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Designation	Professor			
Department	Biotechnolo	ogy		
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Research Profile	Research Gate ID: https://www.researchgate.net/profile/Muhammad-Mushtaq-14/research Google Scholar Profile ID: https://scholar.google.com/citations?hl=en&user=sC2eGHQAAAJ			
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Telephone Number	Office Extension	693		
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Qualification

Year	Degree/Certificate	Name of the Institute/ University	Field of study
1	Post Doctorate	NA	
2	PhD	University of Karachi	Botany, Mycology and Plant Pathology
3	MS/ Mphil	Leading to PhD	
4	Graduation/MSc	University of Karachi	Botany, Mycology and Plant Pathology

Publications in HEC Recognized journals

No.	Title of Paper	Name of Journal	National/ International	Publication date
1	A Missense Pathogenic Variant in a Conserved Region of <i>CNTNAP2</i> Is Associated with Obesity, Seizures, and Language Impairment in a Pakistani Family	<i>Mol Syndromol</i> : 1–10. https://doi.org/10.1159/00 0529427	International	2023
2	Comparison of Amplification Ability of Mat-K and RbcL DNA Barcodes in the Identification of Wild Grasses of the Quetta Ecosystem	Pakistan Journal of Biochemistry and Molecular Biology, 55(3): 169-178	National	2022

3	Comparative genomics and evolutionary analysis of plant CNGCs	Biology Methods and Protocols	International	2022
4	Micro-synteny conservation analysis revealed the evolutionary history of bacterial biphenyl degradation pathway	Environmental Microbiology Reports	International	2022
5	Pyrolysis and Combustion Characterization of Sugarcane Bagasse through Thermogravimetric Analysis Technique	BUITEMS Journal of Applied and Emerging Sciences	International	2021
6	Secondary metabolites from a killer and antagonistic yeast strain Y- 20 Sporidiobolus ruineniae and Y16-Pichia anomala	Chemistry of Natural Compounds (Khimiya Prirodnykh Soedinenii)	International	2020
7	Isolation and characterization of secondary metabolites from a killer and antagonistic yeast strain, Y21-Bullera pseudoalba	do	International	2018
8	Phytochemical investigation of <i>Lonicera</i> <i>nummularifolia</i> , a locally used herb in Uzbekistan	do	International	2018
9	Screening of different growth media for extracellular synthesis of silver nanoparticles using Aspergillus niger	International Journal of Biology & Biotechnology	International	2017
10	Screening killer activity of some yeast strains isolated from slime fluxes of trees	do	International	2017
11	Determination of antifungal activity of silver nanoparticles produced from Aspergillus niger	Biology and Medicine	International	2016
12	A PCR method based on 18S rDNA for detection of malarial parasite in Balochistan	J. Pak. Med. Assoc.	International	2016
13	Comparative ecophysiology of seed germination in two	Pakistan Journal of Botany	International	2016

	pairs of closely related			
	pines of Mediterranean			
	and Himalayan origins			
	Screening of killer, sensitive			
	and neutral phenotypes in	International Journal of		
14		Biology & Biotechnology	International	2015
	yeasts using certain sensitive <i>Pichia</i> strains	Biology & Biotechnology		
	Bacterial community			
15	profiles in rhizosphere of	do	International	2015
	paddy rice based on			
	16SRNA sequence analysis			
	Screening of Killer-Sensitive			
16	Pattern in yeasts using	do	International	2014
	sensitive Ascomycetous			
	yeast strains			
	Screening of Killer-Sensitive			
17	Pattern (KSP) for biotyping	Pakistan Journal of Botany	International	2013
	yeast strains isolated from			
	dairy products			
	Screening of Killer-Sensitive			
	Pattern (KSP) for biotyping			
18	yeast strains isolated from	do I	International	2010
	slime fluxes of trees and			
	flowers' nectar			
10	Biodiversity of yeast			2000
19	mycoflora in slime fluxes of	do	International	2008
	some trees.			
	Biodiversity of yeast			
20	mycoflora in nectar of Malvaviscus arboreus and	da	1	2000
20		do	International	2008
	Pancratium biflorum			
	flowers. Biodiversity of yeast			
	mycoflora in nectar of			
21	Hibiscus rosa-sinensis and	do	International	2007
	Ixora coccinea flowers.			
22	Detection of yeast	do	International	2007
	mycoflora from butter. Pathogenic effects and			
	transmission studies of			
23	seed-borne Fusarium	do	International	2007
	species in sunflower.			
	Biodiversity of yeast			
	mycoflora in nectar of			
24	Bombax cieba and Canna	00	International	2006
	indica flower.			
	Detection and			
	identification of yeast			
25	mycoflora from milk and	do	International	2006
	yogurt			

