Brief Profile of Prof. Amer Jamil

Current Position: **Professor**, Department of Biochemistry/**Dean** Faculty of Sciences
University of Agriculture, Faisalabad, Pakistan.

Certified facilitator/trainer from Academics Without Borders, Canada
Founder and CEO of Molecular Care: A startup incubated as University Faculty.

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Field of Specialization: Molecular Biology/Molecular Diagnostics/Nanobiotechnology
Scientific Writing/ Popularization of Science and Academics/
Online lectures/Curriculum development

ORCID: *https://orcid.org/0000-0003-4039-4166*
Scopus: *http://www.scopus.com/authid/detail.url?authorId=13605244700*
Google Scholar: *https://scholar.google.com/citations?hl=en&user=l6glAFgAAAAJ*
ResearchGate: *Amer Jamil*
LinkedIn: *www.linkedin.com/in/prof-amer-jamil-15693a275*

Extensive experience of teaching, research and academic administration

Research career initiated from conduct of PhD research in the department of Chemistry and Biochemistry, University of California at Los Angeles (UCLA), USA. F**ounded research group on Molecular Biochemistry** in the University of Agriculture Faisalabad Pakistan as group leader, and **developed a research lab. for research on gene expression at par with international standard** out of external funding of more than **Rs. 150 million** from different funding agencies including IFS, IFPRI, USAID etc. Developed international collaborations with UCLA and UNC, USA, and University of Nicolaus Copernicus, Poland. Based on research, awarded various national and international awards. **Extensive experience of writing research grants from different funding agencies, research reports, scientific publications, review reports etc.**

As academician offered courses in Biochemistry and Molecular Biology at undergraduate and postgraduate levels (MSc, MPhil, PhD). Developed some new courses in Molecular Biology. **Leading role in curriculum development and revision of various degree programs** in Biochemistry and Biotechnology. One major contribution of Prof. Jamil in popularization of science is that he **developed a full set of on-line Lecture Series in Molecular Biology** and other related topics and uploaded on YouTube so that the students from different universities may get benefit out of it. He also has made presentations on general topics such as "How to conceive research idea", "Writing research synopsis and thesis", "Preparation for examinations", "How to deliver good presentation" etc and **uploaded on YouTube channel for mass awareness**.

Produced 21 PhDs and more than 115 MPhil scholars as major supervisor. **Offered more than 50 trainings and workshops** in the area of Molecular Biology techniques. **These trainings are very popular among young faculty and students**. **Organized many big scientific events (conferences and symposia) of more than 1000 participants** from Pakistan and abroad, some in collaboration with WHO, WFO, FAO USAID etc.

Under **Academic Administration**, **as Dean Faculty of Sciences leading 7 departments** offering 7 PhD, 9 MS/MPhil and 14 BS degree programs**.** As **Director Academics of the University** provided leadership and strategic direction for all academic programs and activities at the University, setting **academic goals and objectives**, overseeing **curriculum development and review**, implementing academic policies and procedures and ensuring compliance with academic standards and regulations. As **Chair Dept. of Biochemistry, UAF** brought significant changes to transform the department to seat of higher learning in Biochemistry; Revision of undergraduate and postgraduate curricula, strengthening of teaching and research labs., organization of co-curricular activities of the students for their personality building etc. As **Director Centre of Agricultural Biochemistry and Biotechnology (CABB)** transformed the centre by focused research and quality education**. As Director Quality Enhancement Cell**, **took some challenging steps to bring academic quality** in the University such as maintaining student: teacher ratio, reducing plagiarism, implementing better system for evaluation of teachers and departments etc. As **Director Financial Assistance and University Advancement**, although for short period of time, made some innovative changes to raise financial assistance for the students, and **Career Development** of the students with positive feedback so that they might work with diligence, better system for evaluation of teaching and research of different departments of the Universities. **Founder of Molecular Care™,** an innovative self-sustainable start-up to provide diagnostic, research sample analysis and training facilities to the community, now transformed into a faculty startup (incubated at NIC, Faisalabad).

One of the **major contributions is the "Dot" concept** to bring personal and professional excellence in the people. This concept has been shared with large community through social media and lectures to people from diverse disciplines. Also has delivered awareness lectures on this concept to school and college teachers so that they could share it with students. **Critical thinking and innovative abilities of the students and researchers are invoked through this concept**. This helps developing scientific thought among the students, faculty and researchers.

