

**Dr. Sarita Srivastava, FBS**

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**Educational Qualifications:**

Ph.D.	Title: " <b>Genomic variation and physical mapping of r-DNA sites in Cymbopogon Sprengel</b> " Under the joint supervision of: <b>Dr. U.C.Lavania, Chief Scientist</b> Division of Genetics and Plant Breeding, CIMAP- Lucknow, India and Professor Seshu Lavania, Dept of Botany, University of Lucknow, Lucknow, India
Young Botanist	<b>M.S. Swaminathan Merit Award for Young Botanist by Indian Botanical Society</b>
M. Sc. Botany	First Division 74.25 % <b>Gold Medalist</b> , University of Jabalpur, Jabalpur-M.P India
CSIR-UGC NET	Qualified with Life Sciences
GATE	qualified with <b>95.74 percentile score</b> and <b>AIR-61</b>
B. Sc.	First Division 65% University of Jabalpur, Jabalpur-M.P., India

**Professional Experience:**

**Administrative Positions held:**

1. **Coordinator, IQAC, CMP Degree College, Prayagraj**
2. **Convener, Green Youth Brigade, CMP Degree College Prayagraj**
3. **Convener, ICT Cell, CMP Degree College Prayagraj**
4. **Convener Department of Computer Applications CMP Degree College Prayagraj**
5. **Member of Executive Council of Indian Botanical Society (2023-2026)**
6. **Coordinator, DBT Star College Scheme**

**RESEARCH PROFILE:**

**Guest Editor in journals:**

1. The Nucleus (Springer): International journal of Cytology and allied topics
2. Journal of Indian Botanical Society

**Area of Research**

1. Polyploidy and plant Breeding
2. Karyotyping
3. Molecular Cytogenetics
4. Cytotoxicity

**Research Achievements**

- Developed and stabilized Autopolyploids in

*Cymbopogon sp.*

11 accessions

<i>Mentha</i> sp.	4 species
<i>Bacopa monnieri</i>	01 species
<i>Andrographis paniculata</i>	01 species

- Worked out a correlation between **metabolite dependence of polyploidy response** in *Cymbopogons* published in *Plant Journal* 2012
- Prediction of productive performance of artificial polyploids at leaf level itself based on histochemical characterization and micromorphological analysis of essential oil secretory cells.
- Development of polyploids with high pollen fertility in *C. martinii* (obligate seed cultivated), achieved on account of reduced multivalent pairing frequency of 0.27 as against expected 0.67 in autotetraploids.
- Genetic improvement of crops through induced polyploidy where plant biomass constitutes the secondary metabolites viz *Cymbopogon* sp, *Mentha* sp, *Andrographis* sp, *Bacopa* sp.

### **Research Skills:**

#### **Technical Skills**

- Well versed with basic techniques of stain preparation, fixation of tissues, slide preparation of mitosis and meiosis, preparation of root samples etc.
- Well versed with following Molecular techniques:
  - PCR n gel electrophoresis
  - Isolation of genomic DNA
  - Fluorescent in situ hybridization
  - Chromosome banding (c-banding)
- Experience of Handling Carl Zeiss Fluorescent Microscope with photographic attachment and axiovision imaging,
- Meiotic characterization of diploids and autotetraploids and Karyotype analysis.
- **Computer Literacy** - MS Office applications, Imaging softwares, statistical softwares, Axiovision image analysis software.

### **Specialized Trainings/Courses:**

- **2014:** 2-month Summer research fellowship by Indian Academy Of sciences At CCMB Hyderabad. With Dr. Imran Siddiqi on analysis of tools to study meiosis in *Arabidopsis thaliana*
- **2015:** One-week workshop on "Antioxidants in Health and Disease Prevention, at Vigayana Parishad Prayag from 23rd-29th September 2015
- **2017:** One-week training in MNNIT Allahabad on "Research Methodology, Data Analysis and stress tolerance in plants" from 21st January-27th January 2017
- **2018:** One-week National workshop on recent Technologies for food Security and Rural Development Feb 19-25, 2018 in KAPG College, Allahabad
- **2018:** One-week National workshop on Protein Purification and it's Sustainable Application in Drug Designing and Agro Waste Management" on Oct. 3-9, 2018 SAM Higginbottom University of Agriculture, Technology and Science JACOB institute of Biotechnology and Bioengineering.
- 2020: 5 days FDP on MOOCs in collaboration with TLC center BHU 17th Aug 21st Aug 2020
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### **Scholarships/Awards/Fellowships:**

