt, Ltd, New Delhi
34. Fellow Sidaves Academy (Jammu)	2025	Society for Integrated Development of Agriculture, Veterinary and Ecological Sciences (SIDAVES).

Major Research Projects: Successfully Completed 19 research project as Principal Investigator, Co-Investigator, and Mentor for Projects funded by DBT, DST, ICAR, Govt. of India, UPCAR, Ministry of Agri and Cooperation New Delhi, NOVOD Board Ministry of Agriculture, Gurgaon and UPCST.

List of Major Research Project

S.No	Title of Project	PI/ Co-PI/Mentor	Sponsoring and Funding Agency	Amount (Rs)
1	Establishment of Tissue Culture Production Laboratory for Commercialization and Extension of Sugarcane among Farmers of Western U.P.	PI	Ministry of Agriculture New Delhi, (2006 to 2008)	80.0 Lac
2	Collection improvement production of Jatropha and its distribution and popularization among the small and marginal farmers of (U.P.)	PI	NOVOD Board Ministry of Agriculture (2008 to 2013)	15.56 Lac
3	Farmers Participatory Hybrid Rice Seed Production, Distribution and Benefit Sharing to the Farmers of Western Uttar Pradesh.	Co-P.I.	Ministry of Agriculture and Co-operation, New Delhi, (2006-08)	2.0 Lac
4	National Project on organic farming	Co-P.I.	Ministry of Agriculture Govt. of India, New Delhi (2007-2008)	1.0 Lac
5	Functional genomic analysis of drought stress and tagging of drought tolerant gene(s) in Indian wheat cultivars	Co-P.I.	Department of Science & Technology, New Delhi (2007-2010)	60.0 Lac

6	Scaling up water productivity in Agriculture for lively hoodthrough teach-cum-demonstration	Co-P.I.	Indian council of Agricultureresearch, New Delhi (2008 to Date)	1.24 Lac
7	Establishment of plant health clinic.	Co-P.I.	U.P Council of Agriculturalresearch, (2008 to 2012)	2.0 Lac
8	Identification and Development of thermo-tolerant Wheatvarieties suitable for different Agro- climatic zones of U. P.	Co-P.I.	U.P Council of Agriculturalresearch, (2008 to 2012)	28.48 Lac
9	Establishment of leaf/tissue analysis laboratory	Co-P.I.	U.P Council of AgriculturalResearch, Lucknow (2009 to 2012)	20.0 Lac
10	Maize insect survey in U.P.	Co-P.I.	Monsanto India Ltd. (2009-2010)	1.80 Lac
11	Association and functional genomic analysis for salinitytolerance in sugarcane (*Saccharum officinarum* L.) (WOS-A)	Mentor	Department of Science & Technology, New Delhi (2010-2014)	20.0 Lac
12	Molecular characterization and gene mapping of salinity anddrought resistance of aroma rice (*Oryza sativa* L.) (WOS-A)	Mentor	Department of Science & Technology, New Delhi (1 april 2013 to 31 march 2016)	25.0 Lac
13	Development of drought tolerant and disease resistant bananacultivars through tissue culture (WOS-A)	Mentor	Department of Science & Technology, New Delhi (2015 to 2018)	30.0 Lac
14	Analysis of biomass, hydrolysis and ethanol production byfungal crude enzymes	Mentor	UGC, New Delhi(2017 to 2022)	33.0 Lac
15	Genetic Enhancement for yield and Quality in Basmati Rice through Marker Assisted Backcrossing and Association Mapping	Co-P.I.	U.P. Council of AgriculturalResearch, Lucknow (2017 to 2020)	2.5 Crore
16	Production of disease free Banana (*Musa sapentium*) plants through Tissue culture Technique for establishment of nurseryand distribution of low cost plantlets among farmers	P.I.	DBT, New Delhi(2018 to 2022)	23.0 Lac
17	Micropropagation of stable hermaphrodite papaya andpromotion among the western U.P.	P.I.	UPCST, Lucknow (2018 to 2022)	9.0 Lac
18	Improvement, validation and dissemination of production technology of Kirajadi Mushroom (*Cordyceps militaris*)	Co-PI	CSTUP, Lucknow (2024 to continue)	15.36 lac
19	Establishment of Agri-Business Incubation (ABI) Centre for skill development, entrepreneurship and startups at the university	P.I.	U.P. Council of Agriculture Research, Lucknow (2023-2024)	5 Crore

Conference and Seminars

- Presented papers at **96 National and International Conferences.**

Recruitment and Assessment

Review of Syllabus of Botany, Biochemistry and Biotechnology in CCS University, M.J.P.R. University, Bareilly, U.P, Central Agricultural University, Jhansi, Acharya Narendra Deva University of Agriculture & Technology, Kumarganj, Ayodhya, Horticulture University Raipur.

