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Name	Shahjahan Shabbir Ahmed Rana	
Designation	Professor / Deputy Director China Study Center (CPEC)	
Department	Department of Biotechnology (FLS&I)	
Research Profile	ORCID ID: 0000-0001-6838-5929 https://orcid.org/my-orcid?orcid=0000-0001-6838-5929	
	Research Gate ID: Shahjahan Shabbir Ahmed Rana https://www.researchgate.net/profile/Shahjahan-Shabbir-Ahmed-Rana-2	
	Google Scholar Profile ID: Prof. Shahjahan Shabbir Ahmed Rana https://scholar.google.com.tw/citations?hl=en&user=7vXeZS8AAAAJ	
	Scopus ID: Shahjahan Rana https://www.scopus.com/sources.uri?zone=TopNavBar&origin=	
	Web of Science ID: AFT-6286-2022 https://www.webofscience.com/wos/author/search	
E-mail address	Official	Shahjahan.shabbir@buitms.edu.pk
	Personal	Shahjahan237@gmail.com
Telephone Number	Office Extension	+92-81-111 717 111 Ext: (635 & 112)
	Mobile	+92-300-3878199, +92-332-7918587
	Residential	+92-81-2501112, +92-81-2844448
Date of Birth	18th of September, 1980	

Qualification

Year	Degree/Certificate	Name of the Institute / University	Field of study
2012	PhD	Northwest A&F University, Yangling, Shaanxi, P.R. China.	Horticulture / Plant Biotechnology
2005	M.Sc. (Hons)	University of Agriculture, Faisalabad, Pakistan.	Horticulture / Olericulture
2003	B.Sc. (Hons)	PMAS-University of Arid Agriculture, Rawalpindi, Pakistan.	Horticulture / Olericulture
1998	Intermediate	Tameer -i- Nau Public College, Quetta, Pakistan.	Medical / Additional Math
1996	Matriculation	Tameer -i- Nau Public School, Quetta, Pakistan.	Science

Publications in HEC Recognized journals				
No.	**Title of Paper**	**Name of Journal**	**National/ International**	**Publication Year**
1	Chen, R.G., Yang, R.P., Gong, Z.H., Li, D.W., **SS Ahmed** (2010). Cloning and Sequence Analysis of the Polygalacturonase Gene *CaPG* in Pepper. Acta Botanica Boreal-Occidentalia Sinica. 30: 1941-1945.	Acta Botanica Boreal-Occidentalia Sinica.	International	2010
2	**Ahmed SS**, Z.H. Gong., M.A. Khan., Y.X. Yin, W.L. Guo, J. Imran (2011). Activity and Expression of Polygalacturonase vary at different Fruit Ripening Stages of Sweet Pepper Cultivars. Genet. Mol. Res. 10 (4): 3275 – 3290.	Genet. Mol. Res.	International	2011
3	**Ahmed SS**, Z.H. Gong, J.J. Ji, YX. Yin, H.J. Xiao, M.A. Khan, A. Rehman and I. Ahmed (2011). Construction of an intermediate vector pVBG2307 by incorporating some vital elements of expression vectors pBI121 and pBI221. Genet. Mol. Res. 11 (3): 3091-3104.	Genet. Mol. Res.	International	2012
4	Khan, M.A., Z.H. Cheng, X.M. Xioa, A.R. Khan, **Ahmed SS** (2011). Ultrastructural studies of the Inhibition effect against *Phytophthora capsici* of root exudates collected from two garlic cultivars along with their qualitative analysis. Crop Protection, 30: 1149-1155.	Crop Protection (Elsevier)	International	2011
5	Guo, W.L., Chen R.G., **Ahmed SS,** Yin, Y.Y., Lu, M.H., Huang, W., Li, D.W., Z.H., Gong (2012). Exogenous abscisic acid on both the ascorbate–glutathione cycle and the activity of antioxidant enzymes in pepper leaves during chilling stress. Genet. Mol. Res. 11 (4): 4063-4080.	Genet. Mol. Res.	International	2012
6	Zhao, H.F., Huang, W., **Ahmed SS,** Gong, Z.H., L.M., Zhao (2012). The pollen walls and tapetum are altered in cytoplasmic male sterile line RC_7 of Chinese cabbage (*Brassica campestris* L. ssp. *pekinensis*). Genet. Mol. Res. 11 (4): 4145-4156.	Genet. Mol. Res.	International	2012
7	Ma, Y., Huang, W., Ji, J.J, Gong, Z.H, Yin, C.C, **Ahmed SS**, and Zhao, Z.L, (2013). Maintaining and restoring cytoplasmic-genic male sterility systems in pepper (*Capsicum annuum* L.). GMR, 12(3): 2320-2331.	Genet. Mol. Res.	International	2013
8	**Ahmed SS**, Khan M. A., Sani I. A., Sharif M., Naeem M., Sarwat A., Ahmed N. (2013). Impact of Phosphorus Levels on Vegetative Growth and seed yield of lettuce (*Lactuca sativa* L.) cultivars. ÇOMÜ Ziraat Fakültesi Dergisi (COMU Journal of Agriculture	Journal of Agriculture Faculty	International	2013

