

# Dr. Basit Gulzar

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**Dr. Basit Gulzar**  
**Ph.D Botany**  
**Registration No: 2012-509-005**  
**Department of Botany, Hamdard University**  
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**Personal Details:**  
**Permanent Address:**  
Checki-Cholland, Herman,  
Shopian, Jammu and Kashmir,  
India  
**Date of Birth: 14-10-1990**

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## Current position:

- Lecturer Botany (Academic Arrangement). Govt. Degree College, Kulgam

## Teaching experience:

- GDC kulgam (UG courses) from 1<sup>st</sup> May 2020 continued.
- Jamia Hamdard (PG courses) from Aug 2016 to Dec 2019.
- Jamia Hamdard (MSc. dissertations) from Aug 2016 to Dec 2019.
- Special classes/Guest lectures (NEET) from Dec 2016 to 2019.

## Awards

- CSIR-UGC-JRF, 2015..... All India Rank 12.
- JKSET, 2016

## Academic Qualifications:

Qualification	Subject	University/Board	Date
Ph.D	Botany	Jamia Hamdard	2020
MSc	Botany	Jamia Hamdard	2014
BSc	Botany, Zoology, Seed Technology, General English	University of Kashmir	2011
XII	Botany, Zoology, Chemistry, General English	JKBOSE	2008
X	Science, Math, Urdu, General English, Social Studies	JKBOSE	2006

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**Skills:**

- Plant Tissue Culture
- Establishment of Cell Cultures
- Protoplast Isolation and Fusion
- Micropropagation
- Somatic Embryogenesis
- Proteomics
- Molecular Biology
- Relevant Techniques and instrument Handling

**Teaching:**

- Plant physiology
- Cell Biology
- Molecular Biology
- Plant Biotechnology
- Ecology
- Genetics

**Publications:**

1. **Basit Gulzar** et al. (2021). Shotgun label-free proteomic and biochemical study of somatic embryos (cotyledonary and maturation stage) in *Catharanthus roseus* (L.) G. Don. 3Biotech. DOI: 10.1007/s13205-021-02649-3
2. B Ejaz, A Mujib, J Mamgain, MQ Malik, R Syeed, **B Gulzar**, Y Bansal (2021). Comprehensive in vitro regeneration study with SCoT marker assisted clonal stability assessment and flow cytometric genome size analysis of *Carthamus tinctorius* L.: an important medicinal plant. *Plant Cell, Tissue and Organ Culture (PCTOC)*, 1-16
3. Z Mushtaq, S Faizan, **B Gulzar**, H Mushtaq (2021). Role of AM Fungi and PGPR in Alleviating Stress Responses and Inducing Defense Mechanism. *Plant Growth Regulators: Signalling Under Stress Conditions*, 355.
4. R Syeed, A Mujib, MQ Malik, **B Gulzar**, N Zafar, J Mamgain, B Ejaz (2021). Direct somatic embryogenesis and flow cytometric assessment of ploidy stability in regenerants of *Caladium × hortulanum* ‘Fancy’. *Journal of Applied Genetics*, 1-13.
5. Zeenat Mushtaq, Shahla Faizan, **Basit Gulzar**, Humira Mushtaq, Sayyada Bushra, Alisha Hussain, Khalid Rehman Hakeem (2021). Changes in Growth, Photosynthetic Pigments, Cell Viability, Lipid Peroxidation and Antioxidant Defense System in Two Varieties of Chickpea (*Cicer arietinum* L.) Subjected to Salinity Stress. *Phyton* 91 (1), 149.
6. **Basit Gulzar**, Mujib A et al. (2020). Old *Catharanthus roseus* culture (14 years) produced somatic embryos and plants and showed normal genome size; demonstrated an increased antioxidant defense mechanism; and synthesized stress proteins as biochemical, proteomics, and flow-cytometry studies reveal. DOI:10.1007/s13353-020-00590-4
7. **Basit Gulzar**, Abdul Mujib, Manchikatla V. Rajam, Arajmand Fruk, Nadia Zafar (2019). Identification of somatic embryogenesis (SE) related proteins through label-free shotgun proteomic method and cellular role in *Catharanthus roseus* (L.) G. Don. *Plant Cell Tiss Organ Cult.* <https://doi.org/10.1007/s11240-019-01563-0>
8. **Basit Gulzar**, Mujib A et al. Genes, proteins and other networks regulating somatic embryogenesis in plants. [doi.org/10.1186/s43141-020-00047-5](https://doi.org/10.1186/s43141-020-00047-5)
9. **Basit Gulzar**, Mujib A et al. *Plant tissue culture: Agriculture and Industrial applications.*

