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|  |   |   |                             |                  |
|--|---|---|-----------------------------|------------------|
| <b>Name</b>                                    |   | Dr. Kaleem U. Kakar   |                             |                  |
| <b>Designation</b>                             |   | Associate professor   |                             |                  |
| <b>Department</b>                              |   | Microbiology  |                             |                  |
| <b>Research Profile</b>                        |   | ORCID ID:   |                             |                  |
|  |   | Research Gate ID:   |                             |                  |
|  |   | Google Scholar Profile ID:<br><a href="https://scholar.google.com/citations?user=sK2ZXJUAAAAJ&amp;hl=en&amp;oi=ao">https://scholar.google.com/citations?user=sK2ZXJUAAAAJ&amp;hl=en&amp;oi=ao</a> |                             |                  |
| <b>E-mail address</b>                          |   | Official  | kaleem.ullah3@buitms.edu.pk |                  |
|  |   | Personal  | dr.kaleemkankakar@gmail.com |                  |
| <b>Telephone Number</b>                        |   | Office Extension  | 868                         |                  |
|  |   | Mobile  | 0331-7830080                |                  |
| <b>Qualification</b>                           |   |   |                             |                  |
| Year   | Degree/Certificate  | Name of the Institute/ University   | Field of study              |                  |
|  | Post Doctorate  | Zhejiang University   |                             |                  |
| 2014   | PhD   | Zhejiang University   | Plant pathology             |                  |
| 2011   | MS/ Mphil   | Quaid -i- Azam University   | Biotechnology               |                  |
| 2009   | Graduation  | BUITEMS   | Biotechnology & informatics |                  |
| <b>Publications in HEC Recognized journals</b> |   |   |                             |                  |
| S. No  | Title of Paper  | Name of Journal   | National/<br>International  | Publication date |
| 1  | Micro-synteny conservation analysis revealed the evolutionary history of bacterial biphenyl degradation pathway   | Environmental Microbiology Reports  | International               | 2022             |
| 2  | Cloning, characterization and functional analysis of NtMYB306a gene reveals its role in wax alkane biosynthesis of tobacco trichomes and stress tolerance                   | Frontiers in plant science  | International               | 2022             |
| 3  | Comparative genomics and evolutionary analysis of plant CNGCs.  | Biology Methods and Protocols   | International               | 2022             |
| 4  | Potassium accumulation characteristics and expression of related genes involved in potassium metabolism in a high-potassium variety: tobacco (Nicotiana tabacum) as a model | Functional Plant Biology  | International               | 2022             |

|    |  |   |               |      |
|----|--|---|---------------|------|
| 5  | Tocopherol as plant protector: an overview of Tocopherol biosynthesis enzymes and their role as antioxidant and signaling molecules                            | Acta Physiologiae Plantarum                 | International | 2022 |
| 6  | Detection of Two Missense Substitutions in Gene EPM2B in Patients of Myoclonic Epilepsy from Balochistan   | Pakistan J. Zoology                         | National      | 2022 |
| 7  | Expression of the Type III Secretion System Genes in Epiphytic <i>Erwinia amylovora</i> Cells on Apple Stigmas Benefits Endophytic Infection at the Hypanthium | Molecular Plant-Microbe Interactions        | International | 2021 |
| 8  | BrCNGC gene family in field mustard: genome-wide identification, characterization, comparative synteny, evolution and expression profiling                     | Scientific Reports                          | International | 2021 |
| 9  | Comparative Analysis of Physiological, Enzymatic, and Transcriptomic Responses Revealed Mechanisms of Salt Tolerance and Recovery in <i>Triticum</i>           | Frontiers in plant science                  | International | 2021 |
| 10 | Involvement of non-coding RNAs during infection of rice by <i>Acidovorax oryzae</i>  | Environmental Microbiology Reports          | International | 2021 |
| 11 | Genome Sequence and Adaptation Analysis of the Human and Rice Pathogenic Strain <i>Burkholderia glumae</i> AU6208  | Pathogens                                   | International | 2021 |
| 12 | Systematic study of the stress-responsive Rboh gene family in <i>Nicotiana tabacum</i> : Genome-wide identification, evolution and role in disease resistance  | Genomics                                    | International | 2020 |
| 13 | Molecular breeding approaches for production of disease-resilient commercially important tobacco   | Briefings in Functional Genomics            | International | 2020 |
| 14 | Cadmium phytotoxicity: issues, progress, environmental concerns and future perspectives  | Revista de la Facultad de Ciencias Agrarias | International | 2020 |
| 15 | Genome sequence and adaptation of strain of the opportunistic pathogen <i>Burkholderia glumae</i>  | Research Square                             | International | 2020 |
| 16 | Evolutionary and expression analysis of CAMTA gene family in <i>Nicotiana tabacum</i> yielded insights into their origin, expansion and stress responses       | Scientific Reports                          | International | 2020 |
| 17 | Recent Trend of Genome-Wide Multigene Family Analysis and Their  | Annals of Agricultural &                    | International | 2019 |