	Faculty) 1 (1): 95–100.			
9	Imran AS, **Ahmed SS**, Ahmed N, Shahwani MN, Yousafzai A, Afridi S, Mehmood Z, and Khan AG (2013). *In vitro* Hybridization of Tomato (*Solanum lycopersicum* L.). *J. App. Em. Sc.* 4(2): 94- 98.	Journal of Applied and Emerging Sciences	National	2013
10	**Ahmed SS**, Ahmed N., Sani I A., Naeem M., Saeed M., and Khan M. A., (2013). Construction of expression vector pVBG2307 by adding transcription initiation and termination elements. J Applied and Emerging Sciences, BUITEMS. 4(1): 1-9.	Journal of Applied and Emerging Sciences	National	2013
11	Mohammad S., Shahwani M.N., **Ahmed SS,** Ahmed N., Shaheen G., and Raza A.M., (2013.) Somatic embryogenesis and organaosenesis from embryonic explants of *Pinus gerardiana*. Wall. Ex lamb. J Applied and Emerging Sciences, BUITEMS. 4(1): 33-36.	Journal of Applied and Emerging Sciences	National	2013
12	Ahmed F., Baloch D.M., Sadiq S.A., **Ahmed SS**, Hanan A.,Taran S.A., Ahmed N. and Hassan M.J. (2014). Plant Growth Regulators Induced Drought Tolerance in Sunflower (*Helianthus annuus* L.) Hybrids. Journal of Animal and Plant Sciences, Volume: 24(3): 886-890.	Journal of Animal and Plant Sciences (JAPS)	National	2014
13	Sarwar A, Sajjid I, Riaz R, Rehman F, **Ahmed SS**, Shahwani N, Naseem M, Ahmad N and Mushtaq M (2014). Bacterial Community Profiles in Rhizosphere of Paddy Rice based on 16S rRNA Sequence Analysis. Int. J. Biol. Biotech. 12(1): 11-19.	International Journal of Biology and Biotechnology	International	2014
14	Khan AR, Cheng ZH, Ghazanfar B, Khan MA, **Ahmad SS** and Ahmad I (2015). Acetyl salicylic acid and 24-epibrassinolide attenuate decline in photosynthesis, chlorophyll contents and membrane thermo stability in tomato (*Lycopersicon esculentum*) under heat stress. Pak. J. Bot. 47 (1): 63-70.	Pskistan Journal of Botany	International	2015
15	Agha SA, Shafique A, Muhammad A, Sara N, **Ahmed SS**, Habib YM and Muhammad S (2014). *In vitro* antimicrobial activity of *Rose marium officinalis* essential oil cultivated in Balochistan. Pakistan. J. App. Em. Sc. 5:(1):66-69.	Journal of Applied and Emerging Sciences	National	2014
16	**Ahmed SS**, HU Ahmed, IA Sani, N Ahmed, AG Khan, S Aziz, AR Reki, and A Rehman. (2016).	Journal of Applied and	National	2016

