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Country	Pakistan	Nationality	Pakistani		
Mobile No.	00923335297367	E-mail	mubashirpmrc@yahoo.com		
Highest Degree	PhD	Date of Graduation	September 1993		
Subject	Microbiology	College	London School of Hygiene and Tropical Medicine		
University	University of London	Country	UK		
Last Academic Position held	Professor	Major field	Medical Microbiology		
		Specialization field	Bacteriology		
Institute/ University	Umm Al Qura University, Makkah, Saudi Arabia	Faculty	Applied Medical Sciences		
		Department	Laboratory Medicine		
		Research profile	https://www.researchgate.net/profile/Khan-Mubashir-2 https://scholar.google.com/citations?hl=en&user=NFVA6XMAAAAJ ORCID: 0000-0002-1237-8129		

Career Summary

LAST POSITION HELD:

- Served 11 years as **Professor and Head of Microbiology** at Faculty of Applied Medical Sciences (FAMS), Department of Laboratory Medicine, Umm Al Qura University, Makkah, Saudi Arabia from **January 2010 to February 2021**.
- **Vice Dean for Internship and Hospital Affairs- March 2015 – April 2016.**

CAREER SUMMARY:

- PhD. in Microbiology from London School of Hygiene and Tropical Medicine (LSHTM), University of London, London, UK. Thesis title was “Molecular analysis of ribosomal RNA genes in “*Helicobacter pylori*”. 1993
- DLSHTM: Diploma in Clinical Sciences from LSHTM, University of London, UK. 1995
- M. Phil in Microbiology from B.M.S.I, JPMC, Karachi (Grading system used was the same as at Indiana University, USA). Thesis in Mycology: Topic: “Causal Agents of Superficial Mycoses Isolated in Karachi”. 1977

- M.Sc. in Microbiology from Department of Microbiology, University of Karachi, Pakistan. 1974
- More than forty years' experience in teaching and research in Microbiology and infectious diseases.
- Served Pakistan Medical Research Council from 1978 till 2010 as researcher, started as Senior Research Officer and retired as Principal Research Officer. About eleven years, Head the Research and Development Division at PMRC Head office, Islamabad.
- Served for 5 years (1999-2004) as Associate Professor at Faculty of Medicine and Medical Sciences, Department of Microbiology, Umm Al-Qura University, Makkah, Saudi Arabia.
- Courses taught to the students of Medicine includes clinical microbiology (bacteriology and mycology) and course of environmental microbiology to the students of Medical Sciences and supervised their research projects and thesis write-up.
- Supervised/guided M.Phil. research students of Quaid-i-Azam University, Islamabad during 1984-1988.
- Conducted World Health Organization sponsored projects in gastrointestinal and respiratory infections (1983-88) and was a short-term WHO advisor for specific assignment as well.
- Organized and conducted various national and international courses, scientific meetings, seminars, symposia, and conferences.
- Obtained five national and international technical trainings (Pakistan, UK, Japan); participated in twelve scientific research workshops at national and international level (Pakistan, Australia, UK, Egypt). Also participated in workshops related to accreditation and quality assurance, administration and project management, information technology, medical editing and peer review, item author certification, funding resources for research, etc.
- Head of Research, Development and Training Department at Pakistan Medical Research Council, Head Office, Islamabad, Pakistan. Monitored and coordinated research activities of 13 PMRC Research Centers located throughout the country from 1994-2010.
- Forty-four research publications in peer reviewed national and international journals.
- Written practical laboratory manuals for the courses of Microbiology, Internship booklets, Research guidelines for formatting undergraduate and postgraduate thesis, at FAMS, Department of Laboratory Medicine, Umm Al Qura University, Makkah, Saudi Arabia
- Internship Coordinator and Chairman, Laboratory Medicine Committee for Internship and Hospital Affairs at Department of Laboratory Medicine, Umm Al Qura University, Makkah, Saudi Arabia from 2013 to February 2021.
- Reviewer for scientific journals and member of advisory board.

Teaching and Research Biography

1. ACADEMIC QUALIFICATION: In 1993, I did PhD in Microbiology from Department of Clinical Sciences, London School of Hygiene and Tropical Medicine (LSHTM), University of London, UK. The thesis title was “Molecular analysis of ribosomal RNA genes in *Helicobacter pylori*”. In 1995, obtained diploma in Clinical Sciences (DCS) by research from LSHTM, University of London UK. In 1977, did M.Phil. (Microbiology) from Institute of Basic Medical Sciences, Jinnah Postgraduate Medical Centre, Karachi, Pakistan. This institute followed the standard of Indiana University, USA, where minimum passing marks were 70%. Prior to this, obtained MSc. in Microbiology in 1974 in first division from Department of Microbiology, University of Karachi.

2. NATIONAL AND INTERNATIONAL TRAININGS/CONFERENCES/WORKSHOPS/SEMINARS/SYMPOSIA: Obtained five national and international technical trainings (Pakistan, UK, Japan); participated in twelve scientific research workshops at national and international level (Pakistan, Australia, UK, Egypt) and attended nine conferences/workshops/seminars and symposia in the field of Microbiology. Also made oral presentations in scientific conferences at 15 occasions. In addition, participated in workshops related to accreditation and quality assurance (3), administration and project management (8), information technology (4), medical editing and peer review etc (**Annex-I**).