- **Woman Scientist Award: Society** for Bioinformatics and Biological Sciences
- **(Distinguished Services in Botany** by SBSRD, Prayagraj
- **Fellow of Indian Botanical Society** at Punjabi University, Patiala University
- **S.N. Dikshit Gold medal** for best Poster Presentation at 40<sup>th</sup> IBS conference, Punjabi University Patiala
- **Indian Academy of Sciences;** Bangalore, "Summer Research Fellowship 2014" offered to work at CCMB Hyderabad for 56 days as **IAS Teacher fellow**

- Awarded **M.S. Swaminathan merit certificate and Bahadur Singh Gold medal for Young Botanist Award 2004** by Indian Botanical Society.
- **Ganga Ram Kabra Gold medal 1998** for securing highest marks in M.Sc. Botany examination in the Rani Durgawati University –Jabalpur

#### ***Life Membership of professional bodies:***

- Indian Science Congress Association,
- Indian Botanical Society
- The Biotech Research Society of India
- Vigayana Parishad Prayag
- Society of Biological Sciences and Rural Development

#### ***Research Projects undertaken:***

1. UGC Minor Research Project: "Study of genotoxicity of Ganga River water at Allahabad using Plant Bioassay technique" UGC letter, dated: No: 8-3(183)/2011(MRP/NRCB)

#### ***Major Research Publications***

	Title of paper	Journal Name	Year /volume no./ page no.	ISSN No.	Impact factor
1	Realization of Lodging Tolerance in the Aromatic Grass, Cymbopogon khasianus Through Ploidy Intervention	Front. Plant Sci., Sec. Plant Breeding	09 May 2022 Volume 13 - 2022 <a href="https://doi.org/10.3389/fpls.2022.90865">https://doi.org/10.3389/fpls.2022.90865</a>		6.627
2	Plant growth promotion of millets under abiotic stress using enterobacter cloacae pr10(kp226575)	J. Indian bot. Soc. e-	Vol. 100 (1&2) 2020:30-41	ISSN:2455-7218, ISSN:0019 - 4468	
3	Alleviation of Soyabean terminal draught by selected plant growth regulators	Ind J of Agri Biochem 2020	Vol 32(2) 180-183 Doi 105958/0974-4479.2020.00027.1	Print ISSN0970-6399 Online ISSN0974-4479	0.125 (2023)
4	Pollen viability and associated traits in relation to fertility and yield of popular rice varieties under late swon conditions	Ind J of Agri Biochem 2020	Vol 33(2) 188-192 doi: 10.5958/0974-4479-2020.00029.5	Print ISSN0970-6399 Online ISSN0974-4479	0.125 (2023)
5	Paleopolyploidy through Cytogenetic and Phylogenetic Characterization in Senna	International Journal of Plant and Environment,	Volume 6 Issue 4 (2020) DOI: 10.18811/ijpen.v6i04.00	ISSN: 2454-1117 (Print), 2455-202X (Online)	1.84
6	Measurement of antioxidant activity of plant extracts	J. Emerg. Tech. and Innov Res.(2020) UGC approved J no: 63975	2020 JETIR April 2020, Volume 7, Issue 4	(ISSN- 2349-5162)	7.97
7	Antioxidants in food materials	J. Emerg. Tech. and Innov Res.(2019) UGC approved J no: 63975	May 2019, Volume 6, Issue 5	(ISSN- 2349-5162)	7.97
8	A study of index of dominance in the grassland ecosystem	J. Emerg. Tech. and Innov Res.(2018) UGC approved J no: 63975		(ISSN- 2349-5162)	7.97
9	Study of biodiversity of grassland ecosystem through various diversity indices	J. Emerg. Tech. and Innov Res.(2019)		(ISSN- 2349-5162)	7.97