	Detection and amplification of E8 promoter in tomato plant and sequencing of the E8 gene. 6(1): 14-17.	Emerging Sciences		
17	Batool BT, Tareen A, **Ahmed SS**, Ijaz H, Kakar MA, Rehman SA, Saeed M, Ahmad Z, Tariq MM, Awan MA, and MN Shahwani (2017). Prevalence of Zoonotic Tuberculosis and Brucellosis in Animals of Quetta and Pishin Districts, Balochistan. 49(1):387-389.	Pakistan Journal of Zoology (PJZ)	International	2017
18	Ahmed N, **Ahmed SS**, F Rehman, M Naeem, M Saeed, I Ali (2016). Comparative Microarray Data Analysis of Arabidopsis Genome during Interaction with Mutualistic and Pathogenic Bacteria. Int. J. Biosci. 9(4), 281-291, October 2016.	International Journal of Biosciences	International	2016
19	Furqan AK, N Ahmed, A Mateen, R Abdullah, **Ahmed SS**, S Muhammad, N Ahmed, NS Muhammad (2016). Effect of various concentrations of Indolebutyric acid and plantation techniques on rooting performance of grapes germplasm. Int. J. Biosci. 9(6), 393-403, December 2016.	International Journal of Biosciences	International	2016
20	Irfan S, Rani S, Sani IA, Irfan H, **Ahmed SS**, Ahmed N, Shahwani MN, Yousafzai A, Ahmed U, Aziz S, Irshad MN and Fazal S (2016). Leaves and Flowers Insecticidal Activity Investigation of *Salvia officinalis* L. against *Sitophilus oryzae* L. ÇOMÜ Ziraat Fakültesi Dergisi J. Agric. Fac. 4(2): 105-108.	COMU Journal of Agriculture Faculty	International	2016
21	Sani IA, **Ahmed SS**, Zafar M, Ahmed N, Shahwai MN, Yousafzai A, Irfan S, Ahmed U, Aziz S, Khan AG, Irshad MN, Jhon D and Ibrar R (2016). Biological Control of Insect Pests Using Trichogramma minutum as Biological Control Agent in the Vicinity of (BUITEMS). COMU J. Agric. Fac. 4(2): 95-103.	COMU Journal of Agriculture Faculty	International	2016
22	Muhammad HK, Muhammad S, Muhammad NS, **Ahmed SS**, G Shaheen, A Yousafzai (2017). Seed and cone biometry of *Juniperus excelsa* from three Provenances in Balochistan. Int. J. Biosci. 10(1), 345-355.	International Journal of Biosciences	International	2017
23	Tahir F, **Ahmed SS**, Ahmed N, Sani IA, Shahwani MN, Saeed M, Rashid M, Ahmed U (2017). Copper Resistant Bacteria at Coal Mines Sorrange Balochistan. Int. J. Biosci. 10(3), 288-296.	International Journal of Biosciences	International	2017
24	Mushtaq A, Nelofer J, Musarrat R, Louis H, Nazeer A, **Ahmed SS**, Shahwani MN and Malghani MN (2017). Synthesis of Silica Nanoparticles and their effect on priming of	Biological Forum-An International Journal	International	2017

	wheat (*Triticum aestivum* L.) under salinity stress. Biological Forum (Int. J). 9(1), 1-8.			
25	Ahmed U, Khalid M, Zohra K, **Ahmed SS**, Imran AS, Nazeer A, Ashif S, Zahid M and Mohammad A (2017). Physiochemical Characteristics and Fatty Acid Composition of *Amygdalus* spinosissima Seed Oil from Balochistan. Indo Am. J. P. Sci: 9(4) 2255-2261.	IAJPS	International	2017
26	**Shahjahan SAR**, Ihsan U, Irfan S and Ahmed N (2017). Examining H_2O_2 Production in Arabidopsis Leaves Upon Challenge by Cytokinin. Springer Protocols. 159-163.	Springer Protocols (Methods in Molecular Biology)	International	2017
27	Malik A, Khan A, Asrar M, **Ahmed SS**, Ismail T, Ponya Z, Rahman S, Khan AK, Sarangzai AT (2018). Households wastewater effects on medicinal plant (*Achillea santolina* L.) and its soil characteristics. Int. J. Bio: 13(05) 389-401.	International Journal of Biosciences	International	2018
28	Aziz S, Imran AS, Yue JL, **Ahmed SS**, Nazeer A, Nisar A, Dawood S & Sajid N (2019). Biological control of Insect Pests using *Trichogramma minutum* as Biological control agent against Thrips on Roses. IAJPBB, 10(06): 12728-12734.	Indo American Journal of Pharmaceutical Sciences	International	2019
29	Kakar A, Saeed URK, Saad UKL, Mazoor IK & **SS Ahmed Rana** (2019). Study on Rangelands Issues and Their Improving Strategies in Muslim Bagh, Killa Saifullah Balochistan, Pakistan. IJB, 15(4): 318-329.	International Journal of Biosciences	International	2019
30	Bilal AKK, Kakar SR, **SS Ahmed Rana**, Leghari SK, Tareen MU and Shams Ullah (2020). Effect of salt stress on the vegetative and reproductive growth of two genotypes of tomato (*Solanumlycopersicon*L.) plants in climatic condition of district Quetta, Balochistan. PAB, 9(1):576-586.	Pure and Applied Biology	National	2020
31	Abdullah R, **SS Ahmed Rana**, IA Baloch, N Ahmed, IA Sani, S Khan, D Shahid and S Leghari (2020). Molecular Characterization of *Amygdalus spinosissima* collected from The Juniper Ecosystem of Balochistan. FUUAST J.BIOL., 10(2): 109-115.	FUUAST Journal of Biology	National	2020
32	Din M, Khan MB, Dawood S, Ghulam S, Saleem K, Hummaira S, **SS Ahmed Rana**, Faiza LA,	Journal of the Pakistan	National	2021