26	Pathogenicity and transmission studies of seed-borne <i>Fusarium</i> species (section Liseola and Sporotrichiella) in Sunflower	do	International	2006
27	Yeast mycoflora associated with slime fluxes of trees.	do	International	2005
28	Seed-borne Mycoflora of sunflower (<i>Helianthus annuus</i> L.).	do	International	2005
29	Isolation and identification of yeast flora from soil of Karachi, Pakistan.	do	International	2004
30	Seed-borne mycoflora of <i>Capsicum annuum</i> imported from India.	do	International	2004
31	Fungi associated with wilt disease of capsicum in Sindh, Pakistan.	do	International	1997
32	Addition to seed-borne mycoflora of fenugreek (Trigonella foenum- graecum L.).	do	International	1996

Paper	Paper Presented				
No	Title of Paper	Name of Conference	National/ International	Date	
1.	"Development of rapid, reliable and sustainable techniques for diagnosis of human pathogenic <i>candida</i> species"	Invited speaker in 3 rd International Conference on Applied Biosciences (ICAB 2022): Reshaping Life Technologies. Organized by Department of Biosciences, Muhammad Ali Jinnah University, Karachi.	International Conference	from 28- 29 December, 2022	
2.	"Detection and characterization of <i>Candida</i> species from Head and Neck Cancer patients by CHROMagarTM <i>Candida</i> Plus and PCR techniques".	Invited speaker in 3 rd International Conference on Applied Biosciences (ICAB 2022): Reshaping Life Technologies. Organized by Department of Biosciences, Muhammad Ali Jinnah University, Karachi.	International Conference	from 28- 29 December, 2022	
3.	"Prevalence analysis and establishing molecular diagnosis of newly emerging pathogen <i>candida auris</i> ".	Invited speaker in 3 rd International Conference on Applied Biosciences (ICAB 2022): Reshaping Life Technologies. Organized by Department of Biosciences, Muhammad Ali Jinnah University, Karachi.	International Conference	from 28- 29 December, 2022	

4.		Resource Person in 4 Day's	National	17 - 20
	Current strategies for <i>C. auris</i> diagnosis	Training Workshop organized/ on "Infection Prevention & Control (IPC), Good Laboratory Clinical Practices (GLCPs) and Patient Occupational Safety		May, 2022
5.	Screening and Optimization of Antagonistic Yeasts for Biological Control of <i>Penicillium Granulatum</i> , The Cause of Fruit Rot of Citrus Fruits	Invited speaker in 1 st International Conference on Plant Protection sciences (ICPPS-2022): Current Scenario and Future Perspectives. organized by Faculty of Crop Protection, Sindh Agriculture University, Tandojam in collaboration with Sindh Higher Education Commission (SHEC)	International	29-30 Mar., 2022
6.	Status of <i>Candida</i> and Candidiasis in Pakistan	Invited speaker in 2 nd International Conference on Applied Biosciences (ICAB 2021): Reshaping Life Technologies. Organized by Department of Biosciences, Muhammad Ali Jinnah University, Karachi.	International	30-31 Dec., 2021
7.	Detection and characterization of <i>Candida</i> species from Head and Neck Cancer patients by CHROMagar and PCR	International Conference on Applied Biosciences (ICAB 2021): Reshaping Life Technologies. Organized by Department of Biosciences, Muhammad Ali Jinnah University, Karachi.	International	30-31 Dec., 2021
8.	Development and commercial formulation of antagonistic yeasts for the biological control of postharvest fungal diseases of fresh fruits	Invited speaker in International Conference on Applied Biosciences (ICAB-2019). Organized by Department of Biosciences, Muhammad Ali Jinnah University, Karachi.	International	05 - 06, Dec., 2019
9.	RapidmoleculardiagnosticsofhumanpathogenicCandidaspeciesusingspeciesusingspecificRealtimePCRbasedamplificationofphospholipaseB	International Conference on Applied Biosciences (ICAB-2019). Organized by Department of Biosciences, Muhammad Ali Jinnah University, Karachi.	International	05-06, Dec., 2019
10.	DNA barcoding of plant pathogenic fungi associated with pomegranate fruits	15 th National and 6 th International Conference of Botany, "Dynamic Trends in Plant Sciences: Fostering Environment and Food Security. Organized by Pakistan Botanical Society, at Sardar Bahadur Khan University, Quetta, Pakistan.	International	09-11, May, 2017
11.	Screening of different growth media for extracellular synthesis of	15 th National and 6 th International Conference of Botany, "Dynamic Trends in Plant Sciences: Fostering	International	09-11, May, 2017

