



TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO

ID CODE 6191

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di Bioscienze**

Scientist- in - charge: **Prof. Luciano Alberto Maria**

[MUHAMMAD IBRAHIM]

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	Ibrahim
Name	Muhammad

PRESENT OCCUPATION

Appointment	Structure
Assistant Professor (TTS) From January 2018 till now)	Institute of Biotechnology and Genetic Engineering (IBGE), The University of Agriculture Peshawar

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree	DVM (Veterinary Medicine and surgery)	Gomal University	2004
Specialization	Mphil (Biotechnology)	The University of Agriculture Peshawar	2009
PhD	Developmental Biology	Leiden University	2017
Master			
Degree of medical specialization			
Degree of European specialization			
Other			



REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date registration	of	Association	City
21-08-2009		Pakistan Veterinary Medical Council	Islamabad

FOREIGN LANGUAGES

Languages	level of knowledge
English	Advance (W, R and S)
Urdu	Advance (W, R and S)

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2012-2017	Faculty Development Scholarship for PhD studies at Leiden University Netherlands, Funded by Higher Education Commission of Pakistan

TRAINING OR RESEARCH ACTIVITY

<p>During my PhD studies, I worked on culturing primary embryonic cells from zebrafish in differentiation conditions to generate in vitro vascular networks. To achieve the goals, I applied various materials and methods and gained expertise in different techniques including isolation of primary embryonic cells, cell culture (pluripotent embryonic cells, embryoid body culture, embryonic liver cells, embryonic fibroblasts, endothelial cells), media preparation (basic media, differentiation media) culturing on different extracellular matrices (fibronectin, fibrinogen, collagen, matrigel, gelatin), 3D cell culture with cells embedded inside the matrix, and microfluidic cell culture (with continuous and peristaltic perfusion). The data for my PhD research were obtained through confocal microscopy, live cell imaging, image processing, fluorescent activated cell sorting (FACs), cell counting, RNA extraction, and transcriptome analysis.</p> <p>Being an Assistant Professor, I developed few courses for M Phi and PhD in Animal Biotechnology. Being a teacher, I experienced teaching theory and doing practical demonstrations for Microbial Genetics, Biometrical Genetics, Animal Biotechnology, Pharmaceutical Biotechnology and Medical Microbiology to BSc (Hons) students. Besides, I have supervised research and thesis of 12 B.Sc. (H) and 11 M.Phil students in the field of genomics, bioinformatics, and laboratory animal studies. During this period my duties were lab supervision, training students in lab work, data analysis, data interpretation and results writing. The key results have been published in scientific peer reviewed journals.</p>
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PROJECT ACTIVITY

Year	Project
2012-17	Generade Applied Genomics for Life grant [Ref. 2016-004] Amount: 77383 €. Transcriptomic profiling of developing blood vessels: A quantum leap towards organ regeneration.
2018-19	Higher Education Commission of Pakistan [Ref. SRGP-1937]. Amount: 485000 PKR Establishment of Experimental Animal Laboratory using Zebrafish as Model Species.

PATENTS

Patent



CONGRESSES AND SEMINARS

Date	Title	Place
21-25 June 2021	Workshop on Phenotypic characterization of livestock resources of Pakistan	Arid Agriculture University Rawalpindi, Pakistan
Dec 19-20, 2019	Workshop on Biorisk Management (Refresher course)	The University of Agriculture Peshawar, Pakistan
May 2, 2019	Workshop on CRISPR/Cas Genome Editing Technology	Islamia College Peshawar, Pakistan
4-6 March 2019	Plenary lecture on Zebrafish: a versatile model for <i>in vivo</i> and <i>in vitro</i> studies in 39 th Pakistan congress of zoology	Islamia College Peshawar, Pakistan
19 January 2017	Poster presentation on Culturing blood vessels: A step towards organ regeneration, in Generade Applied Genomics Symposium	Leiden, Netherlands
7-8 July 2016	Oral presentation on Towards the growth of blood vessel networks in microfluidic culture, in Select Biosciences organ-on-a-chip world congress and 3D culture.	Boston, USA

PUBLICATIONS

Books
[title, place, publishing house, year ...]
[title, place, publishing house, year ...]
[title, place, publishing house, year ...]

