

Dr. Sumira Jan (Tenure Track Research Scientist)

ICAR- Central Institute of Temperate Horticulture,
Near Old Airfield, Rangreth, Srinagar
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EDUCATION

Post-Doc, 2014

Project Title "Photosynthetic performance and physiological adaptation in selected medicinal herbs before and after snow fall in North Western Himalaya". Centre of Research for Development, University of Kashmir, Jammu and Kashmir, India 190006

PhD, 2011

Thesis title: "Developmental and metabolic changes in *Psoralea corylifolia* L. with reference to ionising radiation". Department of Botany, Jamia Hamdard, New Delhi, India 110062

MSc, 2006

MSc Thesis: "Physiochemical assessment and antioxidant response of impact of chromium stress in *Brassica juncea* L." Department of Botany, Jamia Hamdard, New Delhi, India 110062

BSc (General Science), 2004

Government Degree College
Anantnag, Jammu and Kashmir, India

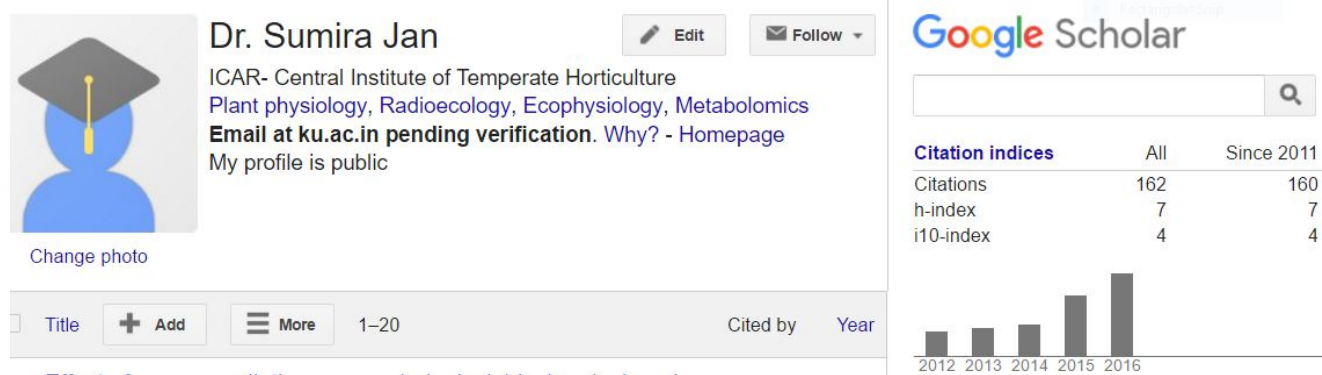
AWARDS

- Islamic Developmental Bank (IDB)
- Korean Government Scholarship (KGSP)
- Muslim Association for Advancement of Science (MAAS)
- DBT Postdoctoral Research Associate Award
- UGC Postdoctoral Research Associate Award
- Fast track Young Scientist Award
- BioCARE Early Career Scientist Award

RESEARCH & TEACHING EXPERIENCE

1. Worked as lecturer in Ramzaan college of education (2011-2012)
2. Guest Lecturer in Hamdard University (2008-2011).
3. Presently working as Young scientist on projects entitled:
 - **“Ecological significance of UV screens in the distribution of UV-B flux and PAR within genus Rumex across North Western Himalaya.”** Funded by Department of Biotechnology, Ministry of Science and Technology. Govt. of India.
 - **“Genetic, agro-morphological and phytochemical characterization of *Oreganum vulgare* L. for marker assisted improvement of pharmaceutical quality.”** Funded by Science & Engineering Research Board (SERB), Department of Science and Technology, Ministry of Science and Technology. Govt. of India.

CITATION INDICES SINCE, 2010



Dr. Sumira Jan
ICAR- Central Institute of Temperate Horticulture
Plant physiology, Radioecology, Ecophysiology, Metabolomics
Email at ku.ac.in pending verification. Why? - Homepage
My profile is public