He is **also pioneer in the region offering hands-on trainings** on Molecular Techniques at national level for students and young faculty. The trainings are very popular among the young faculty and students as they cover the topics with real hands-on trainings where every participant performs experiments by his/her own hands. The trainings are offered not only in his parent University but also in other Universities in different cities. **Twenty-eight** such trainings have been organized and delivered by him. His **Future Scientist Training Series for the kids** of grade 9 to 12 is highly appreciated as it provides the kids an opportunity to become aware of such techniques at earlier part of their education and helps them to become a better scientist in future. Apart from this he offers 4-8 weeks customized internships on molecular techniques to undergraduate students according to their needs.

Distinctions/Awards:

i. **Chair "Biocatalysts and Protein Engineering" division** of Pakistan Chapter of Asian Federation of Biotechnology (AFOB) since 2023.
ii. University-level HEC **Best Teacher Award** for the year 2021.
iii. Nominee of **UNESCO-KALINGA prize for popularization of Science 2021** by Higher Education Commission, Govt. of Pakistan
iv. 15th position in Biological Sciences in **Directory of Productive Scientists of Pakistan 2017** published by Pakistan Council for Science & Technology (PCST), Govt. of Pakistan.
v. **Represented Pakistan** in General Assembly meeting of the IUBMB (International Union of Biochemistry and Molecular Biology) during 23rd Congress of the International Union for Biochemistry and Molecular Biology-IUBMB August 24-28, 2015.
vi. **Internal Auditor, IUBMB (2015-2021)**
vii. **Gold Medal in Biochemistry (2007)** awarded by Pakistan Academy of Sciences (PAS).
viii. **Third World Academy of Sciences (TWAS) prize** for Young Scientists in the South in the field of Biology for the year 2002.
ix. **Best poster prize from College on Biophysics**: From Molecular Genetics to Structural Biology. International Centre for Theoretical Physics, Trieste, **Italy**, Oct. 2001.
x. **Young Scientist Fellowship** awarded by International Union of Biochemistry and Molecular Biology (IUBMB), FEBS and Biochemical Society, **England** in July, 2000.
xi. **Research/Productivity Allowance/Award** for the years 2010-11, 2011-12, 2012-13, 2013-14, 2014-15, 2016-17, 2007-08 and 2001-02 awarded by Pakistan Council for Science & Technology (PCST), Govt. of Pakistan.
xii. Was included among leading scientists of Pakistan (2000) and Productive Scientists of Pakistan (2007) by Pakistan council for Science and Technology.
xiii. **S&T scholarship from MoST**, Govt. of Pakistan for split Ph.D. degree

Education:

Ph.D.	1999	University of Agriculture, Faisalabad, Pakistan. Research conducted at: UCLA, USA	Biochemistry with research in Molecular Biology

Job Experience:

Research Officer in the Directorate of Research, and Central Hi Tech. Lab., University of Agriculture, Faisalabad (UAF) Pakistan (March, 1991 to April, 2000).

Assistant Professor of Biochemistry, Dept. of Chemistry, UAF (April, 2000 to January 2004).

Associate Professor of Biochemistry, Dept. of Chemistry & Biochemistry, UAF (January 2004 to Feb 2011)

Professor of Biochemistry, Dept. of Biochemistry, UAF (February 19, 2011 **to date**)

Director Financial Assistance and University Advancement, U.A.F. (March 3, 2019 to May 2019)

Director Quality Enhancement Cell of the University of Agriculture Faisalabad. (Oct. 10, 2018 to Sept. 10, 2019)

Director Centre for Agricultural Biochemistry and Biotechnology, University of Agriculture Faisalabad. (Sept. 15, 2020 to Sept. 19, 2021).

Chair Dept. of Biochemistry, University of Agriculture Faisalabad. (Sept. 15, 2022, to Sept. 14, 2024).

Dean Faculty of Sciences, University of Agriculture Faisalabad (additional charge): (May 20, 2023 to July 8, 2023 and **March 20, 2025 to date**)

Director Academics, University of Agriculture Faisalabad. (November 19, 2024 to March 3, 2025)

Community Service:

Establishment of Molecular Care™ (a community service project) transformed into faculty startup based on research

Vice President University Staff Club (July 2023 to date)
President Academic Staff Association of the University of Agriculture Faisalabad (January 2018 to 2019).
Member Executive, FAPUASA (central), 2018-19.