Articles in reviews
<p>A. <u>Selected Publications</u></p> <ol style="list-style-type: none">M. Ibrahim, S. Ahmad, I. Ud Din, W. Ahmad, I. Ahmad, S.H. Khan, I. Ul Haq, J. Zeb, O.A. Sparagano. Microsatellite Analysis Revealed Potential DNA Markers for Gestation Length and Sub-Population Diversity in Kari Sheep. <i>Animals</i>, MDPI 2022, Vol 12(23): 3292. https://doi.org/10.3390/ani12233292. IF 3.231M. Ibrahim, B. Xie and M. K. Ricahrdson. The growth of endothelial-like cells in zebrafish embryoid body culture. <i>Experimental Cell Research</i>, Elsevier 2020; Vol 392(2): Pages 112032. https://doi.org/10.1016/j.yexcr.2020.112032. IF 3.329



3. **M. Ibrahim** and M. K. Richardson. Beyond organoids: in vitro vasculogenesis and angiogenesis using cells from mammals and zebrafish. *Reproductive Toxicology*, Elsevier 2017, Vol 73: Pages 292-311. IF 3.200
4. **M. Ibrahim** and M. K. Richardson. In vitro development of zebrafish vascular networks. *Reproductive Toxicology*, Elsevier 2017, Vol 70: Pages 102-115. IF 3.200
5. **M. Ibrahim** and M. K. Richardson. Microfluidic devices for cell, tissue and embryo culture. *Recent Patents on Regenerative Medicine (Discontinued)*, Bentham Science 2013, Vol 3(3): Pages 249-263. <https://dx.doi.org/10.2174/22102965113039990019>