Citation indices

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PUBLICATIONS

1. **Sumira Jan**, Azra N. Kamili, Javid A. Parray and Yashbir S. Bedi, Parvaiz Ahmad. Microclimatic variation in UV perception and related disparity in tropane and quinolizidine alkaloid composition of *Atropa acuminata*, *Lupinus polyphyllus* and *Hyoscyamus niger*. *Journal of Photochemistry and Photobiology B: Biology*, 161:230-235,2016
2. **Sumira Jan**, Azra N. Kamili, Javid A. Parray and Yashbir S. Bedi. Differential response of terpenes and anthraquinones derivatives in *Rumex dentatus* and *Lavandula officinalis* to harsh winters across north-western Himalaya, *Natural Product Research: Formerly Natural Product Letters*, 30(5), 608-612, 2016.
3. Javid A Parray, Rehana Hamid, Azra N Kamili, Nowsheen Shameem, **Sumira Jan**, Bashir A Ganai. Biological efficacy and radical scavenging potential of shikonin in *Arnebia benthamii* (Wall ex. G Don) Johnston. *Industrial Crops and Products*, 74: 434-439, 2015.
4. **Sumira Jan**, Talat Parween, Rehana Hameed, Tariq O. Siddiqi and, Mahmooduzzafar. Elemental, biochemical and essential oil modulation in developing seedlings of *Psoralea corylifolia* L. exposed to different presowing gamma irradiation treatment. *Journal of Essential Oil Research*, 27(6):521-532, 2015.
5. Javid A Parray, Azra N Kamili, Zafar A Reshi, Raies A Qadri, **Sumira Jan**. Interaction of rhizobacterial strains for growth improvement of *Crocus sativus* L. under tissue culture conditions. *Plant cell, tissue and organ culture*. 121:325-334, (2015).
6. **Sumira Jan**, Talat Parween, Rehana Hameed, Tariq O. Siddiqi and, Mahmooduzzafar. Effects of presowing gamma irradiation on the photosynthetic pigments, sugar content and carbon gain of *Cullen corylifolium* (L.) Medik. *Chilean Journal of Agricultural Research*, 73(4), 2013.
7. **Sumira Jan**, Azra N Kamili, Rehana Hamid, Javid A Parray .Variation in adaptation mechanisms of medicinal herbs to the extreme winter conditions across the North Western Himalaya. *Israel Journal of Plant Sciences*, 61 (1-4): 123-129, 2013.

8. Talat Parween, **Sumira Jan**, Mahmooduzzafar and, Tasneem Fatma. Assessing the impact of chlorpyrifos on growth, photosynthetic pigments and yield in *Vigna radiata* L. at different phenological stages. *Journal of Plant Nutrition* 36:1565–1577, 2013.
9. **Sumira Jan**, Talat Parween, T.O. Siddiqi and, Mahmooduzzafar. Antioxidant modulation in response to gamma induced oxidative stress in developing seedlings of *Psoralea corylifolia* L. *Journal of Environmental Radioactivity*, 113:142-9, 2012.
10. **Sumira Jan**, Talat Parween, T.O. Siddiqi and, Mahmooduzzafar. Enhancement in furanocoumarin content and phenylalanine ammonia lyase activity in developing seedlings of *Psoralea corylifolia* L. in response to gamma irradiation of seeds. *Radiation and Environmental Biophysics*, 51(3):341-7, 2012.
11. Talat Parween, **Sumira Jan**, Mahmooduzzafar and, Tasneem Fatma. Evaluation of oxidative stress in *Vigna radiata* L. in response to chlorpyrifos. *International Journal of Environment Science and Technology*. 9 (4): 605-612, 2012.
12. **Sumira Jan**, Talat Parween, T.O. Siddiqi and, Mahmooduzzafar. Gamma radiation effects on growth and yield attributes of *Psoralea corylifolia* L. with reference to enhanced production of psoralen. *Plant Growth Regulation*, 64(2):163-171, 2011.
13. Talat Parween, **Sumira Jan**, Mahmooduzzafar, M.P. Sharma, Abdul Mujib, Tasneem Fatma. Genotoxic impact of cadmium on root meristem of *Vicia faba* L. *Russian Agricultural Science*, 37 (2):115– 119, 2011.
14. Talat Parween, **Sumira Jan**, Mahmooduzzafar, Tasneem Fatma. Alteration in nitrogen metabolism and plant growth during different developmental stages of green gram (*Vigna radiata* L.) in response to chlorpyrifos. *Acta Physiologiae Plantarum*, 33: 2321–2328, 2011.

Review

1. **Sumira Jan**, Talat Parween, T.O. Siddiqi and, Mahmooduzzafar. Effect of gamma radiation on morphological, biochemical and physiological aspects of plants and plant products. *Environmental Reviews*. 20:17- 39, 2012.
2. **Sumira Jan**, Azra Nahaid Kamili, Talat Parween, Rehana Hamid, Javid Parray, T.O.Siddiqi, Mahmooduzzafar and Parvaiz Ahmad. Feasibility of radiation technology for wastewater treatment. *Desalination and Water Treatment*, 55(8), 2053-2068,2015.