3. EXPERIENCE:

January 2010 – February 2021: In January 2010, I joined as **Professor of Microbiology** at the Department of Laboratory Medicine, Faculty of Applied Medical Sciences, Umm Al Qura University, Makkah, Saudi Arabia. During the period, I was involved in **teaching, curriculum development, internship, research, and accreditation work** of the Laboratory Medicine program. Teaching primarily focused for the bachelor’s degree in Laboratory Medicine (BSc. Lab Med) since the joining. However, in 2018, MSc in Clinical Sciences (Microbiology) program has started by the University in which I was responsible for teaching and coordination of various modules of this program until I served by February 2021.

Teaching: Taught microbiology courses both for undergraduate and postgraduate program. I was the course coordinator for the following courses in addition to teaching:

Principles of Microbiology (Year 2, Semester 2-BSc Laboratory Medicine) (2011-2021)

Diagnostic Microbiology (Year 3, Semester 1 and 2- BSc Laboratory Medicine) (2011-2021)

Laboratory Skills (Year 2, Semester 1- BSc Laboratory Medicine) (2013-2016)

Research Methodology (Year 4, Semester 1- BSc Laboratory Medicine) (2013-2016)

Introduction to Clinical Microbiology (Year 1, Semester 1- MSc CLS-Microbiology Track) (2019-20)

Diagnostic Microbiology-I (Year 1, Semester 2- MSc CLS-Microbiology Track) (2019-20)

As course coordinator I have been responsible for developing and adapting the curriculum, overseeing all assessments and examinations, and the administrative duties related to quality assurance. I also taught **Microbiology and Immunology** course (Year 2, Semester 1-BSc Respiratory Care) and **Antimicrobial Agents and Emerging and re-emerging infections during Hajj and Umrah** courses (Year 1, Semester 2- MSc CLS-Microbiology Track). Teaching takes place using blended learning methods, both by physical attendance (traditional classroom lectures, discussion group tutorials, practical sessions) and using distance online learning (using the Blackboard platform).

Curriculum Development for MSc. Clinical Sciences (Microbiology) Program

In 2018, being the chairman of the curriculum development committee developed nine modules of MSc. Microbiology program which includes: 1) Introduction to clinical microbiology 2) Diagnostic microbiology-I 3) Diagnostic microbiology-II 4) Antimicrobial agents 5) Infection and immunity 6) Diagnostic virology 7) Diagnostic parasitology 8) Diagnostic mycology and 9) Emerging and re-emerging infections during Hajj and Umrah.

Also developed the curriculum for “**Basic Laboratory Skills**” course for the II-year BSc. Laboratory Medicine program in 2011 and since then it is implemented.

Internship (March 2013- February 2021): During the period, I was internship coordinator for BSc. Laboratory Medicine program as well as Chairman/President for Laboratory Medicine Committee for Internship and Hospital Affairs. Following responsibilities were carried out successfully:

1. Evaluated the applied methods for distributing the students in hospitals during the internship training.
2. Updated and modified the codes of practice for internship students and methods of assessment.
3. Prepared and submitted quarterly report on the progress of internship students.
4. Followed-up the evaluation forms submitted by the training supervisors in the hospitals.
5. Obtained feedback from internship students regarding the quality of training in their hospitals.
6. Prepared and submitted reports regarding regular meetings with the internship students.
7. Prepared and submitted annual report on the activities and performance of the internship program in general.
8. Prepared substandard 4.9 (Learning and Teaching: Field Experience Activities), scales, list of evidence, Key performance Indicators (KPIs), and report on substandard 4.9 for accreditation and quality assurance work according to guidelines of National Commission for Academic Accreditation and Assessment, Saudi Arabia.

During **March 2015 – April 2016**, I served as **Vice Dean for Internship and Hospital Affairs**, for Faculty of Applied Medical Sciences, Department of Laboratory Medicine, Umm Al Qura University, Makkah, Saudi Arabia. During this period, internship booklets for various educational programs prepared and reviewed. These include:

1. “Internship policy and general regulations” for all the programs of the Faculty of Applied Medical Sciences, Umm Al-Qura, University, Makkah, Saudi Arabia.
2. Internship booklet for “Laboratory Medicine program” of Faculty of Applied Medical Sciences, Umm Al-Qura, University, Makkah, Saudi Arabia, 2013 and revised in 2016.
3. Reviewed and modified internship booklets of various programs of the Faculty of Applied Medical Sciences, e.g., Anesthesia Technology, Clinical Nutrition, Emergency Medical Services, Health Management and Physical therapy.

Research: I was involved in both student research and my own. Guided and supervised students of BSc. Laboratory Medicine in the fourth year of their research projects and writing thesis as a partial fulfilment of undergraduate degree. During this period ten research publications were made in peer reviewed journals.

Accreditation Work: I was involved in the quality assurance and accreditation work for the program of BSc. Laboratory Medicine since my joining in January 2010. In 2014, Faculty has applied for the

accreditation of this program from the Accreditation Agency in Health and Social Sciences (AHPGS), Germany. The Preparation of Self-study Report (SSR) was the main document required for the evaluation of this program. I have the privilege to write and compile this report. The main features of this report are as under:

1. The SSR is a self-contained report on the quality of the program that includes the information about the process of investigation and conclusions are supported by the evidence with verification of analysis.
2. The program SSR describes the mission and objectives of the program and the extent to which they are achieved according to the standards for quality assurance and accreditation defined by the National Commission for Academic Accreditation and Assessment, Saudi Arabia.
3. This report played a pivotal role in evaluation of the program and Faculty succeeded in obtaining Accreditation from the Accreditation Agency in Health and Social Sciences (AHPGS), Germany.