B. Other Publications

6. **M. Ibrahim***, S. Ahmad, S. A. K. Bangash, I. Alam, A. Sultana, M. Abbas, M. N. Khan, Israil, S. Sultana. Sheep breeds raised under a subtropical environment revealed differential disease patterns and DNA damage. *Journal of Xi'an Shiyu University, Natural Science Edition, Xi'an Shiyu Daxue Xuebao (Ziran Kexue Ban)* 2023, 19(03), 460-466. IF 0.38
7. O. Tahir, S.A.K. Bangash, **M. Ibrahim**, S. Shahab, S.H. Khattak, I. Ud Din, M. Khan, A. Hafeez, S. Wahab, B. Ali, R. Makki, S. Harakeh. Evaluation of Agronomic Performance and Genetic Diversity Analysis Using Simple Sequence Repeats Markers in Selected Wheat Lines. *Sustainability*, MDPI 2023, 15(1), 293; <https://doi.org/10.3390/su15010293>. IF 3.251
8. M. Saeed, **M. Ibrahim**, W. Ahmad, M. Tayyab, S. Attacha, M.N. Khan, S.A. Jadoon, S.J. Shah, S. Zeb, L. Shah, F. Munsif, A. Zubair, J. Lu, H. Si, C. Ma. Molecular Characterization of Diverse Wheat Genetic Resources for Resistance to Yellow Rust Pathogen (*Puccinia striiformis*). *Agronomy*, MDPI 2022, Vol 12, 2951. <https://doi.org/10.3390/agronomy12122951>. IF 3.949
9. U. Fazal, I. Ud Din, A.M. Khan, F.U. Khan, M.N. Khan, N. Iqbal, **M. Ibrahim** and S.A.K. Bangash. Evaluation of agro-morphological traits, seed characterization and genetic diversity of local rice (*Oryza sativa* L.) varieties of Pakistan. *Genetic Resources and Crop Evolution*, Springer 2022; Vol 70: 935-949. <https://doi.org/10.1007/s10722-022-01478-4>. IF 1.876
10. M. Saeed, W. Ahmad, **M. Ibrahim**, M. Khan, F. Ullah, A. Bari, S. Ali, L. Shah, M. Ali, F. Munsif, A. Zubair, S.M.A. Shah, J. Lu, H. Si, C. Ma. Differential Responses to Yellow-Rust Stress Assist in the Identification of Candidate Wheat (*Triticum aestivum* L.) Genotypes for Resistance Breeding. *Agronomy*, MDPI 2022; Vol 12(9): Pages 2038. <https://doi.org/10.3390/agronomy12092038>. IF 3.949
11. I. Ahmad, H. Hao, P. Sanders, Z. Iqbal, S. Ahmed, F. A. Khan, Z. Shah, **M. Ibrahim** and L. Huang. New HPLC Method for Determination of Cefquinome in Cattle Plasma and its Application for Pharmacokinetic Study. *Pakistan Journal of Zoology* 2022; pages 1-8. <https://dx.doi.org/10.17582/journal.pjz/20200312100316>. IF 0.687
12. M. Saeed, F. Ullah, L. Shah, W. Ahmad, M. Ali, F. Munsif, A. Zubair, **M. Ibrahim**, S. M. A. Shah, H. Uddin, C. Can, H. Si and C. Ma. Identification of Three Novel QTLs Associated with Yellow Rust Resistance in Wheat (*Triticum aestivum* L.) Anong-179/Khaista-17 F2 Population. *Sustainability*, MDPI 2022; Vol 14(2): Pages 7454. <https://doi.org/10.3390/su14127454>. IF 3.251
13. A. Ullah, S. Ahmad and **M. Ibrahim***. Microsatellite based genetic characterization and bottleneck analysis of Kari and Madakhlash sheep breeds from Chitral district of Khyber Pakhtunkhwa, Pakistan. *Asian-Australasian Journal of Animal Sciences* 2020; 10.5713/ajas.19.0418. IF 1.227
14. **M. Ibrahim***, S. Ahmad, I. S. Durrani, A. Iqbal, I. Munir and Z. A. Swati. Genetic polymorphism and bottleneck analysis of Balkhi, Hashtnagri and Michni sheep populations using microsatellite markers. *Animal Biotechnology*, Taylor & Francis 2018, Vol 29(3): Pages 216-226. <https://doi.org/10.1080/10495398.2017.1366340>. IF 1.263
15. S. A. A. Musavi, S. Ahmad and **M. Ibrahim***. Documentation and morphology of Hazaragie sheep native to central Afghanistan. *Indian Journal of Animal Sciences* 2013, Vol 83(9): Pages 934-941. IF 0.240
16. S. A. A. Musavi, S. Ahmad and **M. Ibrahim***. Molecular characterization of Hazaragie sheep native to central Afghanistan. *Indian Journal of Animal Sciences* 2011, Vol 81(7): Pages 711-717. IF 0.240
17. **M. Ibrahim***, S. Ahmad, Z. A. Swati and G. Ullah. Fat tailed Sheep Production Systems in the Khyber Pakhtunkhwa Province of Pakistan. *Tropical Animal Health and Production*, Springer 2011, Vol 43: Pages 1395-1403. IF 1.089



- 18. H. Ali, S. Hayat, S. Ahmad, **M. Ibrahim**, S.A. Haider, S. Ullah, S. Ahmad, H. Khan and I. Ul Haq. Anti-Apoptotic Role of p21 and p27 Genes during Different Stages of Corpus Luteum Progression in Bovine. Iranian Journal of Applied Animal Science 2021; Vol 11(2): Pages 297-303.
- 19. S. S. Khan, H. Ali, S. Hayat, S. Ahmad, **M. Ibrahim**, S. A. Haider, I. Ahmad, I. U. Haq. Expression of ISG15 and conjugating enzyme during peri-implantation period in sheep. Biotechnology in Animal Husbandry, Institute of Animal Husbandry, Belgarde-Zemun 2020; Vol 36(2): Pages 215-223.
- 20. **M. Ibrahim***, S. Ahmad, Z. A. Swati and M. S. Khan. Genetic diversity in Balkhi, Hashtnagri and Michni sheep populations using SSR markers. African Journal of Biotechnology, Academic Journals 2010, Vol 9(45): Pages 7617-7628.

Congress proceedings
[title, structure, place, year]
[title, structure, place, year]
[title, structure, place, year]

OTHER INFORMATION

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

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Place and date: The University of Agriculture Peshawar, Pakistan, 16/01/2024