Curriculum Vitae

Personal information

Name	Dr. Usman Arif
Designation	Assistant Professor
Institute	Centre of Excellence in Molecular Biology, University of the Punjab, Lahore
Nationality	Pakistani
Cell phone	03328155271
Email ID	usman.arif@cemb.edu.pk

Area of specialization: Synthetic Biology and Metabolic engineering, Plant Stress Biology, Secondary metabolism, Plant Molecular Biology and Analytical Chemistry

Academic Information

2019-present	Assistant Professor (TTS)	Centre of Excellence in Molecular Biology (CEMB), Lahore
2018-2019	Research scholar	The University of Arizona, Tucson, Arizona, USA
2017-2018	Assistant Professor (IPFP)	Centre of Excellence in Molecular Biology (CEMB), Lahore
2016-2017	Reseacher	Biolamina, Stockholm, Sweden
2014-2016	Postdoc (Protein Technology)	Royal Institute of Technology (KTH), Stockholm, Sweden
2008-2013	PhD (Cell Biology)	Swedish University of Agricultural Sciences, Uppsala, Sweden

Training/Courses

Cell metabolism
Cell culturing
Genetic Engineering
Secondary metabolites
Analytical chemistry
qPCR analysis
Confocal Microscopy
Phylogenetic analysis
Host-Microbe interactions
Human pathology
Environmental Impact Assessment
Information retrieval and scientific communication
Research Ethics
Applicable bioinformatics
Python language

Reviewer

'New Phytologist' and *'Journal of Agriculture and Food Chemistry'*

Lab skills

RNA/DNA isolation
cDNA synthesis
PCR, RT-PCR, Q-PCR, RCA
Vector construction, DNA cloning
Primary cell culturing and subculturing
Gene overexpression and dsRNA-mediated gene silencing
Protein expression in *E.coli and* Yeast *(Pichia pastoris)*
SDS-PAGE and Western blotting
Protein purification, enzyme assays
Agro-electroporation, agro-infiltration, Agrobacterium-mediated plant transformations
TLC, GC-MS
HPLC
Tissue culturing
In situ hybridization
Light and confocal microscope
GUS-staining, promoter sequences analysis
Cell-suspension culture and isotope labeling
Phylogenetic analysis
Applicable Bioinformatics
Python

Teaching Experience

2021-2022	Molecular Biology	Centre of Excellence in Molecular Biology, Punjab University, Lahore
2021-2022	Cell Biology	Centre of Excellence in Molecular Biology, Punjab University, Lahore
2020-2021	Molecular Biology	Centre of Excellence in Molecular Biology, Punjab University, Lahore
2020-2021	Cell Biology	Centre of Excellence in Molecular Biology, Punjab University, Lahore
2019-2020	Cell Biology	Centre of Excellence in Molecular Biology, Punjab University, Lahore
March 2018	Synthetic Biology	Estonian University of Life Sciences, Tartu, Estonia
Jan-Feb2018	Metabolic Engineering	Centre of Excellence in Molecular Biology, Punjab University, Lahore
2015/2016	Cell Factory	Royal Institute of Technology (KTH), Stockholm, Sweden
2012/2013	Plant metabolism	Swedish University of Agricultural Sciences, Uppsala, Sweden
2010/2011	Genetic Engineering	Swedish University of Agricultural Sciences, Uppsala, Sweden

Awards/Grants

1. 2022 Research Grant, NRPU, HEC, 2022
2. 2022 Research funding, Eurofins, 2022, Tartu, Estonia
3. 2021 Research funds, Estonian University of Life Sciences, Tartu. Estonia
4. 2019 Postdoc grant, School of Plant Science, University of Arizona, Tucson
5. 2018 Invited speaker, Estonian University of Life Sciences, Tartu, Estonia under European Union financed project ASTRA ‘ ’*Value-Chain based bio-economy*’ ’
6. 2014 Postdoc stipend at Royal Institute of Technology, Stockholm, Sweden
7. 2012 Awarded research grant 100,000 SEK from “Nilsson-Ehle Foundation Sweden.
8. 2012 Awarded with travelling grant 17000 SEK for “Internationalization of PhD Students” SLU, Uppsala, Sweden
9. 2008-2011 Awarded with research grant 125000 SEK from “Nilson-Ehle Foundation” SLU, Sweden.
10. 2008-2012 Awarded stipend for PhD studies by Si/HEC, Sweden.