	Muhammad Y, Nazeer A (2021). Dissemination of NDM-1 in *Pseudomonas aeruginosa* and *Klebsiella pneumoniae* isolated from Pus Samples in Tertiary Care Hospitals of Quetta, Pakistan. https://www.jpma.org.pk/articl e-details/10384. 71(1):228-232.	Medical Association (IF: 0.642)		
33	Irfan S, Nazeer A, **SS Ahmed Rana** (2021). Characterization of the complete chloroplast genome sequence of *Juniperus polycarpos* K.Koch (Cupressaceae), from Ziarat, Pakistan. IJST-2021-151-R1. 14(36): 2806-2814.	Indian Journal of Science & Technology	International	2021
34	Shahid D, Nazeer A, **SS Ahmed**, Imran AS, Muhammad FS, Asif A, Shazia I, Sadullah L and Asif R (2021). Molecular Identification of Parasitic Mistletoe (*Arceuthobium oxycedri*) of Juniper Ecosystem From District Ziarat, Balochistan, PAKISTAN. FUUAST J. BIOL., 11(1): 9-16.	FUUAST Journal of Biology	National	2021
35	Baloch AA, Raza AM, **SS Ahmed Rana**, Saadullah, S Khan, Zaib N, H Zahid, GK Malghani and K Kakar (2021). *BrCNGC* gene family in field mustard: genome- wide identification, characterization, comparative synteny, evolution and expression profiling.	Scientific Reports Nature (IF: 4.379)	International	2021
36	Iftekhar AB, Ahmed N, **SS Ahmed Rana** and *et al.* (2023). Bioinformatics Prediction and Experimental Validation of miRNAs in Two Species of Taraxacum. *Submitted in Plos One*.		International	**Submission ID:** *PONE-D-23-13839*
37	Tabassum E, **SS Ahmed Rana**, and *et al.* (2023). Comparison of Amplification Ability of Mat-K and RbcL DNA Barcodes in the Identification of Wild Grasses of the Quetta Ecosystem. Pak. J. Biochem. & Mol. Biol. 55(3), 169–178.	Pakistan Journal of Biochemistry and Molecular Biology	National	
38	Talpur FN, Z Ali, HI Afridi, A Patahan, NA Brohi, H Abbasi & **SS Ahmed Rana** (2023). Investigation the physicochemical parameters and mineral contents of water, soil, and characteristics of Dwarf Palm a globally scarce fruity variety in Balochistan, Pakistan region. *In process of publication*.	Environmental Monitoring and Assessment	International	

39	Ahmed HA, Nazeer A, **Shahjahan SA**, Shagufta S, Afroz R, Imran AS, Dawood S & Khan S (2024). DNA Barcoding Reveals Arthropod Diversity and Unveils Seasonal Patterns of Variation in Quetta Region, Pakistan. Asian J Agric & Biol. DOI: 10.35495/ajab.2023.333	Asian Journal of Agriculture & Biology	International	2024
40	Irfan S, **SS Ahmed Rana**, M Muhammad, Sani IA, Kanwal R, Saadullah, Shahid D, J Rukhsana & Ahmed N (2024). Barcoding of Asteraceae Plants of Juniper Ecosystem Ziarat, Balochistan. PJB. 1-9; 56(5). Doi:http://dx.doi.org/10.30848/PJB2024-5(33).	Pakistan Journal of Botany	International	2024

