Gurjot Singh Sidhu

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Career objective

To apply my knowledge and skill of Plant Breeding for the genetic improvement of crops in order to meet the challenge of climate change and contribute to global food security.

Education

M.Sc. Plant Breeding, Genetics, and Genomics
(2018-2021)
University of Georgia, Athens, GA
GPA: 3.51/4

B.Sc. Agriculture (Honors)
Major: Plant Breeding, Genetics and Biotechnology
(2014-2018)
Punjab Agricultural University, Ludhiana, India
OCPA: 8.10/10

Test scores

Graduate Record Examination (GRE) (8/15/2017)
Total Score: 319/340 (Quantitative: 166/170; Verbal: 153/170; AWA: 3.5/6)

Test of English as a Foreign Language (TOEFL-iBT) (10/21/2017)
Total Score: 106/120 (Reading: 28/30; Listening: 25/30; Speaking: 27/30; Writing: 26/30)

Master's thesis

Sidhu, G.S. (2021). Controlling the Induction of Parthenogenesis in Transgenic Rice via Post-translational Activation of PsASGR-BBML and Determining the Effect of Egg-Cell Ploidy Level on Penetrance of Parthenogenesis.

Poster presentations

1. Sidhu, G.S., Conner, J., Ozias-Akins, P. (2020). Controlling the Induction of Parthenogenesis via Post-translational Activation of PsASGR-BBML. National Association of Plant Breeders 2020 Annual Meeting and Departmental poster competition, Institute of Plant, Breeding, Genetics, and Genomics, UGA 2020.

2. Sidhu, G.S., Conner, J., Ozias-Akins, P. (2020). Effect of Egg-Cell Ploidy Level on Penetrance of Parthenogenesis. ASA-CSSA-SSSA International Annual Meeting 2020.

Research experience

Graduate Research Assistant, Ozias-Akins Biotechnology Lab, UGA (August 2018 – Present)

Skills acquired during training:

- ✓ Molecular biology techniques – PCR, gel electrophoresis, nucleic acid isolation from plant tissues, RT-PCR, cloning, plant tissue culture, flow cytometry.
- ✓ Growing and managing plants in greenhouse.
- ✓ Emasculation and pollination techniques in rice.
- ✓ Bioinformatics – Sequencing quality analysis, read mapping, genome assembly.

Training with Dr. Dharminder Pathak, Cotton Breeder, PAU (August – September 2017)
Skills acquired during training:

- ✓ Phenotypic identification of various cultivated and wild cotton species.
- ✓ Emasculation and pollination techniques in cotton.
- ✓ Field collection of plant tissue samples followed by DNA isolation.

Training with Dr. Johar Singh, Senior Durum Wheat Breeder, PAU (January – March 2017)
Skills acquired during training:

- ✓ DNA isolation, quantification and storage techniques.
- ✓ Hands-on experience to use micro-pipette and centrifuge machine.
- ✓ PCR and gel electrophoresis.

Practical crop production with Dr. Kulvir Singh Saini, Senior Agronomist, PAU (August 2016 – July 2017)

- ✓ Practical experience in cultivation and pest management of wheat and corn.

Awards

1. First position in Departmental poster competition (MS category) conducted by the Institute of Plant, Breeding, Genetics, and Genomics at UGA in July 2020.
2. Merit Certificate in year 2018 for obtaining an OCPA of 8.10/10 in B.Sc. Agriculture.
3. Merit Scholarship during the year 2014-15 by 'Dr. Gurdev Singh Khush Foundation for Advancement of Agricultural Sciences' for securing 2nd position in the state-wide University entrance exam.

Relevant coursework

Undergraduate	Undergraduate Major	Graduate
• Introduction to Genetics • Principles of Seed Technology • Introduction to Plant Breeding • Breeding of Field and Horticultural Crops • Introduction to Plant Tissue Culture & Genetic Transformation	• Genetics of Crop Plants • Cytogenetics of Crop Plants • Theory and Practice of Plant Breeding • Breeding of Field Crops • Crop Experimentation • Principles and Procedures of Plant Tissue Culture and Transformation • Principles and Procedures of Molecular Biotechnology and Genomics • Introduction to Molecular Biotechnology	• Plant Breeding • Plant Genetics • Plant Cytogenetics • Advanced Genetics • Genomic Selection • Genome Wide Association in Plants • Statistical Methods for Research Workers • Bioinformatics and Omics • Functional Genomics • Plant Breeding Practicum

Additional skills

1. Languages – English, Punjabi and Hindi
2. Good documentation and presentation skills.
3. Software skills - Microsoft® Office, R, JMP, HTML for basic web designing such as this.
4. Experience with cluster computing for processing and analyzing sequencing data using bioinformatics software - FastQC, Bowtie, Geneious, Velvet.