Editor:

- **Editor-in-Chief:** Biotech Today: International Journal of Biological Science
- **Editor:** Krishi Darshika, Ex Editor Kisan Bharti
- Editor in University News Letter from 2005 to 2015
- **Editor-in-Chief:** University Annual Report from 2005 to 2023
- **Fellows:** TSBAS, SRDA, SPR, SSRP, FSRDA

Publications:

- Technical Bulletins: **7**
- Research Papers and Review Articles: **187**
- Books Published: **22**
- Book Chapters: **23**
- Abstracts Published: **296**
- Popular Articles (Hindi): **1238**
- Popular Articles (English): **108**
- Radio Technical Talks: **216**
- ETV Programs: **86**
- Technology developed : **4**

Involvement with the Formulation of Academic Programmes

- **Established** a Tissue Culture Laboratory in 2007 by Ministry of Agriculture with the help of Govt of India New Delhi to support research and education for M.Sc. and Ph.D. students.
- **Revised and Developed** PG and Ph.D. Biotechnology programmes in 2016, ensuring the curriculum remains aligned with contemporary scientific advancements.
- **Initiated** an Entrepreneurship Hub in 2023 to foster startup culture and encourage innovation among students and researchers of S.V.P University of Agriculture and Technology, Meerut.

International Experience (For Academic Collaborations)

- Trainee (Seed Technology and Biotechnology): **Cornell University (United States of America)**
- Lead Lecturer (Biotechnology): **Dubai (Hi-Tech Horticulture Biotechnology Society)**

List of Patent Awarded (Published Patents and Granted Patents)

1. Patent has been published on entitle "Magnetic Biocomposite Hydrogel for Biomedical Application" dated 06/01/2023 with application number 202211075735.
2. Patent has been published on entitle "AI-Enabled System for Climate Change Prediction in Agriculture" dated 19/05/2023 with application number 202311020167.
3. For Establishment of Successful Protocol for the development of Synthetic Seeds in Sugarcane (Ref. No. 201911017340).
4. Patent has been published on entitle "Mushroom Bliss Spread" dated 21/03/2025 with application number 202511020268.

Special Recognition

- Awarded Senior Research Fellowship of CSIR New Delhi During Ph.D program.
- Team member of Expert Committee on Biofuel NOBOAD for coordinating the Resource of U.P and Uttarakhand.
- Executive Editor- International Journal Biological Science Biotech Today from 2010 to till date
- Member Board Studies of Several Indian Universities.
- Recognized as Ph. D examiner of Several Indian Universities
- Delivered Several lead papers in different Institutes in Several Conferences and Symposia.
- Honorary Scientific advisor in Scientific Advisory Committee of Future life Science.
- Chairman/ Member of Selection Committees for the Selection of Assistant Professors, Associate Professors, Professor and other senior academic and administrative positions at many Universities/U.P Loke Seva Aayog
- Examiner/Paper Setter/ Moderator in number of Universities/Boards like ASRB and UPSC, PSC Uttarakhand
- Member of evaluation/assessment/review Committees of Various organizations
- Merit in Selections papers presented in a national seminar
- Organized many training programs for University students for Career advancement.

Professional Engagements

Leadership Roles

- Member, Board of Governors: Motherhood University, Roorkee (2024 to present).

  Member, Board of Management

- Sardar Bhagwan Singh University, Dehradun (2018–2021).
- Motherhood University, Roorkee (2019–2023).

Visiting Professor

Dr. B.R. Ambedkar University of Social Sciences; Dr. Ambedkar Nagar (Mhow) – 453441 Indore (M.P.) from June 2016

- **Member Board of Studies-** C.C.S. University Meerut

Life Memberships: 14 Professional Societies in Agricultural and Biological Sciences.

Academic Events Organized: Successfully organized **16 national and international academic events as training programs**

Key Contributions

- Variety Released: Release of the rice variety Nagina Vallabh Basmati-1 (NVB-1).
- Germplasm Registration: Registered 44 wheat genotypes characterized for drought tolerance.

Gene Sequences Submitted: 15

Google Scholar Metrics

- H-Index: 34
- i10 Index: 65
- Total Citations: 3156

Research Gate Metrics

- H-Index: 31
- Citations: 2,241
- Reads: 188,858
- Publications:279

Research Paper

Chaubey, A. K., Singh, H. P., Shahi, U. P. and **Sengar, R. S.** (2016). Efficacy of AM fungal strains in maize under sterilized pot condition. *Vegetos;29*: 168-171.

Vikas Singh, Mukesh Kumar, **Rakesh Singh Sengar,** Vaishali, Lokesh Kumar Gangwar and Ramji Singh (2024) Optimization of callus induction under different growth regulators in sugarcane (Saccharum officinarum L.). *International Journal of Advanced Biochemistry Research*; 8(4): 615-618

Gupta, S., Yadav, R., Bhatnagar, S. K. and **Sengar, R. S**. (2016). Seed Storage Proteins of Foxtail Millet: Structural and Functional Analysis using Computational Approach. *Vegetos*; 29 (2):*6*, 2.