|    |   |  |               |      |
|----|---|--|---------------|------|
|    | Role in Plant Drought Tolerance   | Crop Sciences  |               |      |
| 18 | Genome-wide identification, evolution and expression analysis of cyclic nucleotide-gated channels in tobacco ( <i>Nicotiana tabacum</i> L.)   | Genomics   | International | 2019 |
| 19 | Rhizosphere-associated <i>Alcaligenes</i> and <i>Bacillus</i> strains that induce resistance against blast and sheath blight diseases, enhance plant growth and improve mineral content in rice | Journal of Applied Microbiology                                    | International | 2018 |
| 20 | Comprehensive genomic analysis of the CNGC gene family in Brassica oleracea: novel insights into synteny, structures, and transcript profiles   | BMC genomics   | International | 2017 |
| 21 | A consortium of rhizobacterial strains and biochemical growth elicitors improve cold and drought stress tolerance in rice ( <i>Oryza sativa</i> L.)   | Plant Biology  | International | 2016 |
| 22 | Multiplex PCR assay for simultaneous detection of six major bacterial pathogens of rice   | Journal of Applied Microbiology                                    | International | 2016 |
| 23 | : Palynological Studies of Genus <i>Draba</i> L. In.: Brassicaceae) From Pakistan   | BAOJ Biotech   | International | 2016 |
| 24 | Genome-wide association mapping of Quantitative Trait Loci (QTLs) for contents of eight elements in Brown Rice ( <i>Oryza sativa</i> L.)  | Journal of agricultural and food chemistry                         | International | 2015 |
| 25 | Gene expression of type VI secretion system associated with environmental survival in <i>Acidovorax avenae</i> subsp. <i>avenae</i> by principle component analysis                             | International journal of molecular sciences                        | International | 2015 |
| 26 | Controlling bacterial leaf blight of rice and enhancing the plant growth with endophytic and rhizobacterial <i>Bacillus</i> strains   | Toxicological & Environmental Chemistry                            | International | 2015 |
| 27 | Bioinformatics study of Tocopherol biosynthesis pathway genes in Brassica rapa  | International Journal of Current Microbiology and Applied Sciences | International | 2015 |
| 28 | Cyclic nucleotide-gated ion channel gene family in rice, identification, characterization and experimental analysis of expression response to plant hormones, biotic and abiotic stresses       | BMC genomics   | International | 2014 |
| 29 | Characterizing the mode of action of <i>Brevibacillus laterosporus</i> B4 for   | World Journal of Microbiology and                                  | International | 2014 |

|                        | control of bacterial brown strip of rice caused by <i>A. avenae</i> subsp. <i>avenae</i> RS-1   | Biotechnology   |                         |                      |
|------------------------|---|---|-------------------------|----------------------|
| 30                     | A novel rhizobacterium Bk7 for biological control of brown sheath rot of rice caused by <i>Pseudomonas fuscovaginae</i> and its mode of action          | European journal of plant pathology   | International           | 2014                 |
| 31                     | Tomato plant growth promotion and antibacterial related-mechanisms of four rhizobacterial <i>Bacillus</i> strains against <i>Ralstonia solanacearum</i> | Symbiosis   | International           | 2014                 |
| 32                     | Utilization of plant materials for control of soybean cysts nematode  | Acta Agriculturae Scandinavica, Section B—Soil & Plant Science  | International           | 2014                 |
| 33                     | Thidiazuron induced plant regeneration in <i>Brassica rapa</i> var. Turnip via seed derived calli induction and radical scavenging activity.            | Sarhad Journal of Agriculture   | National                | 2014                 |
| 34                     | <i>Draba ishkomania</i> (Brassicaceae), a new addition to flora of Pakistan   | Sarhad Journal of Agriculture   | National                | 2013                 |
| <b>Paper Presented</b> |   |   |                         |                      |
| S. No                  | Title of Paper  | Name of Conference  | National/ International | Date                 |
| 1                      | Genome-wide identification and evolutionary analysis of CNGC gene families in sixteen brassicaceae plant genomes  | NUST Conference on Agricultural Sciences and Technology (NCAST) Islamabad, Pakistan   | National                | March 14–16, 2023    |
| 2                      | Economic and Eco-friendly Alternatives for the Efficient and Safe Management of Wheat Diseases  | 3rd International Conference of Applied Biosciences (ICAB-2022) on “emerging trends in bioinformatics and biosciences (ICETBB-2022), MAJU | International           | December 28–29, 2022 |
| 3                      | Identification of CNGC gene family in <i>Brassica oleracea</i>  | 3rd International Conference of Applied Biosciences (ICAB-2022) on “emerging trends in bioinformatics and biosciences                     | International           | December 28–29, 2022 |

|   |  |   |               |                      |
|---|--|---|---------------|----------------------|
|   |  | (ICETBB-2022),<br>MAJU  |               |                      |
| 4 |  |   |               |                      |
| 5 | Suppression of Rice Blast and Sheath Blight Diseases by <i>Alcaligenes faecalis</i> , a new biocontrol agent with multiple modes of action | 3rd World Congress and Expo on Applied Microbiology, Abu Dabi, UAE  | International | November 07-09, 2016 |
| 6 | <i>Lespedeza bicolor</i> , a new record from Pakistan.   | 2nd international conference of plant scientists, GC University, Lahore   |               | 22 -24 February 2011 |
| 7 | <i>Draba gilgitica</i> a new taxon from Pakistan.  | 2nd International Conference, Biodiversity is our life (IC Bio our life), Shah Abdul Latif University, Khairpur (Mirs) Sindh Pakistan |               | 29-31 Dec, 2010      |