MoU: Signed an **MoU with the University of Nicolaus Copernicus, Torun, Poland** (2024). Presented talk in the University of Nicolaus Copernicus, Torun, Poland (June 11, 2024). Signal transduction of pharmaceutical molecules for eukaryotic gene expression. Current scenario and future prospects (June 13, 2024).

Publications:

Research papers: **193**, **Reviews**: **09**, **Chapters**/articles in books with foreign publishers: **04**
Popular articles (in reputed National Newspapers): **24**

Patents:

i. A novel Neem anti-aging nanoemulsion cream. Submitted on 20-09-2024 to IPO Pakistan.
ii. A novel Aloe vera anti-aging nanoemulsion cream. Submitted on 06-11-2024 to IPO Pakistan.

Expertise on advanced techniques: Gene cloning and expression, Bioactive peptides, PCR, RT-PCR, eukaryotic cell line transfections, Northern blots, ^{32}P-RNase protection and other gene expression assays, in vitro transcription assays, DNA synthesis & sequencing etc. HPLC, GC, amino acid analyser, atomic absorption spectrophotometer, FPLC, enzyme purification and characterization, DNA barcoding etc.

Organized workshops and conferences: 02 international conferences (> 1000 participants each), 03 international symposia, 02 USAID-IFPRI workshops, 03 HEC workshops, 03 Research Orientation Programs of the University, >50 Hands-on trainings in Molecular Biology

Projects:

i. **Development:** MoST/HEC funded project (Rs. 11.73 million) as Project Director (completed)
ii. **Research Projects** (as **PI**)**:** 04 HEC, 01 Pak-US (collaborative with Danforth Plant Science Centre/UNC, USA), 01 **USAID-IFPRI**, 01 IFS (**International Foundation for Science, Sweden** completed), 01 PSF (completed), and 01 promotion of research UAF (completed)
iii. **Research Projects:** (as **Co-PI**): 17 completed, 02 in progress
iv. **Other projects:** POCR (HEC) collaborative project with UCLA USA, HEC workshops, Strengthening of Life Sciences (HEC).

Postgraduate students produced:

	Ph.D.	M.Phil.	MSc (Hons.)/MS	MSc/BSc (Hons.)	MSc with report
As Supervisor	23	115		66	23
As Co-Supervisor	03	01	05	07	
As Member	67	194	49	140	

Teaching Experience:

Teaching PhD, MPhil, MSc, MSc (Hons) and BSc (Hons) classes: Molecular biochemistry, Enzyme kinetics, Purification & characterization of enzymes, Recombinant DNA technology, Advanced biochemical techniques, Gene regulation and expression

New Courses Developed: Gene Regulation & Expression, Structural Bioinformatics

On-line Lecture Series in Molecular Biology:
Link: *https://www.youtube.com/watch?v=QqnIhnVeQsw&list=PLRrgfm7HrEgCsGOThyX4YZABeSW-wzSiX*

On-line general presentations for students: Presentations on general topics such as How to conceive research idea, writing research synopsis and thesis, preparation for examinations, how to deliver good presentation etc were made and uploaded on YouTube channel.
Link: https://www.youtube.com/playlist?list=PLRrgfm7HrEgD0xNFKWorgoKah6pWDAXyV

Other Responsibilities: Editor/Associate editor of journals, reviewer of local and foreign journals and HEC funded projects, paper setter/external examiner of different Universities, Member boards of studies of other universities, Member GSRB UAF, President Academic Staff Association (UAF).

Participation in Seminars/Conferences/Courses/Lectures: 11 foreign (including Cold Spring Harbour Meeting USA, 3 IUBMB congresses), **>100** local; **invited speaker** in many conferences/workshops/universities.

Selected Publications:

Chao, L. C., ***A. Jamil**, S. J. Kim, L. Huang and H. G. Martinson. 1999. Assembly of the cleavage and polyadenylation apparatus requires about 10s in vivo and is faster for strong than for weak poly(A) sites. **Mol. Cell. Biol.** 19(8): 5588-5600. (*co-first author)

Yeung, G., L. M. Choi, L. C. Chao, N. J. Park, D. H. Liu, **A. Jamil** and H. G. Martinson. 1998. Poly(A)-driven and poly(A)- assisted termination: Two different modes of poly (A)- dependent transcription termination. **Mol. Cell. Biol.** 18 (1): 276-89.