Papers Presented

No.	Title of Paper	Name of Conference	National/ International	Date
1	**SS Ahmed**, Z.H. Gong., M.A. Khan., Y.X. Yin, W.L. Guo, J. Imran (2011) Activity and Expression of Polygalacturonase varies at different Fruit Ripening Stages of Sweet Pepper Cultivars. Genet. Mol. Res. 10 (4): 3275 – 3290.	Yangling High-tech Exhibition and Conference 2011	International	11 Novembe r, 2011
2	**SS Ahmed**, Z.H. Gong, J.J. Ji, YX. Yin, H.J. Xiao, M.A. Khan, A. Rehman and I. Ahmed (2011) Construction of an intermediate vector pVBG2307 by incorporating some vital elements of expression vectors pBI121 and pBI221. Genet. Mol. Res. 11 (3): 3091-3104.	Horticultural Conference at Northwest A&F University, Yangling, Shaanxi, China.	International	10 Decembe r, 2011

Books / Chapters Authored-Edited

No.	Name of book	Publisher	ISBN
1	Gene Cloning and Construction of Expression Vector	Scholar Press, Germany	978363970 3870
2	Biodiversity of beetles Coleoptera-Adaphaga In Agro Forest area	Lambert Academic Publishing (LAP), Germany	
3	How to Know Insects and Their Orders?	LAP, Germany	
4	Auxins and Cytokinins in Plant Biology Methods and Protocols Editors: Dandekar, Thomas, Naseem, Muhammad (Eds.)	Springer Protocols, Humana Press, NY, USA	978-1-4939-6831-2

Work Experience

No.	From (year)	To (year)	Name of the Institution/ Organization	Position held
1	2003	2005	UAF, Faisalabad, Pakistan	MPhil Scholar

2	2005	2006	(LUAWMS), Uthal, Balochistan	Lecturer (BPS-17)
3	2006	2012	Agriculture Extension, Balochistan	Agriculture Officer (BPS-17)
4	2012	2014	(BUITEMS), Quetta, Balochistan	Assistant Professor (BPS-19)
5	2015	2021	(BUITEMS), Quetta, Balochistan	Associate Professor (BPS-20)
6	2021	To date	(BUITEMS), Quetta, Balochistan	Professor (BPS-21)
Administrative Experience				
1	2018	2023	(BUITEMS), Quetta, Balochistan	Chairman of the Biotechnology Department
2	2023	To date	(BUITEMS), Quetta, Balochistan	Deputy Director, China Study Center (CPEC)
Area of specialization			Horticulture / Plant Biotechnology / Omics / rDNA Technology	
Research Interest			Gene Cloning, Gene Transformation, Gene Expression & Data Analysis & Biostatistics	
Future Research Plans			Role of Biotechnology in Precision Agriculture & Cropping Style	
HEC Approved supervisor			Yes	
If Yes, provide HEC URL			https://eportal.hec.gov.pk/hec-portal-web/portal/index.jsf?process=ASA2	
Research grants / Projects / Role in the Projects			• 05 projects under ORIC of BUITEMS with more than **1 million rupees** have been completed successfully. • 01 project is completed as a Co-PI with more than **3.5 Million rupees** with PSF, Pakistan. • 01 project is accepted as a Co-PI worth > than **4 Million rupees** with PSF, Pakistan. • **Focal Person** of Balochistan Chapter worth **> 1 Million Chinese RMB** with Chinese Government and PMAS-Arid University, Rawalpindi on Precision Agriculture and use of AI techniques to enhance crops / fruits yield. • Regional **Focal Person** (Balochistan Chapter) worth **> 10 Million Canadian dollars** with **Project Life Plan**, University of Guelph, Canada. • 02 projects are submitted as a Co-PI **worth > 15 Million rupees** to PSF, NRPU and ALP, Pakistan.	