	silver nanoparticles from Aspergillus niger	Environment and Food Security. Organized by Pakistan Botanical Society, at Sardar Bahadur Khan University, Quetta, Pakistan.		
12.	Screening antagonistic activity and molecular characterization of epiphytic yeasts against newly recorded green mold <i>Penicillium polonicum</i> on Kinnow fruits	14 th National and 5 th International Conference of Botany, entitled, "Climate change and Phytodiversity: Challenges and Opportunities. Organized by Pakistan Botanical Society, at University of Karachi, Karachi- 75270, Pakistan.	International	15-18, Jan., 2016
13.	Screening of <i>in vitro</i> antagonistic activity of killer yeast strains against seed-borne toxigenic <i>Fusarium</i> species	14 th National and 5 th International Conference of Botany, "Climate change and Phytodiversity: Challenges and Opportunities. Organized by Pakistan Botanical Society, at University of Karachi, Karachi-75270, Pakistan.	International	15-18, Jan., 2016
14.	Production and characterization of silver nanoparticles by <i>Aspergillus</i> species	14 th National and 5 th International Conference of Botany, "Climate change and Phytodiversity: Challenges and Opportunities. Organized by Pakistan Botanical Society, at University of Karachi, Karachi-75270, Pakistan.	International	15-18, Jan., 2016
15.	Role of endophytic and rhizospheric <i>Pseudomonas</i> <i>aeruginosa</i> strains with vesicular arbuscular mycorrhizae for biocontrol of root infecting fungi",	14 th National and 5 th International Conference of Botany, "Climate change and Phytodiversity: Challenges and Opportunities, Organized by Pakistan Botanical Society, at University of Karachi, Karachi-75270, Pakistan.	International	15-18, Jan., 2016
16.	Studies on the prevalence of medically relevant yeasts associated with head and neck cancer patients receiving radiotherapy treatment in Balochistan	1 st International Conference on Life Sciences entitled, "Emerging Trends in Biological Sciences and Genomics. Jointly organized by M.A.H. Qadri Biological Center (BRC) and Dr. A.Q. Khan Institute of Biotechnology & Genetic Engineering (KIBGE), University of Karachi, Karachi-75270, Pakistan.	International	21-23, Dec., 2015
17.	Studies on prevalence of <i>Candida</i> species associated with Urinary Tract Infection	1 st International Conference on Life Sciences entitled, "Emerging Trends in Biological Sciences and Genomics. Jointly organized by M.A.H. Qadri Biological Center (BRC) and Dr. A.Q. Khan Institute of Biotechnology & Genetic Engineering (KIBGE), University of Karachi, Karachi-75270, Pakistan.	International	21-23, Dec., 2015