June 2004 – January 2010: After serving as Associate professor for 5 years at Umm Al-Qura University, Makkah, Saudi Arabia, I joined in June 2004 at my original position of Principal Research Officer at PMRC, Head Office, Islamabad, Pakistan. Being the Head of the Research, Planning, Development and Training Division carried out following assignments:

- Planned and developed both long and short-term research proposals.
- Liaison with national and international research institutions for collaborative research.
- Conducted courses and training programme for health professionals.
- **Conducted WHO international collaborative research with McMaster University, Hamilton, Ontario, Canada, and published research papers.**
- Evaluated research proposals submitted to the Council for funding.
- Organized scientific meetings, seminars/symposia/trainings, and conferences.
- Assisted in reviewing and editing Council's Journal and annual reports.
- **Joint editor** for Pakistan Journal of Medical Research (PJMR) published by PMRC.
- **Examiner for M. Phil. and PhD students in Microbiology for University of Karachi.**
- Five research publications were made in national and international peer reviewed journals.

April 1999 – June 2004: In March 1999, as **Associate Professor (Microbiology)**, I joined the Department of Medical Microbiology, Faculty of Medicine and Medical Sciences, Umm Al-Qura University, Makkah, Saudi Arabia. In the capacity of full-time faculty member undertook both **teaching** as well as **research activities**. Teaching primarily focused on the bachelor's degree in Medicine (MBBS) and Medical Sciences (BSc Med. Sciences). Main tasks done were:

- Taught Basic and Clinical Microbiology to the students of medicine (**clinical bacteriology and mycology**).
- Guided and supervised laboratory exercises for the students of medicine.
- Taught and coordinated the course of environmental health to the students of medical sciences.
- Supervised research students of medical sciences in preparation of their research projects, conducting research and writing thesis.
- **Written a practical laboratory manual for the course of "Principles of Microbiology", which is still in use by the program.**

August 1994 – March 1999: In May 1994, I was promoted to the position of **Principal Research Officer** and posted at PMRC, Head office, Islamabad, Pakistan, where I Head the Research, Planning, Development and Training Division of the Council. Main assignments/responsibilities carried out were:

- Planned and developed both long and short-term research proposals.
- Coordinated with national and international research institutions for collaborative research.
- Conducted courses and training programmes for health professionals.
- Evaluated research proposals submitted to the Council for funding.
- Organized scientific meetings, seminars, symposia, and conferences.
- Assisted in reviewing and editing Council's Journal and annual reports.
- **Was an invited speaker to deliver lectures on various topic of Microbiology for the Course of Master's in public health (MPH) at Health Services Academy, Islamabad, Pakistan.**
- Four research publications were made in national and international peer reviewed journals.

August 1993 - July 1994: After completing PhD, I was posted at PMRC Research Centre, JPMC, Karachi, Pakistan and conducted research project on "Prevalence and drug resistance of *Helicobacter pylori*" and published paper in a scientific journal.

January 1989 - July 1993: During this period, I was PhD. student at the Department of Clinical Sciences, London School of Hygiene and Tropical Medicine, London, United Kingdom. Worked on the project "molecular analysis of ribosomal RNA genes in *Helicobacter pylori*", which lead to PhD. degree. Various molecular techniques were learnt and applied during this project. During this period, four publications were made in national and international peer reviewed journals.

March 1978 - December 1988: After completing M. Phil, I started my professional career as Senior Research Officer in 1978 with Pakistan Medical Research Council (PMRC) and posted at PMRC Research Centre at National Institute of Health, Islamabad. Here, I worked till December 1988 before proceeding for PhD. During this period, main responsibilities included supervision of diagnostic microbiology laboratory, outbreak investigations, teaching, and training of laboratory personnel in microbiology and research.

Diagnosics: Head the department of Diagnostic Microbiology, Public Health Division, National Institute of Health (NIH), Islamabad, which dealt with diagnostic bacteriology and mycology. Also involved in the microbiological analysis of water and food.

Outbreak Investigations: Investigated acute outbreaks of cholera, salmonella, shigella, and meningitis in different part of the country. Reports were written and research papers published on these outbreaks. Cases of the food poisoning were also investigated.

Teaching and training of laboratory personnel: Involved in the teaching and training of microbiology to the students of Laboratory Technology Course (B.Sc. Lab. Technology) offered by NIH, Islamabad.

Research and training: Carried out various research projects on diarrheal diseases and respiratory infections funded by the World Health Organization (WHO). The major long-term project was "Multicenter hospital-based study on the etiology of diarrhoea in first three years of life", as a part of national and global programme of the WHO from 1983-88. Following assignments were accomplished for this WHO study:

- **Conducted National Course** entitled "Isolation and identification of bacterial agents causing diarrhoea" at NIH, Islamabad, in 1983 for the participants of the centers involved in the multicenter study.

- **Compiled a laboratory instruction manual for the above-mentioned course.**
- **Established a diarrheal diseases research laboratory at NIH** for the isolation and identification of all possible bacterial pathogens of acute diarrhoea. Special techniques established included: detection of bacterial toxins by immunological and animal assays, and serological and bio-typing of enteric bacterial pathogens.
- **Coordination with all four centers** of the country involved in the WHO diarrheal disease study and monitored their progress. Subsequently, final report of the study was submitted to the WHO and manuscript published.

Supervision of postgraduate research: Supervised research projects of three students leading to Master of Philosophy (M.Phil.) degree in Microbiology. All three students obtained their M. Phil degree from Quaid-i-Azam University, Islamabad, Pakistan.

