Humira Sonah
Ramalingaswami Fellow (equivalent to Scientist D)
Central University of Haryana, India
biohuma@gmail.com
Ph. No.: 6239715281

Professional Experience

Ramalingaswami Fellow — **From March 2023 –till date**
Central University of Haryana, Mahendragarh, India

Ramalingaswami Fellow — **From May 2018-March 2023**
National Agri-Food Biotechnology Institute (NABI) Mohali, India

Visiting Professor — **Feb 2016 to Apr 2018**
University Laval, Quebec (QC) Canada

Post-doctoral Fellow — **Dec 2014 to Feb 2016**
University Laval, Quebec (QC) Canada

Post-doctoral Fellow — **Feb 2014 to Nov 2014**
University of Missouri, Columbia, USA

Post-doctoral Fellow — **Jul 2011 to Feb 2014**
University Laval, Quebec (QC) Canada

Academic Pursuit

Ph.D. (Biotechnology) — **March 2011**
Banasthali University, Jaipur, Rajasthan

M.Sc. Agriculture (Biotechnology) — **December 2004**
Indira Gandhi. Agriculture University Raipur (CG)

B.Sc. Agriculture (4 years) — **June 2002**
Purvanchal University, Jaunpur, UP, India

Awards and Fellowships

- **Featured in 75 under 50, Scientist shaping today's India-2022** published by Vigyan Prasar, Government of India and released by Union minister Jitendra Singh on National Science Day
- **Featured in the list of world's top 2% researchers** published by Stanford University (2022)
- Fellow of Indian Society of Genetics and Plant Breeding (FISGPB-2021)

- Ramalingaswami Fellowship by Ministry of Science & Technology Department of Biotechnology Government of India (November 2017)
- PhytoSciences award in the grant of $20,000 CAD by Sherbrooke University for the year 2015-2016.
- Faculté des sciences de l'agriculture et de l'alimentation (FSAA) award by FSAA Laval University, Quebec (QC) Canada for the year 2011 to 2012.
- Awarded research excellence award for postdoctoral by FSAA Laval University, Quebec (QC) Canada for the Year 2015 to 2016

Research Projects and Funding

S. No	Title of the project	Total cost	Agency	Present status	Role (PI/CI)
1.	Improvement of seed oil, protein content, and nutritional quality in soybean (Glycine max (L.)	88 lakhs	DBT	3rd year	PI
2.	Understanding the molecular basis of selective transport of silicon and arsenic by modulating Nodulin 26-like Intrinsic protein 2-1 (NIP2-1) in rice (Oryza sativa)	37 lakhs	SERB	3rd year	Co-PI
3.	Imparting sheath blight disease tolerance in rice	59 lakhs	DBT	3rd year	Co-PI
4.	Development of superior haplotype based near isogenic lines (Haplo-NILs) for enhanced genetic gain in rice	75 lakhs	DBT	3rd year	Co-PI
5.	Developing food-grade soybean using CRISPR/Cas9 mediated multiplex genome editing	35 lakhs (83 Lakhs)	DBT	1st year	PI **Coordinator** Multi-institutional project
6.	Genotyping by Sequencing, Genome-wide Association Study, and Genomic Selection Approaches for the Complex Trait like Stress-tolerance and Yield in Soybean	78 lakhs	SPARC	completed	Co-PI

Teaching

S. No	Subject	Degree	University/Institute
1.	Basic Bioinformatics	Ph.D.	NABI
2.	Fundamentals of Molecular and Cell Biology	Ph.D.	NABI
3.	Fundamentals of Genomics	Ph.D.	NABI
4.	Bioinformatics	Ph.D.	Panjab University

Ph.D. Supervisor accreditation

Accreditation as Ph.D. and M.Sc. supervisor by Panjab University, Chandigarh, India

Accreditation as Ph.D. supervisor by Swami Keshwanand Rajasthan Agricultural University, Rajasthan

Patents Published

Arsenault-Labrecque, Geneviève, Dussault-Benoit, Chloé, Belanger, Richard R. **Sonah, Humira** Belzile, François (2019) "Methods and tools for plant pathogen assessment" Publication Number WO/2019/241883

Technology development

The article describing GBS method is highly cited - **Sonah, Humira**, et al. "An improved genotyping by sequencing (GBS) approach offering increased versatility and efficiency of SNP discovery and genotyping." *PloS one* 8.1 (2013): e54603. **Total Citations 460**

Supervisor of Ph.D. Students

S. No	Student Name	Thesis Title	Year	Degree
1.	Nitika Rana	Understanding expression dynamics and sequence variability of genes regulating nutritional and cooking quality-related traits in rice (*Oryza sativa*)	2022	Awarded
2.	Virender Kumar	Identification of loci governing seed oil content in soybean (*Glycine max* L.)	4th year	About to submit
3.	Rushil Mandlik	Understanding Aquaporins regulation defining mediated metalloids uptake in legume species	3rd year	Ongoing