4	07 Jan. 2013	13 May 2014	Department of Plant Sciences, Biotechnology & Informatics, Facu		Associa	ite Professor
3	07 Mar. 2016 08 Sept. 2017		do Additional Charge Chairperson Department of Microbiology		Professor & Chairperson (Additional Charge)	
2	13 Feb. 2018 19 Aug. 2019		do		Cha	fessor & hirperson
1	14 May 2014 Contd.		Department of Biotechnology Faculty of Life Sciences & Informa BUITEMS, Quetta			ofessor
No	From (year)	To (year)	Name of the Institution/ Organiza	zation		tion held
Wor	k Experience	1				
			NA			
S. No				Publis	her	ISBN
Bool	imported fro		Botanical Society at University of Karachi, Karachi-75270, Pakistan			
22.	Capsicum	mycoflora of annuum	8th National Meeting of plant scientists". Organized by Pakistan	National F		26-28, Feb., 2002
21.	of yeast m	d identification iycoflora from gurt in Pakistan	5 th International Biennial Conference of Microbiology", entitled, "Molecular Mechanism of Host-Pathogen Interaction". Organized by Pakistan Society for Microbiology.	International		Jan. 10 – 15, 2005
20.	identification associated specimens Onychomyco	with clinical of osis	"1 st international Conference on Environment and Biosciences", Organized by Sardar Bahadur Khan Women's University, Quetta, Pakistan in collaboration with Higher Education Commission, Pakistan.		ational	16-17, April, 2015
19.	identification yeasts phytopathog Penicillium P. italicum	digitatum and	Environment and Biosciences". Organized by Sardar Bahadur Khan Women's University, Quetta, Pakistan in collaboration with Higher Education Commission (HEC), Pakistan.			16-17, April, 2015
18.	pathogenic associated tract infect patients	yeasts with urinary ion in female	"1 st international Conference on Environment and Biosciences". Organized by Sardar Bahadur Khan Women's University, Quetta, Pakistan in collaboration with Higher Education Commission, Pakistan. "1 st International Conference on		ational	16-17, April, 2015

11 th Jul. 2011 09 Aug. 2000 01 Aug. 2008 Jan. 1999 of specialization		 Education Department, Govt. of Sindh Education Department, Govt. of Sindh Allama Iqbal Open University (AIOU) Department of Plant Protection, Ministry of Food, Agriculture & Livestock, Headquarters, Karachi. Botany, Mycology, Mycology and Plant Path Mycotic (Fungal) Diseases diagnosis usi Molecular Techniques. Investigation of fungal Treatment regime Investigating Biotechnological / Industriation 	ng conventional and		
01 Aug. 2008 Jan. 1999 of specialization	30 Jul. 2010 08 Aug. 2000 n	 Allama Iqbal Open University (AIOU) Department of Plant Protection, Ministry of Food, Agriculture & Livestock, Headquarters, Karachi. Botany, Mycology, Mycology and Plant Path Mycotic (Fungal) Diseases diagnosis usi Molecular Techniques. Investigation of fungal Treatment regime Investigating Biotechnological / Industri 	Part Time Regional Coordinator Assistant Mycologist hology ng conventional and e.		
Jan. 1999 of specialization	08 Aug. 2000 n	 Department of Plant Protection, Ministry of Food, Agriculture & Livestock, Headquarters, Karachi. Botany, Mycology, Mycology and Plant Path Mycotic (Fungal) Diseases diagnosis usi Molecular Techniques. Investigation of fungal Treatment regime Investigating Biotechnological / Industri 	Coordinator Assistant Mycologist nology ng conventional and e.		
of specialization	n	 of Food, Agriculture & Livestock, Headquarters, Karachi. Botany, Mycology, Mycology and Plant Path Mycotic (Fungal) Diseases diagnosis usi Molecular Techniques. Investigation of fungal Treatment regime Investigating Biotechnological / Industri 	Mycologist nology ng conventional and e.		
		 Mycotic (Fungal) Diseases diagnosis usi Molecular Techniques. Investigation of fungal Treatment regime Investigating Biotechnological / Industrian 	ng conventional and		
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arch Interest		such as antagonistic yeasts for biocontro			
		To establish an Advanced Yeasts and Filamentous Fungal Culture Collection.			
		To Study the biodiversity of yeasts and filamentous fungi in natural habitats / different environments especially from soil, air, water, plants and plant materials.			
		 Antifungal Stewardship Studies 			
		To establish rapid and reliable diagnormalized in the set of th	ostic techniques for		
		Antifungal Stewardship Studies			
re Research Plar	IS	To produce Biotechnological / Industrial products based on filamentous fungi and yeasts.			
		 To establish an Advanced Yeasts and Culture Collection. 	Filamentous Fungal		
Approved super	visor	YES			
s, provide HEC U	IRL	https://research.hec.gov.pk/#/supervisor-	-dashboard		
Research grants/ Projects		 HEC-NRPU (Rs. 9.482000/= million 2 years) 2022-24. Title: Preval Molecular Diagnosis of Newly Er Resistant, Human Pathogenic Yeast Population of Quetta, Balochistan HEC-NRPU (Rs. 8.948,659/= millio 2017 Completed in 2019 (durat Molecular Diagnostics of Human Species from Clinical Specimens Pakistan Science Foundation (PS Started from 1st Ian 2015 Completed 	lence Analysis and merging, Multi Drug , <i>Candida auris</i> in The on started from June tion 2 years). Title: Pathogenic <i>Candida</i> (F) (Rs. 3,615,084/=		
	pproved super , provide HEC U	e Research Plans	natural habitats / different environment air, water, plants and plant materials.Antifungal Stewardship StudiesTo establish rapid and reliable diagne human fungal infections.Antifungal Stewardship StudiesTo produce Biotechnological / Industria filamentous fungi and yeasts.To establish an Advanced Yeasts and Culture Collection.provide HEC URLhttps://research.hec.gov.pk/#/supervisor- 2 years) 2022-24. Title: Preva Molecular Diagnosis of Newly Er Resistant, Human Pathogenic Yeast Population of Quetta, Balochistannrch grants/ ProjectsImage: Antigeneric Street S		