Courses organized and conducted:

1. "Diagnostic microbiology and quality control" in collaboration with WHO/DANIDA group at NIH, Islamabad, Pakistan, **1983**
2. National course entitled "Isolation and identification of bacterial agents causing diarrhoea" at NIH, Islamabad, Pakistan, **1983**
3. "WHO-workshop on microbiological methods in food safety" at NIH, Islamabad, Pakistan, **1984**

Research Publications: Twenty manuscripts were published during this period (1978-88) in national and international peer reviewed journals.

4. MAJOR FUNDED PROJECTS:

No.	Project Title	Duration	Funding agency	Amount of Project
1	Group B Streptococci carriage, serotype distribution and antibiotic susceptibility pattern in pregnant women in Makkah population.	1 year (2013-14)	Islamic Scientific Research Institute Umm Al Qura University, Makkah	SR 2996600 US \$ 79893
2	Global school-based health survey in Pakistan – A national level project funded by WHO.	2 years (2009-2010)	World Health Organization	US \$ 20,000
3	Determination of prevalence of hepatitis B and C in the general population of Pakistan – A national level project funded by Ministry of Health, Government of Pakistan.	1 year (2008-2009)	Government of Pakistan	Pak Rs. 2.812M US \$ 281, 253
4	"Assessment of burden of rotavirus gastroenteritis in Pakistan: Sentinel hospital-based surveillance - WHO Eastern Mediterranean Region Rotavirus Gastroenteritis Network	2 years (2006-2008)	World Health Organization	US \$ 25,000

5. PUBLICATIONS: A total of 44 research manuscripts were published in national and international peer reviewed journals. In addition to this, also published three abstracts, two editorials, two chapters in books and written two laboratory manuals, internship booklets, and guidelines for formatting thesis and presenting undergraduate research work.

5.1. Published Papers:

1. Mohamed AM, **Khan MA**, Faiz A, Ahmad J, Khidir EB, Basalamah MA, Aslam A. Group B streptococcus colonization, antibiotic susceptibility, and serotype distribution among Saudi pregnant women. **Infect Chemother.** 2020 Mar; 52(1): 70-81. <https://doi.org/10.3947/ic.2020.52.1.70>
2. **Khan M.A.**, Mohamed A.M., Faiz A., Ahmad J. Enterobacterial infection in Saudi Arabia: First record of *Klebsiella pneumoniae* with triple carbapenemase genes resistance. **J Infect Dev Ctries** 13(4):334-341. 2019. doi:10.3855/jidc.11056
3. **Khan M.M.A.** and Faiz A. Frequency of Carbapenemase Producing *Klebsiella pneumoniae* in Makkah, Saudi Arabia. **J Microbiol Infect Dis.** 6 (3): 121-127. 2016. DOI: 10.5799/ahinjis.02.2016. 03..0229
4. **Khan M.A.** and Faiz A. Antimicrobial Resistance Pattern of *Pseudomonas aeruginosa* in Tertiary Care Hospitals of Makkah and Jeddah. **Ann Saudi Med.** 36(1): 23-28, 2016. DOI: 10.5144/0256-4947.2016.23
5. **Khan M.A.**, Faiz A., Ashshi A. Maternal Colonization of Group B Streptococcus: Prevalence, associated factors and antimicrobial resistance. **Ann Saudi Med.** 35(6): 423-427, 2015. DOI: 10.5144/0256-4947.2015.423
6. **Khan M.A.**, Faiz A. Efficacy of cefoxitin disk diffusion in predicting *mecA* gene mediated oxacillin resistance in coagulase negative Staphylococci. **Pakistan Journal of Medical Research.** 53:84-88, 2014.
7. Kazi AM, Warraich GJ, Qureshi S, Qureshi H, **Khan MMA**, et al. Sentinel Hospital-Based Surveillance for Assessment of Burden of Rotavirus Gastroenteritis in Children in Pakistan. **PLoS ONE** 9(10): e108221. doi:10.1371/journal.pone.0108221, 2014
8. **Khan M.M.A.**, Faiz A., Ashshi A.M. Clinically significant coagulase negative staphylococci and their antibiotic resistance pattern in a tertiary care hospital. **Journal of Pakistan Medical Association.** 64: 1171-1174, 2014.
9. Johargy, A.K., Mahomed M.F., **Khan, M.M.**, Kabrah, S. Anti-hepatitis E virus seropositivity in a group of male blood donors in Makkah, Saudi Arabia". **Journal of Pakistan Medical Association.** 63: 185-189, 2013.
10. **Khan, MA.**, Mahomed FM., Ashshi AM., Faiz A. Drug resistance patterns of *Acinetobacter baumannii* in Makkah, Saudi Arabia. **Pakistan Journal of Medical Research.** 51:127-131, 2012.