#### Books Authored/ Edited

| S. No | Name of book   | Publisher                       | ISBN              |
|-------|--|---------------------------------|-------------------|
| 1     | Economic and Eco-friendly Alternatives for the Efficient and Safe Management of Wheat Diseases | Springer                        | 978-981-19-3120-8 |
| 2     | Cosmetic Herbs: Natural skin care recipes Paperback  | LAP LAMBERT Academic Publishing | 978-3848443079    |

#### Work Experience

| S. No | From (year) | To (year) | Name of the Institution/ Organization   | Position held                                 |
|-------|-------------|-----------|---|---|
| 1     | 2021        | Present   | Department of Microbiology, BUITEMS, Pakistan   | Associate professor                           |
| 2     | 2019        | 2021      | Faculty of Life sciences & informatics, BUITEMS, Pakistan   | Assistant professor                           |
| 3     | 2015        | 2018      | Molecular Genetics Key Laboratory of China Tobacco, Guizhou Academy of Tobacco Science – GuiYang, P. R. China | Foreign Expert Scientist                      |
| 4     | 2012        | 2013      | Dr. Pan's English Academy – Yiwu, P. R. China   | English Language Instructor                   |
| 5     | 2009        | 2010      | Pathology Lab, Benazir Bhutto Hospital (Rawalpindi General Hospital), Rawalpindi, Pakistan                    | Pathologist under National Internship Program |

#### Area of specialization

Agriculture & biotechnology (Plant Pathology & Plant-Microbe-Interaction)

#### Research Interest

- Applied Microbiology
- Biotechnology

|   |  |
|---|--|
|   | <ul style="list-style-type: none"> <li>• Health sciences</li> <li>• Plant Pathology and Biological control</li> <li>• Plant-microbe interaction</li> <li>• Plant Genomics, breeding and stress management</li> <li>• Biosafety, Biosecurity &amp; Risk Management</li> <li>• Research Methodology</li> </ul> |
| <b>Future Research Plans</b>  |  |
| <b>HEC Approved supervisor</b>  |  |
| <b>If Yes, provide HEC URL</b>  |  |
| <b>Research grants/ Projects</b>  | 2023-2024: National Institute of Health (NIH)- Health Research Institute (HRI): Epidemiology and Risk assessment of antimicrobial-resistant pathogenic Escherichia coli carriage in sympatric humans and livestock of flood affected areas of Balochistan.   |
| <b>Professional Trainings</b>   |  |
| <ul style="list-style-type: none"> <li>• <b>2023: Trainer</b> at MS/PhD Synopsis/Thesis/Research Paper Write up workshop on “<b>Research Paper/Proposal/Thesis Write up and Publication</b>”, BUIITEMS, 18<sup>th</sup> July, 2023</li> <li>• <b>2023: Trainer</b> at 2 Days International Hybrid Training Workshop on “<b>Clinical Diagnosis of Mycotic Diseases</b>”, funded by Higher Education Commission under National Research Program for Universities, at BUIITEMS, Quetta from 21-22 June, 2023</li> <li>• <b>2022: Keynote speaker</b> at 4 Day’s Training Workshop organized/ conducted in Department of Biotechnology, Faculty of Life Sciences &amp; Informatics, BUIITEMS, Quetta in collaboration on Center for Environmental &amp; Occupational Health (CEOH), National Institute of Health, Islamabad on “<b>Infection Prevention &amp; Control (IPC), Good Laboratory Clinical Practices (GLCPs) and Patient Occupational Safety (POS)</b>” from 17th - 20th May</li> <li>• <b>2022: Trainer</b> at 5 days training organized by Association for Biorisk Management on “<b>Enhancing Veterinary Diagnostic &amp; Research Laboratories capabilities in Pakistan</b>”, December 05–09</li> <li>• <b>2022: Panelist</b> on the Impact of Resilience and Perseverance in Effective Teaching. November 14th, BUIITEMS Quetta</li> <li>• <b>2020: Professional Skills Development for New faculty Members</b> – BUIITEMS, Quetta Oct 22- Nov 06</li> <li>• <b>2019: Biosafety Awareness Training Workshop (PBSA)</b> – BUIITEMS, Quetta – APR 22- APR 24, 2019</li> </ul> |  |
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