		UGC approved J no: 63975			
10	Mining <i>de novo</i> diversity in palaeopolyploids.	Current Science 2006 VOL 90 (7): 938-941.*	ISSN 0011-3891	ISSN: 0011-3891	1-102
11	<i>In Situ</i> Chromosomal Localization of r-DNA Sites In 'Safed Musli' <i>Chlorophytum</i> Ker Gawl and their Physical Measurement by Fiber FISH. :	Journal of Heredity	Vol: 96 (2005) 155-160	ISSN1465-7333 Print ISSN 0022-1503	<b>2.432 5</b>
12	Autopolyploidy differentially influences body size in plants, but facilitates enhanced accumulation of secondary metabolites, causing increased cytosine methylation	The Plant Journal (2012)	Vol: 71 (539-549)	Plant Sciences Online ISSN: 1365-313X	<b>6.948</b>
13	Ploidy-Mediated reduced segregation facilitates fixation of heterozygosity in the aromatic grass, <i>Cymbopogon martinii</i> (Roxb.)	J. Heredity (2010)	VOL:101 (1) 119-123	ISSN1465-7333 Print ISSN 0022-1503	<b>2.432</b>
14	Antimicrobial potential of silver nanoparticles	J. Emerg. Tech. and Innov Res.(2023) UGC approved J no: 63975	Vol 10 (4) 642-654	ISSN: 2349-5162	<b>7.97</b>

**Book Chapters:**

**2016:** Sanjay Singh & **Sarita Srivastava:** "Nutritional antioxidants: It is time to categorize": In Archana Pandey and Babita Agrawal edited book on "Role of antioxidants in Health and Disease Prevention"

**Presentation in Seminar/ Symposia/ Conferences**

1. Invited as **Chairperson** in a technical session of Genetics at 41st Annual meet of Indian Botanical Society held at Jiwaji University Gwalior in **2018**
2. Presented a paper in 106th session of Indian Science Congress held at Lovely Professional University, Jalandhar from 3rd to 7th January **2019**
3. Seshu Lavania, Madhvi Singh, Sarita Srivastava: "Epicuticular wax diversity in *Cymbopogon* Sprengel and associated changes with polyploidization" poster at 37th All India Botanical Society Conference held during 7th-9th November **2014** at V.G. Vaze Kelkar Education Trust Mumbai.
4. **2013: Chaired an Oral technical session V** (Cytogenetics) at the 36<sup>th</sup> Annual conference of Indian Botanical Society meeting held at Deen Dayal Upadhyaya University –Gorakhpur (certificate attached) **2013**
5. Rai SK, Basu S, **Srivastava S 2013:** DNA marker, ITS *nrDNA* sequence and karyomorphology based characterization of oleiferous and non-oil species of *Vetiveria* **L.** 100th Indian Science Congress section - Plant Sciences Abstract 252: 220\*

**Invited Talks:**

1. Invited as a **Resource person** in Green Skill Development Program organized by Botanical Survey of India, Central Circle, Prayagraj 6th February **2019**.
2. 10Delivered an **Invited talk** in the National seminar organized by Department of Chemistry on 16th No11vember **2018**
3. Invit12ed talk in National seminar on global scenario of Food security and sustainable development in Novemb13er **2017** organized by SBSRD Prayagraj
4. **Popular talk** on "Biofertilizers its use and importance" at Society for Biological Sciences and Rural Development Allahabad on 16th June **2015**
5. "Cultivation of medicinal and aromatic plants as an alternative to the agricultural economy" in a "Two days National Seminar on "Natural resource management for sustainable agricultural & Rural development" 5th-6th Nov **2016** at "Vigayana Parishad Prayag" Allahabad

6. "Food adulteration and food safety in India": Workshop on "Food Adulteration and Human Health" organized by Excellent Bioresearch Solutions PVT Ltd. NABL LABORATORY, Jabalpur on 27th December **2015**

**Seminars and Symposia workshops organized**

1. **2014:** Organized a one-day Student's Interactive Meet in collaboration with NASI- Allahabad on 14th December 2014 on "**Environmental Pollution and Health Hazards**" as Organizing secretary
2. **2015:** Organized a one-day Students seminar on "**Climate change in global scenario with respect to the Paris summit, COP21**" in November 2015 as Convener Green Youth Brigade Club of CMP College University of Allahabad-Allahabad.
3. **2017:** Organized a two days' Workshop on "**Technical skill development in farm yard waste management through vermicomposting and mushroom cultivation**" on 20th and 21st January 2017 as Convener of Green Youth Brigade club of CMP College, University of Allahabad, Allahabad.
4. **2018:** Organized a 3 days National workshop on "Gene Cloning and its Expression, to produce genetically modified Organisms" on Sep. 13-15, 2018 in Botany Department, CMP College, University of Allahabad.
5. **2019:** Organized a 3 days workshop on techniques in molecular biology for students September 2019