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Faculty		Life Sciences		
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Date of Birth		18 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	MS/ MPhil	University of Agriculture, Faisalabad, Pakistan.	Horticulture	
2003	Graduation	PMAS-University of Arid Agriculture, Rawalpindi, Pakistan.	Horticulture	
Publications in HEC Recognized journals				
S. No	Title of Paper	Name of Journal	National/ International	Publication date
01	Chen, R.G., Yang, R.P., Gong, Z.H., Li, D.W., SS Ahmed (2010). Cloning and Sequence Analysis of the Polygalacturonase Gene <i>CaPG</i> in Pepper. Acta Botanica Borealo-Occidentalia Sinica. 30: 1941-1945.	Acta Botanica Borealo-Occidentalia Sinica.	International	2010
02	Ahmed SS , Z.H. Gong., M.A. Khan., Y.X. Yin, W.L. Guo, J. Imran (2011). Activity and	Genet. Mol. Res.	International	2011

	Expression of Polygalacturonase vary at different Fruit Ripening Stages of Sweet Pepper Cultivars. Genet. Mol. Res. 10 (4): 3275 – 3290.			
03	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
04	Khan, M.A., Z.H. Cheng, X.M. Xioa, A.R. Khan, Ahmed SS (2011). Ultrastructural studies of the Inhibition effect against <i>Phytophthora capsici</i> of root exudates collected from two garlic cultivars along with their qualitative analysis. Crop Protection, 30: 1149-1155.	Crop Protection (Elsevier)	International	2011
05	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	Genet. Mol. Res.	International	2012

	chilling stress. Genet. Mol. Res. 11 (4): 4063-4080.			
06	Zhao, H.F., Huang, W., Ahmed SS , Gong, Z.H., L.M., Zhao (2012). The pollen wall and tapetum are altered in cytoplasmic male sterile line RC ₇ of Chinese cabbage (<i>Brassica campestris</i> L. ssp. <i>pekinensis</i>). Genet. Mol. Res. 11 (4): 4145-4156.	Genet. Mol. Res.	International	2012
07	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 (<i>Capsicum annuum</i> L.). GMR, 12(3): 2320-2331.	Genet. Mol. Res.	International	2013
08	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 leuttuce (<i>Lactuca sativa</i> L.) cultivars. ÇOMÜ Ziraat Fakültesi Dergisi (COMU Journal of Agriculture Faculty) 1 (1): 95–100.	Journal of Agriculture Faculty	International	2013
09	Imran AS, Ahmed SS , Ahmed N, Shahwani MN, Yousafzai A, Afridi S, Mehmood Z,	Journal of Applied and Emerging Sciences	National	2013

	and Khan AG (2013). <i>In vitro</i> Hybridization of Tomato (<i>Solanum lycopersicum</i> L.). <i>J. App. Em. Sc.</i> 4(2): 94-98.			
10	Ahmed SS , Ahmed N., Sani I A., Naeem M., Saeed M., and Khan M. A., (2014). Construction of expression vector pVBG2307 by adding transcription initiation and termination elements. <i>J Applied and Emerging Sciences</i> , BUIITEMS.	Journal of Applied and Emerging Sciences	National	2014
11	Mohammad S., Shahwani M.N., Ahmed SS , Ahmed N., Shaheen G., and Raza A.M., (2013.) Somatic embryogenesis and organogenesis from embryonic explants of <i>Pinus gerardiana</i> . Wall. Ex lamb. <i>J Applied and Emerging Sciences</i> , BUIITEMS.	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 (<i>Helianthus annuus</i> L.) Hybrids. <i>Journal of Animal and Plant Sciences</i> , Volume: 24, No.3.	JAPS	National	2014
13	Sarwar A, Sajjid I, Riaz R, Rehman F, Ahmed SS , Shahwani N, Naseem M, Ahmad N and Mushtaq M	International Journal of Biology and Biotechnology	International	2014

	(2014). Bacterial Community Profiles in Rhizosphere of Paddy Rice based on 16S rRNA Sequence Analysis. <i>Int. J. Biol. Biotech.</i> 12(1): 11-19.			
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 (<i>Lycopersicon esculentum</i>) under heat stress. Accepted. <i>Pak. J. Bot.</i> 46 (6).	Pakistan Journal of Botany	International	2015
15	Agha SA, Shafique A, Muhammad A, Sara N, Ahmed SS , Habib YM and Muhammad S (2014). <i>In vitro</i> antimicrobial activity of <i>Rose marium officinalis</i> essential oil cultivated in Balochistan. <i>Pakistan. J. App. Em. Sc.</i> 5:(1).	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). Detection and amplification of E8 promoter in tomato plant and sequencing of the E8 gene.	Journal of Applied and Emerging Sciences	National	2016
17	Batool BT, Tareen A, Ahmed SS , Ijaz H, Kakar MA, Rehman SA, Saeed M, Ahmad Z, Tariq MM, Awan MA,	Pakistan Journal of Zoology	National	2017

	and MN Shahwani (2017). Prevalence of Zoonotic Tuberculosis and Brucellosis in Animals of Quetta and Pishin Districts, Balochistan.			
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 <i>Salvia officinalis</i> L. against <i>Sitophilus oryzae</i> L. COMU J. Agric. Fac. 4(2): 105-108.	COMU Journal of Agriculture Faculty	International	2016

21	Sani IA, Ahmed SS , Zafar M, Ahmed N, Shahwani 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 <i>Trichogramma minutum</i> 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 <i>Juniperus excelsa</i> 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 wheat (<i>Triticum aestivum</i> L.) under salinity	Biological Forum-An International Journal	International	2017