International Conferences/Meetings

1. 4th International Symposium on Advances in Molecular Biology of Plants and Health Sciences, Dec. 23-24, 2022
2. Value Chain Based Bio-economy, 17-07-2021, Tartu, Estonia
3. Workshop at Testa Centre for Academia, 3-5-2021 Uppsala, Sweden
4. Plant Biology 2016, USA
5. TERPNET2013, Crete, Greece (Poster)
6. Plant Biology 2012, Texas, USA (Oral Presentation)
7. Linnaean Centre for Plant Biology Workshop, 2011, Uppsala, Sweden (Poster)
8. LIPIDS meeting 2008, Uppsala, Sweden (Poster presentation)

Selected Publications

1. Knock down of ecdysteroid synthesis genes results in impaired molting and high mortality in *Bactericera cockerelli* (Hemiptera : Triozidae). Jorge R Paredes, **Usman Arif**, Judith Brown, 2022. ***Pest Management Sciences***. https://onlinelibrary.wiley.com/doi/full/10.1002/ps.6848

2. Transcript profiling of two potato cultivars during glycoalkaloid inducing treatments shows differential expression of genes in sterol and glycoalkaloid metabolism**.** Nuran Nahar, Erik V. Petersson, **Usman Arif**, Lisa Beste, Kerstin Dahlman, Paresh Dutta, Lisbeth Jonsson, Folke Sitbon, 2017. **Nature**. DOI: 10.1038/srep43268. http://www.nature.com/articles/srep43268

3. Glycoalkaloid and Calystegine levels in table potato cultivars subjected to wounding, light and heat treatments.**Usman Arif**[#], Erik V. Petersson[#], Vera Schulzova, Veronika Krtkova, Jana Hajslova, Johan Meijer, Hans Christer Andersson, Lisbeth Jonsson, Folke Sitbon, 2013. ***Journal of Agriculture and Food Chemistry***. DOI: 10.1021/jf400318p (**[#]Joint first author**). http://pubs.acs.org/doi/abs/10.1021/jf400318p

4. Infectivity of *Tomato Yellow Leaf Curl Virus* isolated from imported tomato fruit in Estonia. Kadri Just, Muhammad Naeem Sattar, **Usman Arif,** Anne Luik, Anders Kvarnheden, 2017.. ***Zemdirbyste-Agriculture*** 104: 47-52. http://www.zemdirbyste-agriculture.lt/1041_str7/

5. Monitoring infection of tomato fruit by *Tomato yellow leaf curl virus*. Kadri Just, **Usman Arif**, Anne Luik**,** Anders Kvarnheden, 2016. ***Plant Pathology*****.** DOI: 10. 1111/ppa. 12596. http://onlinelibrary.wiley.com/doi/10.1111/ppa.12596/abstract

6. First Report of *Tomato Leaf Curl New Dehli Virus* infecting Tomato and Cucumber in Estonia. K. Just,R. Allika,P. van der Sman, **U. Arif**, B. Ilau,R. Koidumaa,H. Lasner,V. Ermakovich,J. Bukštunovitš,A. Kvarnheden. **2022**. ***New Disease Report.*** https://bsppjournals.onlinelibrary.wiley.com/doi/10.1002/ndr2.12083

7. Trackable CEMB-Klean Cotton Transgenic Technology: Affordable Climate Neutral Agri-biotech Industrialization for Developing Countries. Zahida Qamar[1,]*,..Usman Arif[13], Khurram Bashir[14], Arshad Jamal[15], Shahid Javed Butt[9], Asif Arif[16], Irshad Ahmad[17], Abdul Qayyum Rao[1], Muhammad Saleem Haider[18], Tassawar Hussain Malik[19], Idrees Ahmad Nasir[1.]. ***Advancement in Life Sciences***. Adv. life sci., vol. 6, no. 3, pp. 131-138, May 2019. http://www.als-journal.com/638-19/

8. Implementation of nanofertilizers to bring a revolution in sustainable agriculture. Basharat Ali, Javed Iqbal, Sidra Sarwar, **Usman Arif***, Muhammad Zafar Abbas, Umar Farid, Moomna Afzal, Madeeha Saman. 2021. ***International Research Journal of Modernization in Engineering Technology and Science.*** **https://www.irjmets.com/uploadedfiles/paper/volume_3/issue_9_september_2021/16458/final/fin_irjmets1634452404.pdf**

9. A comprehensive study of epicuticular wax biosynthesis mechanisms and the related genes. Basharat Ali, Muhammad Yasir, Javed Iqbal, Sidra Sarwar, Muhammad Zafar Abbas, Muhammad Umar Farid, Moomna Afzal, **Usman Arif***. 2021. *International Research Journal of Modernization in Engineering Technology and Science*. **https://www.irjmets.com/uploadedfiles/paper/volume_3/issue_10_october_2021/16689/final/fin_irjmets1634574539.pdf**

10. Effect of wounding and light exposure on sterol, glycoalkaloid, and calystegine levels in potato plants (*Solanum tuberosum* L. group Tuberosum)**. Arif, Usman** (2013). Diss. (sammanfattning/summary) Uppsala: Sveriges lantbruksuniv, Acta Universitatis agriculturae Sueciae, 1652-6880; 2013:45 ISBN 978-91-576-7829-4.
http://pub.epsilon.slu.se/10442/

Languages

English----- Fully proficient
Swedish---- Fluent
Urdu ---- Native

Current References

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