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## Major Publications

Rafique, N., Bashir, S., **Khan, M.Z.**, Hayat, I., Orts, W., Wong, D.W.S. (2021). Metabolic engineering of *Bacillus subtilis* with an endopolygalacturonase gene isolated from *Pectobacterium. carotovorum*; a plant pathogenic bacterial strain. PLOS ONE. PLOS ONE; 16(12):e0256562:01-20.

**Khan, M. Z.**, Takemura, M., Maoka, T., Otani, M., and Misawa, N. (2016). Carotenoid analysis of sweetpotato *Ipomoea batatas* and functional identification of its lycopene  $\beta$ - and  $\epsilon$ -cyclase genes. *Z. Naturforsch. C*, 71 (9-10): 313-322.

Maoka, T., Otani, M., **Khan, M. Zubair**, Takemura, M., Hattan, J., and Misawa, N. (2016). Novel carotenoids produced on the interaction of the foreign carotenoid ketolase *CrtW* and endogenous epoxycarotenoids unique to sweetpotato tubers. *Tetrahedron Lett.*, 57 (42): 4746-4748.

Ahmad, S.D., Sabir, S.M. and **Zubair, M.** (2006). Ecotypes diversity in autumn olive (*Elaeagnus umbellata Thunb.*): a single plant with multiple micronutrient genes. *Chemistry and Ecology*, 22: 509–521.

**Khan, M. Zubair**, Takemura, M., and Misawa, N. (2021). Functional identification of cytochrome P450 genes involved in carotenoid biosynthesis in sweetpotato *Ipomoea batatas*. (Latest Submission).

Sabir, S. M., Khalid, R., **Khan M. Z.**, Sarfraz, R., Akbar, N. (2021). Phytochemical analysis, antioxidant and inhibitory effect of *Ficus carica* fruit and leaves extracts International Journal of Food Science and Technology.[ Latest Submission].

Shah,A. H., **Khan, M. Z.**, Zahid, S., Jannat, S., Rasheed, S., Ishaque, Z. (2021).Phytochemistry and bioactivity of Barberry (*Berberis lycium* R.) fruit at a glance: a multipurpose gift of nature flourishing in beautiful mountains of Kashmir. Saudi Journal of Biological Sciences. [Latest Submission].

Khan, S. B. Awan, M. S., Farrukh, M. A., Khan, S. A., Imran Hayat, Mushtaq M. H., Hussain, I., Rafique, N., Ijaz, R., , **Khan, M. Z.**, Shamim, A. (2021). In-vivo and in-vitro assimilation and toxicity of zinc oxide nanoparticles in food materials. Pharmaceuticals. [Latest Submission].

## Books/Book Chapters

**Muhammad Zubair Khan**, Norihiko Misawa, Miho Takemura, Takahashi Maoka, Motoyasu Otani, Jun-Ichiro Hattan (2021). Molecular Breeding of Sweetpotato Carotenoids. In: Food Additives.A Book Edited by Dr. Miguel Ángel Prieto Lage editor (s) IntechOpen Publishers. ISBN 978-1-83968-960-4 [In Press: Accepted Book Chapter].

Syed Dilnawaz Gerdezi and **Muhammad Zubair Khan**. (2010). Autumn Olive a Medicinal Plant from Azad Jammu & Kashmir; ©LAP Lambert Academic Publishing AG and Co., KG.DudweilerLandster.Saarbrucken, Germany. p., 1-128. ISBN: 978-3-8383-5979-3.

## PhD Thesis

**Muhammad Zubair Khan**. 2017. Functional analysis of carotenoid biosynthesis genes in sweetpotato *Ipomoea batatas* (サツマイモ *Ipomoea batatas* 由来カロテノイド生合成遺伝子の機能解析), *PhD Thesis*. Rseacrh Institute for Bioresources and Biotechnology, Ishikawa Prefectural University, Ishikawa, Japan (Approved manuscript for the ceremonial issuance of degree on 21<sup>st</sup> March, 2017).

## MSc (Hons) Thesis

Hybridization of Elite Autumn Olive (*Elaeagnus umbellata* Thunb.) Ecotypes for the Improvement of Medicinally Important Biochemicals.

## Conferences Presentations/Papers

**Muhammad Zubair Khan** and Asad Hussain Shah (2021). Biochemical characterization of beta-carotene contents in sweet potato (*Ipomoea batatas*) cultivars grown in Pakistan. Oral Presentation in: 1<sup>st</sup> virtual international conference on carotenoids [VICC 2021] Organised by; International Carotenoids Society, in Collaboration with Case Western Reserve University in Cleveland, Ohio, USA, June 22-25. Abstract no. 22, p. 55.

**Muhammad Zubair Khan**, Miho Takemura, Takashi Maoka, Motoyasu Otani and Norihiko Misawa. (2019). Metabolic screening of carotenoids and elucidation of a carotenoids metabolic pathway in sweetpotato (*Ipomoea batatas*). E-Poster Presentation in: 15th International Conference and Exhibition on Metabolomics & Systems Biology, April 29-30, 2019 in Kyoto, Japan.

**Muhammad Zubair Khan**, Norihiko Misawa, Miho Takemura, Motoyasu Otani, Jun-ichiro Hattan. (2018). Isolation, sequencing and functional identification of carotenoids biosynthetic pathway genes in sweetpotato (*Ipomoea batatas* L) by *E. coli* heterologous gene complementation expression system. International Conference on Natural Sciences at the Interface of Climate Change, Food Security and Sustainability (NSICFSS) 24-26th October 2018, Faculty of Sciences, University of Kotli Azad Jammu and Kashmir.

**Muhammad Zubair Khan**, Miho Takemura, Motoyasu Otani, Jun-ichiro Hattan, Norihiko Misawa. (2016). Isolation and functional characterization of carotenoid cyclase genes from sweetpotato plants. A Poster Presentation, In: The 2016 Annual Conference of the Japan Society for Bioscience, Biotechnology and Agrochemistry, March 27-31, 2016. Sapporo Convention Center; Sapporo Bushiness Innovation Center, Hokkaido, Japan.

**M. Zubair**, S. D. Ahmed, and Abdul Qayyum. (2010). Clinical based evaluation of Autumn – Olive (*Elaeagnus umbellata* Thunb.) For Antibacterial, Antihypertensive, and Anti-Cancer Activities. In: *International Conference on Utilization of Modern Agriculture Technology in Changing Environmental Perspective*. 21-23 July, 2010. Faculty of Agriculture Rawalakot, the University of Azad Jammu and Kashmir.

Ahmed, S. D., M. Sabir and **M. Zubair**. (2006). Autumn-olive, a single source of multiple micronutrient genes for cereal bio-fortification. *National Symposium on Biotechnology for Economic Prosperity* July 24-26, 2006. National Commission on Biotechnology, Ministry of Science and Technology, Nathiagali, Pakistan.

Ahmad, S.D., Sabir, M., and **Zubair. M.** (2005). Morphological and Biochemical Variation in *Elaeagnus umbellata* Thunb. Populations; a Multipurpose Plant for Sustainable Development of Fragile Mountains of Pakistan. *PLANT GENETICS. In: Proceedings of the 6<sup>th</sup> National Congress on Genetics*, 12-14 May 2005, Kuala Lumpur, Malaysia.