3. Talat Parween, **Sumira Jan**, Mahmooduzzafar, Tasneem Fatma, Zahid Hameed Siddiqui. 2016. Selective effect of Pesticides on Plant-A Review. *Critical Journal of Food Science and Nutrition*. 56 (1):160-179, 2016.
4. Javid A Parray, **Sumira Jan**, Azra N Kamili, Raies A Qadri, Dilfuza Egamberdieva, Parvaiz Ahmad (2016). Current perspectives on plant growth promoting rhizobacteria. *Journal of Plant Growth Regulations*, 1-26, 2016.
5. Arafat Abdel Hamed Abdel Latef, Abeer Hashem, Saiema Rasool, Elsayed Fathi Abd Allah, Alqarawi A.A, Dilfuza Egamberdieva, **Sumira Jan**, Naser A. Anjum, and Parvaiz Ahmad (2016). Arbuscular Mycorrhizal Symbiosis and Abiotic Stress in Plants: A Review. *Journal of Plant Biology*, 59:407-426, 2016.

Chapters published:

1. Talat Parween, Dewa Ram Bajya, **Sumira Jan**, S K Raza (2016). "Pesticide tolerance and crop production" *Crop Production and Global Environmental Issues*. Springer International Publishing, 2015. 79-102.
2. Khushboo Chaudhary, **Sumira Jan**, Suphiya Khan (2016). "Heavy metal ATPase (HMA2, HMA3 and HMA4) genes in hyperaccumulation mechanism of heavy metals." *Plant Metal Interaction: Emerging Remediation Techniques*. Elsevier.
3. **Sumira Jan**, Bushra Rashid, MM Azooz, M Anwar Hossain, Parvaiz Ahmad (2016). "Genetic strategies for advancing phytoremediation potential in plants: A recent update." *Plant Metal Interaction: Emerging Remediation Techniques*. Elsevier.
4. Dagmar Prochazkova, **Sumira Jan**, Parvaiz Ahmad (2016). "Water stress in grapevine (*Vitis vinifera* L.)" *Water Stress and Crop Plants: A Sustainable Approach*, 412-421.
5. Zoya Siddique, Sameen Ruqia Imadi, **Sumira Jan**, Alvina Gul Kazi (2016). "Drought stress and photosynthesis in plants". *Water Stress and Crop Plants: A Sustainable Approach, 2 Volume Set*, 1.
6. Arafat, **Sumira Jan** (2016). "Soybean under abiotic stress: Proteomic approach." *Legumes under Environmental Stress: Yield, Improvement and Adaptations*, 247.
7. Talat Parween, Pinki Bhandari, **Sumira Jan**, S K Raza (2015). "Interaction between pesticides and soil microorganisms and its degradation: A molecular approach." *Plant, Soil and Microbes* (pp. 23-43). Springer International Publishing.

8. Leonora M. Mattos, Celso L. Moretti, **Sumira Jan**, Steven A. Sargent, Carlos Eduardo P. Lima and Mariana R. Fontenelle (2014). "Climate changes and potential impacts on quality of fruit and vegetable crops." *Emerging Technologies and Management of Crop Stress Tolerance*, 1.
9. Qaisar Mahmood, Muhammad Bilal, **Sumira Jan** (2014). "Herbicides, pesticides, and plant tolerance: An Overview." *Emerging Technologies and Management of Crop Stress Tolerance*.
10. Bashir Fozia, and **Sumira Jan** (2014). "Oxidative stress and antioxidant defense systems in response to pesticide stress". *Legumes under Environmental Stress: Yield, Improvement and Adaptations*, 103-124.
11. Rehana Hamid, Azra Nahaid Kamili, Mahmooduzzafar, Javid Ahmad Parray, **Sumira Jan**, Abdul Mujib, Parvaiz Ahmad (2013). "Mass multiplication and phytochemical studies of *Cichorium intybus* L." *Biotechnological Techniques of Stress in Plants*, 187-211.
12. Aykut Saglam, **Sumira Jan** (2013). "Importance of protective compounds in stress tolerance." *Physiological mechanisms and adaptation strategies in plants under changing environment*. 265-284, Springer New York.

Books

1. **Sumira Jan**, Javid Ahmad Parray 2016. Approaches to heavy metal tolerance in plants. Springer, ISBN 978-981-10-1692-9. DOI: <https://dx.doi.org/10.1007/978-981-10-1693-6>.
2. **Sumira Jan**, Nazia Abbas 2016. Himalayan Phytochemicals. Elsevier (Under Revision).