11. Lavis JN, Guindon GE, Cameron D, Boupha B, Dejman M, Osei EJA, Sadana R, for the **Research to Policy and Practice Study Team (Khan, MMA)**. Bridging the gaps between research, policy and practice in low- and middle-income countries: a survey of researchers. *Canadian Medical Association Journal*. **182** (9): E350-361. DOI:10.1503/cmaj.081164, **2010**
12. Guindon GE, Lavis JN, Becerra-Posada F, Malek-Afzali H, Shi G, Yesudian CAK, Hoffman SJ, for the **Research to Policy and Practice Study Team (Khan, MMA)**. Bridging the gaps between research, policy, and practice in low- and middle-income countries: a survey of health care providers. *Canadian Medical Association Journal*. **182** (9): E362-372. DOI:10.1503/cmaj.081165. **2010**.
13. Razzak J.A., Hyder A.A., Akhtar T., **Khan M.**, Uzma R Khan U.R. Assessing emergency medical care in low-income countries: A pilot study from Pakistan. *BMC Emergency Medicine*. **8:8**, **2008**.
14. **Khan, M.M.A.**, and Ghazi,H.O. *Helicobacter pylori* infection in asymptomatic subjects in Makkah, Saudi Arabia. *Journal of Pakistan Medical Association*. **57:114-117**, **2007**
15. Ghazi,H.O, **Khan, M.M.A.**, Telmasani, A.W.M., Idress, B. and Mahommed, F.M. Rotavirus infection in infants and young children in Makkah, Saudi Arabia. *Journal of Pakistan Medical Association*. **55:231-234**, **2005**.
16. **Khan, M.M.A.**, Stoker,N.G. and Drasar,B.S. Sequence diversity of a fragment of the 16S RNA gene from *Helicobacter pylori*. *Microbios*. **103**: 139-150, **2000**.
17. Iqbal, J., Munir MA, **Khan, M.A.** Cryptosporidium infection in young children with diarrhoea in Rawalpindi, Pakistan. *American Journal of Tropical Medicine and Hygiene*. **60** (5):868-870, **1999**.
18. Hussain, M. and **Khan, M.M.A.** A review of the tuberculosis situation in Pakistan. *Pakistan Journal of Medical Research*. **37**: Supp: S27-S29, **1998**.
19. **Khan, M.M.A.**, B.S.Drasar and Stoker, N.G. Use of thymidine labelled vector for cloning and sequencing of enzymatically amplified ribosomal RNA genes of *Helicobacter pylori*. *Pakistan Journal of Medical Research*. **35:161-166**, **1996**.
20. Sami,Z. and **Khan,M.A.** Aetiological agents of viral diarrhoea. *Pakistan Journal of Medical Research*. **33:19-22**, **1994**.
21. Huilan,S., Zhen,L.G., Mathan,M.M., Olarte,J., Espejo,R., Maung,K.U., Ghafoor,M.A., **Khan,M.M.A.**, Sami,Z., Sutton,R.G. Etiology of acute diarrhoea among children in developing countries:a multicentre study in five countries. *Bulletin World Health Organization*. **5:549-555**, **1991**.
22. **Khan,M.M.A.**, Rab,M.A., Israr,N., Ilyas,M., Ahmad,F., Kundi,Z.U. and Ghafoor,A. Transmission of *Salmonella worthington* by oropharyngeal suction in hospital neonatal unit. *Pediatrics Infectious Disease Journal*. **10:668-672**, **1991**.

23. Khan, M.M.A., Baqai,R., Iqbal,J., Ghafoor,A. Zuberi,S. and Burney,M.I. Causative agents of acute diarrhoea in the first 3 years of life: Hospital-based study. **Journal of Gastroenterology and Hepatology**. 5:264-270, 1990.
24. Khan, M.M.A., Ara,F., Yousuf,M.O. and Ghafoor,A. Outbreak of gastro-enteritis in different areas of Pakistan. **Journal of Pakistan Medical Association**. 39:151-154, 1989.
25. Khan, M.M.A., Iqbal,J., Ghafoor,A. and Burney,M.I. Aetiologic agents of diarrhoeal diseases in hospitalized children in Rawalpindi, Pakistan. **Journal of Diarrhoeal Diseases Research**. 6:228-231, 1988
26. Khan, M.A., Azmi,F.H., Israr,N., Rab,M.A., Iqbal,J., Ghafoor,A., Karamat, K.A. and Burney,M.I. Gastroenteritis due to *Vibrio cholerae* Eltor Ogawa. **Journal of Pakistan Medical Association**. 38:170-172, 1988.
27. Sami,Z., Khan,M.A. and Ghafoor,A. Bacteriological analysis of drinking water. **Journal of Pakistan Medical Association**. 38:92-96, 1988
28. Khan, M.M.A., Azmi,F. and Iqbal,J. Purification of heat-labile enterotoxin of *Escherichia coli*. **Pakistan Journal of Medical Research**. 26:222-225, 1987.
29. Iqbal,J., Azmi,F., Ishaque,Z., Khan,M.A., Ghafoor,A. and Burney,M.I. Viral diagnosis in acute respiratory infections using the indirect immuno-fluorescence technique. **Journal of Pakistan Medical Association**. 37: 280- 284, 1987.
30. Azmi,F., Iqbal,J., Rab,A. and Khan,M.A. Prevalence of *Cytomegalovirus* antibodies in female patients in Rawalpindi/ Islamabad. **Journal of Pakistan Medical Association**. 37:229-230, 1987.
31. Khurshid,S.J., Khan, M.M.A. and Shahnaz,B. Radiometric detection of bacteria. **Journal of Pakistan Medical Association**. 37:34-38, 1987.
32. Azmi,F., Khan, M.A., Tariq,S., Iqbal,J., Rab,A. and Ghafoor,A. Comparison of ELISA, direct electron microscopy and antibody capture technique for detection of rotavirus in human stools: An experience in a developing country. **Journal of Pakistan Medical Association**. 37:172-174, 1987.
33. Azmi,F., Iqbal,J., Rab.A., Khan, M.A. and Amin,A. Prevalence of Anti-Rubella antibodies in pregnant and prepubertal females - A preliminary study. **Journal of Pakistan Medical Association**. 37:6-7, 1987.
34. Sami,Z., Roohi,S., Khan, M.M.A. and Ghafoor,A. Food hygiene with reference to public health microbiological contaminants of different foods in Rawalpindi and Islamabad. **Journal of Pakistan Medical Association**. 36:141-149, 1986.
35. Rashid,F., Khan, M.M.A., Bari,A., Akhtar,S. and Ahmed,S. Diarrhoea in children due to enterotoxigenic *Escherichia coli*. **Journal of Pakistan Medical Association**. 36:82-87, 1986.