10. Zeenat Mushtaq, Shahla Faizan, **Basit Gulzar** and Khalid Rehman Hakeem (2020) Inoculation of rhizobium alleviates salinity stress through modulation of growth characteristics, physiological and biochemical attributes, stomatal activities and antioxidant defence in *Cicer arietinum* L. Journal of Plant Growth Regulation. DOI: 10.1007/s00344-020-10267-1
11. Moien Qadir Malik, A. Mujib, **Basit Gulzar**, Nadia Zafar, Rukaya Syeed, Jyoti Mamgain, Bushra Ejaz, Kanchan (2020). Enrichment of alliin in different *in vitro* grown tissues of *Allium sativum* through CdCl<sub>2</sub> elicitation as revealed by high performance thin layer chromatography (HPTLC). Industrial Crops & Products doi.org/10.1016/j.indcrop.2020.113007
12. N Zafar, A Mujib, M Ali, D Tonk, **B Gulzar**, MQ Malik, J Mamgain (2020). Cadmium chloride (CdCl<sub>2</sub>) elicitation improves reserpine and ajmalicine yield in *Rauvolfia serpentina* as revealed by high-performance thin-layer chromatography (HPTLC). 3 Biotech 10 (8), 1-14.
13. Abdul Mujib, Dipti Tonk, **Basit Gulzar**, Mehpara Maqsood, Muzamil Ali (2020). Quantification of taxol by high-performance thin layer chromatography in *Taxus wallichiana* callus cultivated *in vitro*. BioTechnologia. doi.org/10.5114/bta.2020.100425
14. Zeenat Mushtaq, Shahla Faizan, **Basit Gulzar** (2020). Salt stress, its impacts on plants and the strategies plants are employing against it: A review. Journal of Applied Biology & Biotechnology. DOI: 10.7324/JABB.2020.80315
15. Muzamil Ali, A. Mujib, Nadia Zafar, **Basit Gulzar** (2019). Coriandrum sativum- a plant of health benefits and biotechnological applications for improvement.
16. Moien Qadir Malik, A. Mujib, **Basit Gulzar**, Nadia Zafar, Rukaya Syeed, Jyoti Mamgain and Bushra Ejaz (2019). Genome size analysis of field grown and somatic embryo regenerated plants in *Allium sativum* L. Journal of Applied Genetics doi.org/10.1007/s13353-019-00536-5.s
17. Muzamil Ali, Abdul Mujib, **Basit Gulzar**, Nadia Zafar (2019). Essential oil yield estimation by Gas chromatography–mass spectrometry (GC–MS) after Methyl jasmonate (MeJA) elicitation in *in vitro* cultivated tissues of *Coriandrum sativum* L. 3 Biotech 9:414 <https://doi.org/10.1007/s13205-019-1936-9>
18. Nadia Zafar, A. Mujib, Muzamil Ali, Dipti Tonk, **Basit Gulzar**, Moien Malik, Rukaya Sayeed, Jyoti Mamgain (2019). Genome size analysis of field grown and tissue culture regenerated *Rauvolfia serpentina* (L) by flow cytometry: Histology and scanning electron microscopic study for *in vitro* morphogenesis. Industrial Crops & Products. 128 (2019) 545–555.
19. Nadia Zafar, A. Mujib, Muzamil Ali, Dipti Tonk, **Basit Gulzar** (2017). Aluminum chloride elicitation (amendment) improves callus biomass growth and reserpine yield in *Rauvolfia serpentina* leaf callus. Plant Cell Tiss Organ Cult.130:357–368 DOI 10.1007/s11240-017-1230-7
20. A. Mujib, Tanu Pipal, Muzamil Ali, Dipti Tonk, Nadia Zafar, **Basit Gulzar** (2017). *In vitro* propagation of *Althaea officinalis*: The role of plant growth regulators in morphogenesis. BioTechnologia. 98(3)167-173.

#### Conferences Attended:

1. Oral presentation: **Basit Gulzar**. Comparative study of old culture (14 years old) and newly established (8 months old) in *Catharanthus roseus* (L.) G. Don. Emerging trends in biomaterial, bio-imaging, bioscience, bioinformatics, biomedical engineering, cancer biology, stem cell research, cell apoptosis and applied biotechnology (BCS-2020). JNU India.

2. Oral presentation: **Basit Gulzar**. Comparative shotgun proteomic study of cotyledonary and maturation stages of somatic embryogenesis in *Catharanthus roseus* (L.) G. Don. Global environmental challenges human health and sustainable development (2019). JNU India.
3. Poster presentation: **Basit Gulzar**. XIV agricultural science congress: innovations for agricultural transformation (2019). New Delhi.
4. Poster presentation: **Basit Gulzar**. Sixth international conference on plants and environmental pollution (2018). CSIR-NBRI Lucknow.
5. Participation: **Basit Gulzar**. UGC-SAP sponsored national seminar on “medicinal PLANTS RESEARCH: RETROSPECT AND PROSPECT” at Hamdard University, India 2014.
6. Participation: **Basit Gulzar**. UGC-SAP sponsored national seminar on “MEDICINAL PLANTS AND THEIR CHARACTERIZATION” at Hamdard University, India 2013.

**Online courses:** Four