	• Regional **Focal Person** of **Pak-Bol Consortium** of Pakistan (Balochistan Chapter).
Projects Presented	• DICE AFS & MEGA EVENT (2021) at MNS University of Agriculture, Multan. December (26-28). • Screening and Simulation of Highly Specific Antiviral Agents in Natural Plants existing in the Northern Ecosystem of Balochistan: Implication to Curb COVID-19.
Consultancy Services	• As Consultant / Team Lead to successfully completed the task entitled "Establish / ope-rationalize the tissue culture lab at ARI, Sariab, Quetta" in (2019-20) worth about **2.4 Million Rs**.
As a Master Trainer	• Conducted more than 10 Farmer's Field School **(FFS)** trainings and trained more than 500 farmers on various topics related to pre & post-harvest handling and management of deciduous fruits of Ziarat, Quetta, Loralai, Killa Saifullah and Pishin districts of Balochistan during the year 2018-2020 as a CO-PI of the project funded by **"PSF, Pakistan"**. • Conducted trainings to Agriculture Officers & (FFS) under the umbrella of Agriculture Extension, Balochistan, Quetta during 2021-2022. • **FAO Master Trainer "**Training of Trainers **(ToT)** for Agriculture Officers on Farmer Climate Business School **(FCBS)** and Regenerative Agriculture Production System **(RAPS)"** during 19-23 June, 2023 at City Campus, **(BUITEMS).**
NCRC (HEC), Membership	• **NCRC** (HEC) member of Horticulture Curriculum. • **NCRC** (HEC) member of Crop Physiology Curriculum.
Membership in various Statuary Bodies of Balochistan University of Information Technology, Engineering and Management Sciences (BUITEMS), Quetta, Pakistan.	• Member of **ASRB** (Advance Studies and Research Board). • Chairman of **BOS** (Board of Studies) of Biotechnology. • Member of **BOS** (Board of Studies) of Biotechnology. • Member of **BOF** (Board of Faculty) of Life Sciences & Informatics (FLS&I).

	• Member of **BOF** (Board of Faculty) of Basic Sciences (FBS). • Member of the Assessment Team in the Directorate of Quality & Enhancement. • Chairperson of Examination Committee, Biotechnology. • Chairperson of the Departmental Graduate Research Committee **(DGRC).** • Member of Departmental Tenured Track Review Committee **(DTRC).** • Member of Disciplinary Committee, Biotechnology. • Member of Proctorial Staff. • Member of Admission Sub-Committee of **(BUITEMS)-(ADSC)**. • Member of Learning & Teaching Committee **(LTC)** of FLS&I Faculty. • Member of Departmental Core Committee **(DCC)** (FLS&I).
Course-Ra Skills / Courses Completed (Digital Learning by HEC) under DLSEI-Phase-2a	1. ***"Transformation of the Global Food System"*** on 10th March, 2023 by the University of Copenhagen, Denmark. 2. ***"Chinese for Beginners"*** on 15th March 2023 by Peking University, P.R. China. ***3.*** ***"Edible Insects"*** on 1st June 2023 by National Taiwan University, P.R. China. 4. ***"Chinese Garden Literature-2"*** on 22nd August 2023 by National Taiwan University, P.R. China.
Courses Taught at University level	• Developments in Recombinant DNA Technology • Functional Genomics • Research Methodology • Chinese (**HSK 1-3**; 汉语水平考试) • Easy Chinese • Introductory Chinese • Chinese as a Foreign Language • Coastal Agriculture • Introductory Soil Science • Ecology and Evolution • Introduction of Horticulture • Olericulture, Pomology & Floriculture • Evolution and Biodiversity • Fundamentals of Ecology • Applied Ecology • Advanced Biostatistics

	• Experimental Design and Statistics • Biostatistics and Experimental Mathematics
Workshops/Trainings/Seminars/Conferences/Webinars/Symposia	• Value and Cold Chain of Apple and Grapes (2017-18) **"As Expert"** at Agriculture College, Quetta, Pakistan. • **"Guest Speaker"** in Hands-on training for Scientific Writing at ARI, Quetta, Pakistan. (26-25 September, 2020) • Member of **"Advisory Committee"** at the International Conference on Dynamic Trends in Plant Sciences, organized by SBK University (2016).
Honors/Awards/Distinction	• Won **Foreign Exchange Scholarship** between Pakistan and P. R. China for **PhD** Studies in August, (2008). • Best Faculty Teacher (2014) • Best Faculty Teacher (2021) • Won the Best Department Award for Biotechnology in the year (2021).
Sports	• Won runners-up trophy in the Intra University Table Tennis Competition **(2014)**. • Remained Captain of the Departmental Cricket team of Biotechnology **(2013-2021)**. • Skillful Cricketer (All-rounder) • Skillful in Table Tennis • Skillful in Badminton • Beginner in Basketball • Beginner in Swimming • Beginner in Horse riding • Beginner in Kong Fu and Tai Qi Chuan
Languages at various levels of Communication	• Punjabi (Advanced) • Urdu (Advanced) • English (Proficient) • Chinese (Progressive) • Arabic (Beginner) • Pashto (Beginner) • Sindhi (Beginner) • Saraiki (Beginner)
Brief Biography and Research Interests	