36. **Khan, M.M.A.**, Ghafoor,A. and Burney,M.I. Aetiological agents of diarrhoea in infancy and early childhood. **Journal of Pakistan Medical Association. 35:276-279, 1985.**
37. **Khan, M.M.A.**, Baqai, R., Iqbal,J., Ghafoor,A. and Burney,M.I. Aetiology of infantile diarrhoea. Proceedings of the PMRC Medical Research Congress. p. 138-151, **1984.**
38. **Khan, M.M.A.**, Ghafoor,A. and Burney,M.I. Role of toxigenic bacteria in acute infantile diarrhoea. **Journal of Pakistan Medical Association. 34:266-269, 1984.**
39. Honda,T., **Khan, M.M.A.**, Takeda,Y. and Miwatani,T. Grouping of enterotoxigenic *Escherichia coli* by hydrophobicity and its relation to hemagglutination and enterotoxin productions. **FEMS Microbiology Letters. 17:273-276, 1983.**
40. Ali,S., Ghafoor,A., Burney,M.I., **Khan, M.M.A.**, Sami,Z.and Khan,Z. Study of viral respiratory disease in children in Rawalpindi/ Islamabad area. **Pakistan Journal of Medical Research. 22:91-96, 1983.**
41. Baqai,R., **Khan, M.M.A.** and Zuberi,S.J. A preliminary study on diarrhoeal disease in preschool children. **Journal of Pakistan Medical Association. 33:273-277, 1983.**
42. **Khan, M.M.A.**, Khan,M.A., Burney,M.I. and Ghafoor,A. Aetiology of infantile gastroenteritis. **Pakistan Journal of Medical Research. 21:40-44, 1982.**
43. **Khan, M.M.A.**, Ghafoor,A. and Burney,M.I. Aetiology of gastroenteritis in infancy and early childhood in Rawalpindi and Islamabad area. **Journal of Pakistan Medical Association. 31:201-203, 1981.**
44. **Khan, M.A.** and Hafiz,A. Causal agents of dermatomycosis isolated in Karachi. **Journal of Pakistan Medical Association. 29:50-54, 1979.**

5.2. Published Abstracts:

1. **Khan, M.M.A.**, Kazmi,S.U., Ghafoor,A. and Burney,M.I. Aetiology of diarrhoea in first three years of life-WHO multicentre study in Pakistan. 4th international workshop in *Campylobacter* infections, Gotteberg, Sweden. p.83. **1987.**
2. **Khan, M.M.A.**, Ghafoor,A., Sami,Z., Israr,N. and Burney,M.I. Bacterial, viral and parasitic agents causing diarrhoea in first three years of life. 23rd joint conference on Cholera. Williamsberg, Virginia, USA. p.62-63. **1987.**
3. **Khan, M.M.A.**, Israr,N., Rab,A., Kundi,Z.U., Ilyas,M., Fahim,A. and Ghafoor,A. *Salmonella* outbreak in a hospital nursery. 23rd Joint Conference on Cholera. Williamsberg, Virginia, USA. p.64. **1987.**

5.3. Published Editorials:

1. **Khan, M.M.A.** Drug resistance in *Helicobacter pylori*. **Journal of Pakistan Medical Association.** **45:1-2, 1995**
2. **Khan, M.M.A.** The polymerase chain reaction - Expectations and realities. **Journal of Pakistan Medical Association.** **44:202-203, 1994.**

5.4. Chapter in books:

1. Ghafoor,A., **Khan, M.A.**, Iqbal,J. and Burney M.I. Overview of epidemiology of diarrhoeal diseases in Pakistan. In S.Tzipori et al eds: Infectious diarrhoea in the young: Strategies for control in humans and animals. Excerpta Medica, International Congress Series 674, Elsevier Science Publishers B.V. (Biomedical Division): p. 88-91, **1985.**
2. Munir,M.A., Rab.M.A., Iqbal,J., Burney,M.I., Ghafoor,A. and **Khan M.A.** A review of the status of the Leishmaniasis in Pakistan (1980-1986): In Leishmaniasis- the current status and new strategies for control. NATO-ASI Series A: Life Sciences, **Vol. 63**, Plenum Press, New York & London. pp. 47-56, **1989.**

5.5. Thesis (PhD and M.Phil.):

1. **1993-PhD** Thesis title: Molecular analysis of ribosomal RNA genes in *Helicobacter pylori*
2. **1978-M.Phil.** Thesis title: Causal agents of superficial mycosis