INTERNATIONAL & NATIONAL CONFERENCES

1. Uzma Majid , **Sumira Jan**, Mahmooduzzafar and T.O.Siddiqi (2007). Impact assessment of mercury on the growth and development of *Solanum melongena* L. International conference on the status of biological sciences in Caribbean and Latin American Societies, Guyana held at university of Guyana, Greater Georgetown , 24-25 September, p.31.
2. **Sumira Jan**, Uzma Majid, Altaf ahmed, T O.Siddiqi and Mahmooduzzafar (2007) Impact assessment of chromium on the oxidative defence system of *Brassica juncea* L.Cv.Pusa Jai Kisan: International conference on the status of biological sciences in

Caribbean and Latin American Societies, Guyana held at university of Guyana, Greater Georgetown, 24-25 september, p.19.

3. Presented paper entitled "Interactive effect of bio-fertilizers and chemical fertilizers on the growth of *Vicia faba* L." authored by **Sumira Jan**, Uzma Majid, Altaf Ahmed, T.O. Siddiqi and Mahmooduzzafar. National Symposium on Environmental Stress and Bioresource Management and 28th Annual session of Academy of Environmental Biology, October 16-18.(2008)

4. **Sumira Jan**, Uzma Majid, Altaf Ahmed, T.O.Siddiqi and Mahmooduzzafar. Interactive effect of bio fertilizers and chemical fertilizers on the growth of *Vicia faba* L.9 (2009). National Symposium on Environmental Stress and Bioresource Management and 28th Annual session of Academy of Environmental Biology.

5. **Sumira Jan**, Talat Parween, Rehana Hamid, T.O.Siddiqi and Mahmooduzzafar. Presowing gamma irradiation to enhance volatile components of *Psoralea corylifolia* L. seeds using GC-MS and SPME analysis (2012). National Seminar on Advances in Biosciences. 12th June

6. **Sumira Jan**, Talat Parween, Rehana Hamid, Javid Parray T.O.Siddiqi and Mahmooduzzafar (2014). Effect of gamma irradiation on biochemical aspects and elemental composition in developing seedlings of medicinally important herb *Psoralea corylifolia* L. JK Science congress.

7. Presented paper entitled "Presowing gamma irradiation to enhance volatile components of *Psoralea corylifolia* L. seeds using GC-MS and SPME analysis" authored by **Sumira Jan**, Talat Parween, Rehana Hamid, T.O.Siddiqi and Mahmooduzzafar . National Seminar on Advances in Biosciences. 12th June 2012.

8. Presented paper entitled "Effect of gamma irradiation on biochemical aspects and elemental composition in developing seedlings of medicinally important herb *Psoralea corylifolia* L. " authored by **Sumira Jan**, Talat Parween, Rehana Hamid, Javid Parray T.O.Siddiqi and Mahmooduzzafar. JK Science congress 16-17th September 2012.

9. Presented paper entitled "Altitudinal variation in non-enzymatic and enzymatic activities of selected North Western Himalayan herbs" authored by **Sumira Jan**, Azra N. Kamili, Rehana Hamid, Javid A. Parray, Sumira Tyub, Sana Syed, Mansoor Bhat. JK Science congress 10-13th September 2013.

10. Presented Poster entitled "**Ecological significance of UV screens in the distribution of UV-B flux and PAR within genus Rumex across North Western Himalaya.**" Young Investigator's Meeting, 27th march-Ist, April, 2015.

LANGUAGE PROFICIENCY AND COMMUNICATION SKILLS

1. Subject expert in development of e-contents in UGC sponsored programme to EMMRC, Kashmir University in collaboration with Centre of Research for Development.
2. Reviewer in reputed journals of Springer, Taylor and Francis and Elsevier.
Delivered radio talks shows on environmental issues, scientific innovations and research development.

REFERENCES

1. Dr. Munir Ozturk, Professor, Department of Botany, Ege University, Izmir, Turkey. Email: munirozturk@gmail.com.
2. Dr. Salih Gucl, Professor, Yakın Doğu Üniversitesi, Near East University, Çevre Araştırmaları Enstitüsü, Environmental Research Institute. Email: sgucel@hotmail.com.
3. Dr. Parvaiz Ahmed, Professor, Department of Botany and Microbiology, College of Sciences, King Saud University, Riyadh, Saudi Arabia. Email id: parvaizbot@gmail.com.
4. Dr. Nazia Abbas. Scientist. Indian Institute of Integrative Medicine, Division of biotechnology. Srinagar, Jammu and Kashmir, India. Email id: nazia.abbas@iiim.ac.in.
5. Alvina Gul, Department of Agronomy, Kansas State University, USA. Email: alvina_gul@yahoo.com.
6. Dilfuza Egamberdieva. Leibniz Centre for Agricultural Landscape Research (ZALF), Institute of Landscape and Biogeochemistry, 15374 Munchenberg, Germany, Email: egaamberdieva@yahoo.com