Prof. Dr. Shahjahan Shabbir Ahmed Rana is a distinguished expert in the fields of horticulture and biotechnology, with a career marked by groundbreaking research, academic leadership, and a commitment to advancing sustainable agriculture practices. He has diverse experience in the Lasbela University of Agriculture Water & Marine Sciences (LUAWMS), Agriculture Department Balochistan and Balochistan University of Information Technology, Engineering and Management Sciences (BUITEMS), Quetta. He has earned his PhD from Northwest A&F University, P.R. China. He has demonstrated an application of biotechnological tools in horticultural commodities to extend their shelf life without exposure to reefer conditions. Professor has demonstrated exceptional leadership in academia, holding various key positions from Chairperson to Deputy Director of various departments of the University. He has been actively involved in curriculum development, teaching Chinese and fostering an environment that encourages innovative thinking and research.

After graduating in Horticulture, he served as a Lecturer (BPS-17) at LUAWMS, district Lasbela, Uthal, Balochistan and as an Agriculture Officer (BPS-17) at Agriculture Extension Wing in, Quetta. His PhD dissertation title was "Enumerating the role of polygalacturonase (CaPG) gene in the members of Nightshade family". During the doctoral research cellulose and pectin degradation enzymes like polygalacturonases have been investigated rigorously with their role in growing fruits from different developmental stages. Members of the nightshade family (Solanaceae) like capsicum and tomato were primarily chosen for better post-harvest handling. He deciphered molecular techniques like polymerase chain reaction (PCR), real-time (RT-PCR), Gel Electrophoresis, Photo-spectrometer for DNA quantification, Use of Transmission Electron Microscope (TEM), Development of competent cells, Construction of expression vectors, Enzymes assay, In-vitro plant propagation for gene transformation, Southern blotting, Reverse Transcriptase PCR for gene validation in transgenic organisms, high-performance liquid chromatography (HPLC), etc.

The quest for gene cloning and expression analysis in various model organisms continued even after joining BUITEMS in 2012 as an Assistant Professor (BPS-19) in the Department of Biotechnology and Informatics. Professor Dr. Shahjahan Shabbir Ahmed Rana has published many high-profile original research articles on various aspects of plant biotechnology including gene identification, isolation, cloning, construction of vectors, aspects of post-harvest involvement, ultra-structure studies, and in the area of plant physiology.

Currently, his research interests include investigating the role of DNA markers assigned as biomarkers for the identification of species among Junipers and the Juniper ecosystem of Pakistan. DNA barcoding and meta-sequencing are exercised in the collected flora of mentioned forests and its applicability and feasibility have been deciphered. Dr. SS Ahmed Rana teaches a range of topics in recombinant DNA sciences including molecular significance DNA for the betterment of quality drawn for human beings and statistical analysis in life sciences. He is the author of more than thirty-five peer-reviewed scientific articles and one chapter in the book. He has peer-reviewed manuscripts for a variety of journals in the area of Horticulture and Plant Biotechnology.

Research Plans for the next 5 Years

My research interests mainly lie in gene cloning and developing transgenic plants for better adaptation and utilization. I have worked on cellulose and pectin degradation enzymes in growing fruits for better post-harvest handling and marketing. I am good at various molecular techniques like Gene Cloning, Vector Construction, Primer Designing, PCR, Gel Electrophoresis, Photo-spectrometry, Use of Transmission Electron Microscope (TEM), Competent cells development, Enzymes assay, In-vitro plant propagation, Gene transformation, Southern blotting, Gene validation in transgenic organisms, HPLC, documenting biodiversity via molecular techniques like DNA barcoding, etc.

The role of advanced farm mechanization techniques like regenerative agriculture and precision agriculture could not be denied, hence, raising buzzing areas for the researchers associated with the agriculture industry. I am deeply interested in working in such areas of research as using molecular techniques of DNA barcoding for the estimation of plants' biodiversity of various ecosystems. I am also interested in the varietal upgradation of Olive varieties using different horticultural and molecular tools.