5.6. Others: Laboratory manuals/ Internship booklets/research guidelines:

1. Prepared "**Internship Booklet**" for "**Laboratory Medicine Program**" of Faculty of Applied Medical Sciences, Umm Al-Qura, University, Makkah, Saudi Arabia, **2013** and revised in **2016.**
2. Prepared internship booklet "**Internship Policy and General Regulations**" for all the programs of the Faculty of Applied Medical Sciences, Umm Al-Qura, University, Makkah, Saudi Arabia, **2016.**
3. **Reviewed and modified in the capacity of Vice Dean for Hospital Affairs** internship booklets of all the programs of the Faculty of Applied Medical Sciences, e.g., Anesthesia Technology, Clinical Nutrition, Emergency Medical Services, Health Management and Physical therapy, **2016.**
4. Written a "**Guidelines for formatting thesis and presenting undergraduate research work**" in **2010** and revised in **2014.**
5. Written a "**Bacteriology Laboratory Manual**" for III-year diagnostic microbiology course, **2010.**
6. Written a laboratory manual for the students of "**Principles of Microbiology**", Department of Microbiology, Faculty of Medicine and Medical Sciences, Umm Al-Qura University, Makkah, Saudi Arabia. **2000.**

6. PROFESSIONAL MEMBERSHIPS:

1. Life member of Pakistan Society for Microbiology.
2. Member of Karachi Infectious Disease Society.
3. Member of the Executive Council for Pakistan Society for Microbiology.

7. REFERENCES

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NATIONAL & INTERNATIONAL TRAININGS/CONFERENCES/WORKSHOPS/SEMINARS/ SYMPOSIA:

A. CONFERENCES:

A.1: Oral Presentations:

1. "Rotavirus disease burden in Pakistan". 6th International Biennial conference of Microbiology, **Islamabad, Pakistan, 2007.**
2. "Infectious diseases in Pakistan: National Health Survey of Pakistan". American Public Health Association, **Indiana Polis, USA. 1997.**
3. "TA cloning and sequencing of enzymatically amplified 16S rDNA of *H.pylori*". Pakistan Society for Microbiology Annual Conference. **Karachi, Pakistan. 1995.**
4. "Variation in 16S Ribosomal RNA sequences in *Helicobacter pylori* strains". First IDRL Symposium of Microbiology. **Karachi, Pakistan. 1994.**
5. "Use of polymerase chain reaction to determine genomic heterogeneity among *H.pylori* strains". XVII annual conference of Pakistan Association of Pathologists. **Rawalpindi - Islamabad, Pakistan. 1993.**
6. "Outbreak of gastroenteritis due to *Vibrio cholera* Eltor Ogawa". Silver Jubilee symposium. **Karachi, Pakistan, 1987.**
7. "Nursery outbreak of *Salmonella* infection". 2nd International conference of Pakistan Association of Pathologists. **Karachi, Pakistan. 1986.**
8. "Etiology of diarrhoea in Pakistan: WHO multicentre study". National seminar on research in diarrheal diseases. **Islamabad, Pakistan. 1986.**
9. "Aetiological agents of diarrhoea in first three years of life". 22nd annual medical symposium. **Karachi, Pakistan. 1984.**
10. "Aetiology of infantile diarrhoea". PMRC Medical Research Congress. **Islamabad, Pakistan. 1984.**
11. "Grouping of enterotoxigenic *E.coli* by hydrophobicity and its relation to hemagglutination and enterotoxin productions". 20th annual medical symposium. **Karachi, Pakistan. 1982.**
12. "Role of enterotoxigenic *E.coli* in infantile diarrhoea". PMRC National Congress. **Peshawar, Pakistan. 1982.**

13. "Aetiology of infantile gastroenteritis". 18th annual medical symposium. **Karachi, Pakistan. 1980.**
14. "Etiology of gastroenteritis in preschool children". International symposium on child health in developing countries. **Islamabad, Pakistan. 1980.**
15. "Causal agents of dermatomycosis isolated in Karachi". 16th annual medical symposium. **Karachi, Pakistan. 1978.**

A-2: Conferences/Symposia/Meetings Attended:

1. 9th conference of Holy Makkah Laboratories, "**Update of Clinical Laboratory Science**" (24 CME) held at Grand Coral, Holy Makkah, **Saudi Arabia, 2-6 February 2014.**
2. 13th Research conference on "**Haj and Umrah**" held at Azizia campus, Umm Al Qura University, Makkah, **Saudi Arabia, 30 April - 01 May 2013.**
3. 7th Annual Conference of Holy Makkah Laboratories – **obesity "laboratory aspects and management issues -an update"** held at Grand Coral Hotel, Makkah **Saudi Arabia, 2010.**
4. 6th Annual conference of Holy Makkah Laboratories, "**Microbiology and communicable diseases-an update**", held at King Abdullah Medical city, Makkah, **Saudi Arabia, 2010.**
5. "**The Second Regional Meeting of National Ethics of New Biotechnologies**" Damascus, **Syria, 24-25 June 2009.**
6. "**Clinical Trials-National Ethical Structure and Good Clinical Practices**" held at Pakistan Institute of Medical Sciences, Islamabad, Pakistan, 20-21 August **2008.**
7. "**National Training Seminar on Biosafety and Biosecurity Initiatives**" held at Pakistan Agriculture Research Council, Islamabad, Pakistan, 18-19 June **2007.**
8. Symposium on "**Infection control awareness**", Security Forces Hospital, Riyadh, **Saudi Arabia, 24 June 1998.**
9. International symposium on "**Bacterial diarrheal diseases**". Osaka University, Osaka, **Japan, 1982.**

B. WORKSHOPS:

B.1. National and International Scientific Research Workshops Participated:

1. NIH Web-based training course on "**Protecting Human Research Participants**". Certification Number: 931737; 07 November **2012.**
2. "**Research Ethics workshop**" held at Serena Hotels Islamabad, **Pakistan, 14 October 2009.**