Jamil, A., M. Shahid, M. M. Khan and M. Ashraf. 2007. Screening of some medicinal plants for isolation of antifungal proteins and peptides. **Pak. J. Botany**, 39 (1): 211-221.

Shahid, M., M. Tayyab, F. Naz, **A. Jamil**, M. Ashraf and A. H. Gilani. 2008. Activity-guided isolation of a novel protein from *Croton tiglium* with antifungal and antibacterial activities. **Phytotherapy Research**. 22: 1646-1649.

Ahmed S., S. Riaz and **A. Jamil**. 2009. Molecular cloning of fungal xylanases: an overview. **Applied Microbiology and Biotechnology**. 84 (1):19-35.

Mushtaq, Z., M. Saadia, R. S. Anjum and **A. Jamil**. 2009. Cloning of an intronless *cre1* gene from *Chaetomium thermophilum*. Short Commun. **Annals of Microbiology**. 59 (4): 785-788.

Jamil, A., S. Riaz, M. Ashraf and M. R. Foolad. 2011. Gene Expression Profiling of Plants under Salt Stress. **Critical Reviews in Plant Sciences**, 30: 435-458.

Saadia, M., **A. Jamil**, N. A. Akram and M. Ashraf. 2012. A study of proline metabolism in canola (*Brassica napus* L.) seedlings under salt stress. **Molecules**, 17: 5803-5815.

Falak, S. and **A. Jamil**. 2013. Expression Profiling of Bioactive Genes from a Medicinal Plant *Nigella sativa* L. **Applied Biochemistry and Biotechnology**, 170:1472–1481.

Saadia, M., **A. Jamil**, M. Ashraf and A. Jamil. 2013. Comparative study of *SOS2* and a novel *PMP3-1* gene expression in two sunflower (*Helianthus annus* L.) lines differing in salt tolerance. **Applied Biochemistry and Biotechnology**. 170: 980-987.

Zafar, M., Ahmed, S., Khan, M. I. M., **Jamil A**. 2014. Recombinant expression and characterization of a novel endoglucanase from *Bacillus subtilis* in *Escherichia coli*. **Molecular Biology Reports**, 41 (5): 3295-3302.

Mustafa, G., A. Tahir, M. Asgher, Mehboob-ur-Rahman and **A. Jamil**. 2014. Comparative sequence analysis of citrate synthase and 18S ribosomal DNA from a wild and mutant strains of *Aspergillus niger* with various fungi. **Bioinformatician**, 10 (1).

Jabeen, R. G. Mustafa, Z. Abdin, M. J. Iqbal and **A. Jamil**. 2014. Expression profiling of bioactive genes from *Moringa oleifera*. **Applied Biochemistry and Biotechnology**, 174: 657-666.

Jamil, A. and M. Ashfaq. 2015. DNA barcoding and biochemical profiling of medicinal plants of Northern and desert area of Pakistan to improve rural living standard. PSSP working paper (https://www.ifpri.org/publication/dna-barcoding-and-biochemical-profiling-medical-plants-northern-and-desert-areas).

Mustafa, G., S. Kousar, M. I. Rajoka and **A. Jamil**. 2016. Molecular cloning and comparative sequence analysis of fungal β-Xylosidases. **AMB Express**. 6 (30): 1-14.

Iqbal, M. J., Y. Maqsood, Z. Abdin, A. Manzoor, M. Hassan and **A. Jamil**. 2016. SSR markers associated with proline in drought wheat germplasm. **Applied Biochemistry and Biotechnology**, 178: 1042-1052.

Kirkpatrick, C. L., C. A. Broberg, E. N. McCool, W. J. Lee, A. Chao, E. W. McConnell, D. A. Pritchard, M. Hebert, R. Fleeman, J. Adams, **A. Jamil**, L. Madera, A. A. Stromstedt, Ulf Goransson, Y. Liu, D. W. Hoskin, L. N. Shaw and L. M. Hicks. 2017.The "PepSAVI-MS" pipeline for natural product bioactive peptide discovery. **Anal. Chem**. 89: 1194-1201.

Tahir A, Hussain F, Ahmed N, Ghorbani A, **Jamil A**. 2018. Assessing universality of DNA barcoding in geographically isolated selected desert medicinal species of Fabaceae and Poaceae. **Peer J** 6: e4499 https://doi.org/10.7717/peerj.4499.