Additional Information:	Workshops/ Seminar Organized	
	Pathogenic Yeasts Associated with Clinical Specimens.	
	year). Title: PCR Based Identification of Human	
	Infection. 7. ORIC, BUITEMS (Rs. 160,000/- Jan. 2013 (duration 1	
	Title: Molecular Characterization of Human Pathogenic Candida Species Associated with (UTI) Urinary Tract	
	 Fresh Fruits of Balochistan. 6. ORIC, BUITEMS (Rs. 160,000/- 2014 (duration 1 yea Title: Malexular Characterization of Human Dath second 	
	Title: Studies on the Prevalence of Pathogenic Fungi of	
	form pomegranate fruits. 5. ORIC, BUITEMS (Rs. 150,000/- 2015 (duration 1 year).	
	 ORIC, BUITEMS (Rs. 200,000/- 2016 (duration 1 year). Title: Molecular characterization of pathogenic fungi 	
	the Biological Control of Post-Harvest Fungal Diseases of Fresh Fruits of Balochistan	

- 1. Hands on Training Workshop on "Real Time PCR Machine for Diagnosis & Research Purpose" (Singuway9600 Pro), Organized by Fungal Biotechnology Lab, Department of Biotechnology, Faculty of Life Sciences & Informatics, BUITEMS.
- **2.** Seminar on "World Population Day" on 11th July 2023 Venue: Orange Auditorium, BUITEMS, Organized by Population Research Center, BUITEMS.
- **3.** 2 Day's International Hybrid Training Workshop on "Clinical Diagnosis of Mycotic Diseases (CDMD)" From 21-22 June, 2023 Venue: Auditorium, CPEC Center of Excellence, BUITEMS, Organized by Fungal Biotechnology Lab, Department of Biotechnology, Faculty of Life Sciences & Informatics, BUITEMS, funded under HEC NRPU Research Project.
- 4. 4 Day's Training Workshop organized/ conducted in Department of Biotechnology, Faculty of Life Sciences & Informatics, BUITEMS, Quetta in collaboration on Center for Environmental & Occupational Health (CEOH), National Institute of Health, Islamabad on "Infection Prevention & Control (IPC), Good Laboratory Clinical Practices (GLCPs) and Patient Occupational Safety (POS)" from 17th - 20th May, 2022.
- One Day International Seminar Organized in the Department of Microbiology, Faculty of Life Sciences & Informatics, BUTEMS in collaboration of ESCO, Singapore on "Biosafety and Quality Assurance" on 3rd May, 2016.

Aug. 02, 2023

Prof. Dr. Muhammad Mushtaq Department of Biotechnology Faculty of Life Sciences & Informatics (FLS&I), BUITEMS