Kole, P. R., Sharma, M. K., Kumar, S., Kumar, A., Singh, S. and **Sengar, R. S**. (2015). Assessment of Genetic Diversity in Indian Cultivated Pea (Pisum sativum L) by Using SRAP Markers. *Int. J. Plant Res*;*28*(3): 84.

Krishanu, **Sengar, R. S.,** Kumar, M., Vaishali, M. K. and Gangwar, L. K. Effect of different Combinations of Plant Growth Regulators on Sugarcane Shoot Multiplication. *Biological Forum – An International Journal*;15(5a): 171-176

Kumar, A., **Sengar, R. S.,** Pathak, R. K. and Singh, A. K. (2023). Integrated approaches to develop drought-tolerant rice: Demand of era for global food security. *Journal of Plant Growth Regulation*;*42*(1): 96-120.

Kumar, A., **Sengar, R. S.,** Sharma, M. K. and Singh, V. K. (2005). Effect of Plant Growth Regulators on in vitro Callus Induction and Plant Regeneration from Mature Wheat (Triticum aestivum L.) Embryos. *Society for Plant Research*; 54.

Rani, V. and **Sengar, R. S.** (2022). Biogenesis and mechanisms of microRNA-mediated gene regulation. *Biotechnology and bioengineering*;*119*(3):685-692.

Rani, V., **Sengar, R. S.,** Garg, S. K., Mishra, P. and Shukla, P. K. (2023). RETRACTED ARTICLE: Physiological and Molecular Role of Strigolactones as Plant Growth Regulators: A Review. *Molecular biotechnology*; 1-1.

Singh, A. and **Sengar, R. S.** (2017) Medicinal Plants: Treasure Trove for Future. *Agricultural research & Technology* (open access journal); 9(1): 001-005 DOI: 10.19080/ ARROA J.2017.09.555753

Singh, A., Gupta, S., **Sengar, R. S**. and Chauhan, S. Cyto-genotoxicity of Parthenium hysterophorus Plant Extract on Allium cepa Plant Assay. Biological forum: *An international journal*; 15(3): 233-241

Singh, A., **Sengar, R. S.,** Shahi, U. P., Rajput, V. D., Minkina, T. and Ghazaryan, K. A. (2022). Prominent effects of zinc oxide nanoparticles on roots of rice (Oryza sativa L.) grown under salinity stress. *Stresses*; *3*(1): 33-46.

Singh, A., **Sengar, R. S.,** Sharma, R., Rajput, P. and Singh, A. K. (2021). Nano-priming technology for sustainable agriculture. *Biogeosystem Technique*; (8): 79-92.

Singh, A., **Sengar, R. S.,** Singh, R., Shahi, U. P., Yadav, M. K., Gangwar, L. K. and Rajput, V. D. (2022). Effects of zinc oxide nanoparticles for promoting seed germination of rice (Oryza sativa L.) under salinity stress. Ecology. *Environmental Conservation*; *28*: 254-259.

Singh, C. K., Singh, D., Taunk, J., Chaudhary, P., Tomar, **Sengar, R. S. ,** S., Chandra, S. and Sarker, A. (2021). Comparative inter-and intraspecies transcriptomics revealed key differential pathways associated with aluminium stress tolerance in lentil. *Frontiers in Plant Science*; *12*, 693630.

Singh, D., Chaudhary, P., Taunk, J., Singh, C. K., Singh, D., Tomar, **Sengar, R. S.** and Pal, M. (2021). Fab advances in fabaceae for abiotic stress resilience: from 'omics' to artificial intelligence. *International Journal of Molecular Sciences*; *22*(19): 10535.

Singh, S. K., Singh, B. R., Sengar, R. S. and Kumar, P. (2022). Development and effectiveness of greenhouse type solar dryer for coriander leaves. *Journal of Environmental Biology*;*43*(1): 85-96.

Singh, S., and **Sengar, R. S.** (2016). Evaluation of selected Indian bread wheat (Triticum aestivum L.) genotypes for morpho-physiological and biochemical characterization under salt stress conditions. *Cereal Research Communications*; *44*(2):341-348.

Singh, S., Tomar, R. S., Grag, D., Rao, V. P., Sharma, M. K. and **Sengar, R. S.** (2016). Phylogenetic analysis (in-silico) of natural resistance-associated macrophage protein (NRAMP) and identification of its homolog in bread wheat (Triticum aestivum L.). *International Journal of Applied Biology and Pharmaceutical Technology*; *7*: 228-238.

Chaudhary, Shaligram, Chaurasia, Mukesh, **Sengar, R. S.,** R. Chand, Pooran and Mishra, Prashant. (2017). Anti-oxidative response in susceptible and resistant cultivars of Oryza sativa L. in response to infection by Rhizoctonia solani. *South Asian Journal of Food Technology and Environment; 03*: *507-515.*