	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) 2255-2761.	IAJPS	International	2017
26	Shahjahan SAR , Ihsan U, Irfan S and Ahmed N (2017). Examining H ₂ O 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 (<i>Achillea santolina</i> 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 <i>Trichogramma minutum</i> as Biological control agent against	Indo American Journal of Pharmaceutical Sciences	International	2019

	Thrips on Roses. IAJPBB, 10(06): 12728-12734.			
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 (<i>Solanum lycopersicon</i> 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 Medical Association	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/article-details/10384 . 71(1). (IF: 0.642)			
33	Irfan S, Nazeer A, SS Ahmed Rana (2021). Characterization of the complete chloroplast genome sequence of <i>Juniperus polycarpus</i> K.Koch (Cupressaceae), from Ziarat, Pakistan. IJST-2021-151-R1	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). <i>BrCNGC</i> gene family in field mustard: genome-wide identification, characterization, comparative synteny, evolution and expression profiling. Scientific Reports Nature. Accepted for publication.	Scientific Reports Nature	International	2021
Paper Presented				
S. No	Title of Paper	Name of Conference	National/ International	Date
01	SS Ahmed , Z.H. Gong., M.A. Khan., Y.X. Yin, W.L. Guo, J. Imran (2011) Activity and	Yangling High-tech Exhibition and Conference 2011	International	11 November, 2011

	Expression of Polygalacturonase varies at different Fruit Ripening Stages of Sweet Pepper Cultivars. Genet. Mol. Res. 10 (4): 3275 – 3290.			
02	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 December, 2011

Books Authored/ Edited

S. No	Name of book	Publisher	ISBN
01	Gene Cloning and Construction of Expression Vector	Scholar Press, Germany	9783639703870
02	Biodiversity of beetles Coleoptera-Adaphaga In Agro Forest area	Lambert Academic Publishing (LAP), Germany	
03	How to Know Insect and Their Orders?	LAP, Germany	
04	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	To	Name of the Institution/ Organization	Position held
01	2003	2005	UAF, Faisalabad, Pakistan	MPhil Scholar
02	2005	2006	LUAWMS, Uthal, Balochistan	Lecturer (BPS-17)
03	2006	2012	Agriculture Extension	Agriculture Officer (BPS-17)

04	2012	2014	BUIITEMS, Quetta, Balochistan	Assistant Professor (BPS-19)
05	2015	2021	BUIITEMS, Quetta, Balochistan	Associate Professor (BPS-20)
06	2021	To date	BUIITEMS, Quetta, Balochistan	Professor (BPS-21)
Area of specialization			Horticulture/Plant Biotechnology/Omics	
Expertise			Gene Cloning, Gene transformation and expression analysis	
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			<ul style="list-style-type: none"> • 05 projects under ORIC of BUIITEMS 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. • 02 projects are submitted as a Co-PI with more than 15 Million rupees to PSF, NRPU and ALP, Pakistan. 	
Consultancy Services			<ul style="list-style-type: none"> • Consultant/Team Lead to establish/ope-rationalize the tissue culture lab at ARI, Sariab, Quetta in 2019-20 worth about 2.4 Million Rs. 	
NCRC (HEC), Membership			<ul style="list-style-type: none"> • NCRC (HEC) member of Horticulture Curriculum • NCRC (HEC) member of Crop Physiology Curriculum 	
Statuary Bodies of (BUIITEMS), Quetta, Pakistan			<ul style="list-style-type: none"> • 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 FLS&I • Member of Assessment Team in the Directorate of Quality • Chairperson of Examination Committee, Biotechnology • Member of Disciplinary Committee, Biotechnology • Member of Proctorial Staff 	
Courses Taught at University level			<ul style="list-style-type: none"> • Developments in Recombinant DNA Technology • Research Methodology • Biostatistics • Chinese Language on (HSK-3 level) • Coastal Agriculture • Introduction of Horticulture • Evolution and Biodiversity • Experimental Design and Statistics 	
Summary about Research Interests				
<p>After graduating in Horticulture Dr SS Ahmed Rana worked for several years as Lecturer (BPS-17) at LUAWMS, Labella and AO (BPS-17) at Agriculture Extension Wing in, Quetta. He was awarded his PhD in 2012 from the College of Horticulture, North West A&F University, Yangling, Shaanxi, P.R. China for his work on "<i>Enumerating the role of polygalacturonase gene in the members of nightshade family</i>". During his research cellulose and pectin degradation enzymes like <i>polygalacturonases</i> have been investigated rigorously with their role in growing fruits from different developmental stages. Members</p>				

of night shade family (Solanaceae) like capsicum and tomato were primarily chosen for studying the efforts on better post-harvest handling. 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. were also kick-started during his doctoral research.

He continued his interest in gene cloning and expression analysis in various model organisms during his doctoral research before joining BUITEMS in 2012 as an Assistant Professor (BPS-19) in the department of Biotechnology and Informatics. Dr SS 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 assigning as biomarkers for the identifications of species among Junipers and Juniper ecosystem of Pakistan. DNA barcoding and metasequencing 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 author of 25 peer-reviewed scientific articles and one chapter in the book of Nature. He has refereed manuscripts for a variety of journals in the area of Horticulture and plant biotechnology.

Post-harvest management in the horticultural commodities especially of Balochistan remains a daunting task. In view of such challenge different projects like use of edible waxing in combination of molecular masking of hydrolytic enzymes were undertaken in the recent past and quite promising results were drawn. Data of various experiments are in the process of publication and reporting to the concern authorities and other stake holders of the region.