Zahra, A., B. Hussain, **A. Jamil**, Z. Ahmed and S. Mahboob. 2018. Forensic STR profiling based smart barcode, a highly efficient and cost-effective human identification system. **Saudi Journal of Biological Sciences**. 25: 1720-1723.

Akhter, N. T. Iqbal, **A. Jamil**, M. Akram, I. M. Tahir, and N. Munir. 2019 Determination of Arylamine N-Acetyltransferase 2 Acetylation Genotype by PCR and Phenotyping Using Dapsone Through High-Pressure Liquid Chromatography Assay: A Gender Wise Study. **Dose Response**. DOI: 10.1177/1559325819855537.

H. U. Rahman, A. Sahar, M. I. Khan and **A. Jamil**. 2019. Discerning microbial and quality attributes of differently slaughtered and dead poultry meat. **J. Food Saf**. DOI: 10.1111/jfs.12622.

Siddiqua, A., S. Kousar, **A. Jamil**, R. Tabassum,T. Mehmood and N. Shafiq. 2020. *MicroRNA: A Signature for Cancer Diagnostics.* Book chapter. **Current Cancer Treatment.** Ed. M. Rajer. Published by InTechOpen.

Mushtaq, A., T. M. Ansari, G. Mustafa, M. A. Shad, J. Cruz-Reyes and **A. Jamil**. 2020. Isolation and characterization of nprB, a novel protease from *Streptomyces thermovulgaris*. **Pak. J. Pharm. Sci.** 33 (5, Suppl.): 2361-2369.

Rizwan, Z., N. Aslam, F. Zafar, R. Humma and **A. Jamil**. 2021. Isolation of novel cyclotide encoding genes from some Solanaceae species and evolutionary link to other families. **Pak. J. Agric. Sci.** 58 (1): 169-177.

Mushtaq, A., G. Mustafa, T. M. Ansari, M. A. Shad, J. Cruz-Reyes and **A. Jamil**. 2021. Antiviral activity of hexapeptides derived from conserved regions of bacterial proteases against HCV NS3 protease. **Pak. J. Pharm. Sci.** 34(1, Suppl.): 215-223.

Jaffer, Q., U. Qaiser, M. Shahid, N. Ahmed and **A. Jamil***. 2022. Interference of morintides on some virulence determinants of selected bacterial pathogens. **Pak. J. Pharm. Sci**., 35(4): 1159-1168.

Tabassum, R., S. Kousar, G. Mustafa, **A. Jamil**, S. A. Attique. 2023. *In silico* method for the screening of phytochemicals against Methicillin-resistant *Staphylococcus aureus*. **BioMed Research International**. https://doi.org/10.1155/2023/5100400.

Ashraf, S., A. Ahmad, S. H. Khan, **A. Jamil**, B. Sadia and J. K. Brown. 2023. LbCas12a mediated suppression of Cotton leaf curl Multan virus. **Front. Plant Sci.** 14:1233295. DOI: 10.3389/fpls.2023.1233295

Ahmad, A., **A. Jamil*** and N. Munawar. 2023. GMOs or non-GMOs? The CRISPR Conundrum. Mini Review. **Front. Plant Sci.** 14:1232938. DOI: 10.3389/fpls.2023.1232938.

Mushtaq, A., Ahmed, S., Mehmood, T., Cruz-Reyes, **A., Jamil***, A. and Nawaz, S. (2024). Cloning, Expression, and Characterization of a Metalloprotease from Thermophilic Bacterium *Streptomyces thermovulgaris*. *Biology*, *13*, 619. (Impact factor: 3.6) *Corresponding author

Subtain, M., Pasha, I., Rakha, A., and **Jamil, A.** (2024). Extraction evaluation and chemical characterization of ginger oleoresins; a functional food ingredient. *Journal of Food Measurement and Characterization*, *18*(6), 4611-4619. (Impact factor: 2.9).

Noor-ul-Ain, Arif, **A. Jamil**, A., Munir, A., Ahmad, A. and N. Munawar. 2024. Regulatory, ethical and social aspects of CRISPR crops. CRISPRized horticulture crops. Ed. K. A. Abd-Elsalam, A. Ahmad and Zhang, B. Academic Press. Elsevier. ISBN: 978-0-443-13229-2.