3. **"Infection Control Workshop"** as part of the International Symposium on Tropical Medicine and Hygiene, Aga Khan University, Karachi, **Pakistan**, 09 November **2009**.
4. **"Health System Research Training Workshop"** held at Pakistan Medical Research Council, Islamabad, Pakistan, 09-10 February **2007**.
5. **"Surveillance of Rotavirus Gastroenteritis in Pakistan"** held at Aga Khan University, Karachi, Pakistan, 09-10 March **2006**.
6. **"National training workshop for Establishing Institutional Ethical Review Committees in Pakistan"** Islamabad, 28 to 30 September **2005**.
7. **"WHO capacity workshop: Strengthening Health Research Systems analysis"** at WHO EMRO Cairo, **Egypt**, 21- 23 September **2004**.
8. **"Workshop on Qualitative Research Methodology"**, Arid Agriculture University, Rawalpindi, Pakistan, 13 to 23 September **2004**.
9. **"Workshop on Health for all evaluation and Health Information Systems Review"** held at Primary Health Care Cell, Ministry of Health, Islamabad, 28 March to 07 April **1997**.
10. **"Specialized Research and Development Management Training Program"** at University of New South Wales, Sydney, **Australia**, 08 to 26 July **1996**.
11. **"Workshop on Women's Health Research Design"** held at Pakistan Medical Research Council, Islamabad, 24 March to 4 April **1996**.
12. **"Helicobacter pylori workshop"**, Leeds, **United Kingdom**, **1990**.

B.2. National and International Technical Trainings/Workshops:

1. Fourth international symposium workshop on the **"Application of molecular biological research in agriculture, health and environment"**. Lahore, **Pakistan**, **1995**.
2. **"Characterization of Enteric Pathogens"** at Central Public Health Laboratory, Colindale, London, **U.K.** 17 June-28 July **1985**.
3. **"Modern Methods of Gene Conservation"** held at National Agriculture Research Council, Islamabad, **Pakistan**. 10-14 March **1985**.
4. Assisted as Lecturer and Laboratory Coordinator in **"WHO-Workshop on Microbiological Methods in Food Safety"** held at National Institute of Health, Islamabad, **Pakistan**, 07-19 April **1984**.
5. **"Toxin and Colonization of *V. cholerae* and *E. coli*"** at Research Institute for Microbial Diseases, University of Osaka, **Japan**. April **1981** to March **1982**.

B.3. Accreditation and Quality Assurance Workshops:

1. Workshop on **“Assessment of Student Learning”** held at Faculty of Applied Medical Sciences, Umm Al Qura University, Makkah, **Saudi Arabia, 2-4 February 2013.**
2. Workshop on **“Project of UQU institutional academic accreditation”** held at King Abdul Aziz Historical auditorium Abdia Campus, Umm Al Qura University, Makkah, **Saudi Arabia, 2011.**
3. **“Five-day Assessor Training Course on ISO 15189:2007”** conducted by Pakistan Accreditation Council (PNAC) in collaboration with Norwegian Accreditation (NA), 02-06 June **2008.**

B.4. Administration and Project Management Workshops:

1. **“Course on Managerial Decision-Making Skills”**. Health Services Academy, Islamabad, **Pakistan, 25-29 August 2008.**
2. **“A professional’s guide to program management”**. Project Management Institute, Islamabad, **Pakistan, 02-04 January 2008.**
3. **“Training course on Project Management for Project Directors.** Pakistan Planning and Management Institute, Islamabad, **Pakistan, 04 to 09 September 2006.**
4. **Coordinator for “National Consultation on the Development of Career Structure for Health Professionals”** held at Ministry of Health, Islamabad, **Pakistan, 29-30 August 2005.**
5. **“Performance Evaluation and Writing ACRs”** held at Secretariat Training Institute, Islamabad, **Pakistan, 27-31 October 1996.**
6. **“Responsibilities of Drawing and Disbursing Officer”** held at Secretariat Training Institute, Islamabad, **Pakistan, 06-17 October 1996.**
7. **"A course on Project Appraisal"** held at National Institute of Public Administration, Lahore, **Pakistan, 12 to 16 May 1996.**
8. **"Training workshop on Project Development, Formulation and Processing"** held at Pakistan Council for Science and Technology, Islamabad, **Pakistan, 21-25 April 1996.**

B.5. Information Technology Seminars/Workshops:

1. Workshop on **“University website Service Skills”** held at Faculty of Applied Medical Sciences, Umm Al Qura University, Makkah, **Saudi Arabia, 26 September 2012.**
2. Inform training workshop: **“Finding online information Resources”**. Health Services Academy, Islamabad, **Pakistan, 03-07 November 2008.**

3. National seminar on "**Development and application of information technology**: Prospects and problems", Islamabad, **Pakistan**, 05-06 March **1997**.
4. Seminar on "**INCO-DC**" European Union specific programme for science and technology cooperation with developing countries. **Pakistan**, **1997**.

B.6. Other Workshops:

1. "**Item Author Certification**" workshop of Saudi Commission for Health Specialties at Faculty of Applied Medical Sciences, Umm Al-Qura University, October **2019**.
2. "**Innovation and entrepreneurship**" at King Abdul Aziz Historical auditorium Abdia Campus, Umm Al Qura University, Makkah, **Saudi Arabia**, 14-16 May **2013**.
3. "**Available funding resources and priorities in medical research in KSA**" held at Faculty of Applied Medical Sciences, Umm Al Qura University, Makkah, **Saudi Arabia**, **2011**."
4. "**Medical editing and peer review**" held at Shifa Medical College, Islamabad, **Pakistan**, 30 August **2008**.