4.	Sreeja Sudhakaran	Understanding Tonoplast intrinsic proteins (TIP3) evolution and its role in seed development in plants.	3rd year	Ongoing
5.	Gunashri Pandalker	Identification and characterization of genes regulating off-flavor in Soybean (*Glycine max* L.)	3rd year	Ongoing

Organization of the scientific conference

1. Contributed as Organizing Secretary for SPARC-MHRD sponsored International Workshop on the plant genomics from 25th Feb to 5th March, 2020
2. Contributed as Chairman for a session in Kosambi International Webinar series on 31 July 2020 - Organized by Savitribai Phule Pune University, Pune, India
3. Contributed as Chairman for a session in International Conference on Pulse Research on 10 Feb 2022 - Organized by Society for Plant and Agricultural Sciences, Pune, India

Editorial experience

- Editor in Frontier in Plant Sciences
- Editor in Plant Nano Biology
- Review Editor of Frontiers in Ecology and Evolution journal
- Topic Editor for Biomolecules
- Guest Associate Editor of Plant Physiology and Biochemistry
- Reviewer for - Molecular Breeding; Genome; Scientific Reports; Frontiers in Plant Science; PlosOne; Plants, BMC plant biology, Plants, IJMS, 3Biotech, Gene, Critical Reviews in Biotechnology, Journal of advanced research, Plant Genome etc
  - https://publons.com/dashboard/records/review/

Member of Academic Societies

1. Member Crop Science Society America (CSSA)
2. Life member of Indian Society of Biochemistry and Biotechnology
3. Life member of Indian Society of Genetics and Plant Breeding
4. Member of Canadian Society of Biochemistry and Molecular and Cellular Biology, Canada

Books

1. Sharma TR, Deshmukh R**, Sonah H** (2020) Advances in Agri-Food Biotechnology. Springer Nature Singapore, eBook ISBN 978-981-15-2874-3, Hardcover ISBN 978-981-15-2873-6

2. Sonah H, Goyal V, Shiva SM, Deshmukh R (2022) Genotype by sequencing for crop improvement, John Wiley & Sons, ISBN 1119745675, 9781119745679

Book Chapters

Shivaraj SM, Dhakate P, **Sonah H**, Vuong T, Nguyen HT, Deshmukh R (2019) Progress Toward

Development of Climate-Smart Flax: A Perspective on Omics-Assisted Breeding. In Genomic Designing of Climate-Smart Oilseed Crops (pp. 239-274). Springer, Cham.

Chaudhary J, Shivaraj SM, Khatri P, Ye H, Zhou L, Klepadlo M, Dhakate P, Kumawat G, Patil G, **Sonah H**, Ratnaparkhe M, Deshmukh R, Nguyen H (2019) Approaches, Applicability, and Challenges for Development of Climate-Smart Soybean. In Genomic Designing of Climate-Smart Oilseed Crops (pp. 1-74). Springer, Cham.

Rana N, Bansal R, Sharma S, Sharma Y, **Sonah H**, Deshmukh R, Sharma TR (2020). Global Perspectives on Agriculture: Food Security and Nutrition. InAdvances in Agri-Food Biotechnology (pp. 1-27). Springer, Singapore.

Vasupalli N, Koramutla MK, Aminedi R, Kumar V, Borah P, Negi M, Ali A, **Sonah H,** Deshmukh R (2020). Omics Approaches and Biotechnological Perspectives of Arsenic Stress and Detoxification in Plants. Metalloids in Plants: Advances and Future Prospect (pp. 249-73) John Wiley & Sons.

Chaudhary J, Bhat JA, Ram H, Rana N, Khatri P, Agarwal G, Kumar V, **Sonah H**, Deshmukh R (2020). Distribution of Metals and Metalloids in Plants: Tools and Techniques for Efficient Imaging and Quantification. Metalloids in Plants: Advances and Future Prospects. (pp.125-47) John Wiley & Sons.

Khatri P, Agarwal G, Kumar V, **Sonah H**, Deshmukh R (2020). Distribution of Metals and Metalloids in Plants. Metalloids in Plants: Advances and Future Prospects (pp 120-125) John Wiley & Sons.

Rahim, M.S., Bhandawat, A., Rana, N., Sharma, H., Parveen, A., Kumar, P., Madhawan, A., Bisht, A., **Sonah, H**., Sharma, T.R. and Roy, J., 2020. Genomic selection in cereal crops: methods and applications. In Accelerated Plant Breeding, Volume 1 (pp. 51-88). Springer, Cham.

Total research publications**:** More than 100 research papers published in reputed journals since 2010 and the details can be found at Google scholar with the link:

https://scholar.google.co.in/citations?user=DgTFPHoAAAAJ&hl=en

---

Date: 22-05-2023

Place: Mohali, India (**Humira Sonah**)