

Curriculum Vitae



PERSONAL INFORMATION

Dr. Niamatullah Kakar

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Center for Advance Studies in Vaccinology and Biotechnology (CASVAB), University of Balochistan, Brewery road Quetta. Pakistan

Nationality: Pakistani

EDUCATION

- 2014-2019** **PhD (Natural Sciences)**
University of Greifswald, Germany
Thesis: Deciphering the influence of *Streptococcus pneumoniae* global regulators on fitness and virulence
- 2009-2011** **MPhil (Microbiology)**
Center for advance studies in Vaccinology and Biotechnology (CASVAB),
University of Baluchistan Quetta, Pakistan
Thesis: Prevalence of *Mycobacterium tuberculosis* in the inmates of District Jail Quetta, Pakistan
- 2006-2007** **MSc (Biochemistry)**
Institute of Biochemistry, University of Baluchistan Quetta, Pakistan
- 2003-2005** **BSc Chemistry and Zoology**
Government Science college Quetta, Pakistan
- 1999-2001** **Intermediate in Pre-Medical**
Tameer-i-Nau Public College Quetta, Pakistan

WORK EXPERIENCE

- 14 Dec 2020 Cont.** Working under Interim placement for fresh PhDs (HEC_IPFP-fellow) program for the academic year 2020-21 at CASVAB, University of Balochistan Quetta.
- 19 May 2020 - Cont.** Working experience (Associated, “contract basis”) as a Micro-biologist at COVID-19 lab, Fatima Jinnah General and Chest Hospital Quetta.
Responsibilities:
RNA isolation and diagnosis of SARS-CoV-2 by real time reverse transcription polymerase chain reaction (RT-PCR) for the diagnosis of COVID-19 infection.
- Oct 2014-June 2019** Working experience during PhD study at Department of Molecular Genetics and Infection Biology, Interfaculty Institute of Genetics and Functional Genomics, University of Greifswald, Germany.
Microbial techniques:
Bacterial cultivation, transformation, growth and survival analysis under stress conditions.
Molecular techniques:
DNA isolation, restriction digestion and ligation, PCR, RT-PCR, Generation of heterologous expression vectors and plasmid based complementation.

Biochemical techniques:

Heterologous protein expression in E. coli purification by Ni-affinity chromatography and dialysis. Protein estimation and concentration, SDS PAGE.

Immunological and cell biological methods:

Mouse immunization and generation of antibodies and purification. Western blotting.

Nitrogen Metabolism: ¹⁵N-isotopologue profiling by GC-MS.

Dec 2011-May 2014

Lab technologist/Molecular biologist at Provincial Reference Lab (PRL), Fatima Jinnah General and Chest Hospital, Quetta, Pakistan.

Responsibilities:

Media preparation, Culture inoculation, Sputum smear microscopy (bright and dark field), PCR (Gene Xpert), Field survey and collection of sample. Data compiling, Facilitate the trainees on sputum smear microscopy and culture

Academic year 2011

Visiting Lecturer at Department of Microbiology University of Balochistan, Pakistan

Responsibilities:

Delivering lectures and performing experiment in lab

2001 till 2010

Part-time work as laboratory technician at Prof. M. Masoom Khan laboratory, Quetta Pakistan

Responsibilities:

Working in clinical chemistry, Microbiology, Immunology, Clinical pathology and Hematology and blood banking

TRAININGS/WORKSHOPS

- Training on fundamental of project management. 27th March 2021. Organized by National academy of higher education (NAHE) in partnership with Oxon Global (OxG).
- Training on Laboratory Diagnostic on Respiratory Viruses & Quality Assurance, 08.3.2021. Organized by National Institute of Health Islamabad (NIH), at Bolan Medical Complex Quetta, Pakistan
- Training on COVID-19 Laboratory Diagnosis and Biosafety. 18.10.2020. Organized by National Institute of Health Islamabad (NIH), Pakistan
- Four-week online training of “National Faculty Development Programme (NFDP) 2020 organized by National Academy of Higher Education (NAHE), Higher education commission (HEC) Islamabad, July-August 2020.
- 1st Summer School on `Infection Biology` September 28-30, 2016, Greifswald, Germany
- “Figure Making” workshop April 5-6 2016, Greifswald, Germany
- “Getting started in the PhD and solving conflict in the lab” Workshop May 27-29, 2015 Greifswald, Germany.
- Two weeks training on sputum smear microscopy and Gene Xpert at Ojha Chest institute, Provincial Reference laboratory (PRL), Karachi, Pakistan
- Two weeks training on MTB culture techniques at National Reference Laboratory (NRL), Islamabad, Pakistan

- Two weeks Training of Trainer (TOT) and planning workshop on Fluorescence based AFB Microscopy (LED) at National Reference Laboratory (NRL), Islamabad, Pakistan (Organized by National TB control program)
- Two week BSL-3 training on Drug Susceptibility Testing (DST) and liquid culture (MGIT) at National reference laboratory, Islamabad, Pakistan
- Eight (8) days training on chemistry analyzer (Micro Lab 300) at Prof. Masoom Khan Lab Quetta, Pakistan.

CONTRIBUTION IN CONFERENCES

- ❖ **Niamatullah Kakar**, Gerhard Burchhardt, Annett Mikolasch, Lukas Schulig, and Sven Hammerschmidt. ArcT functions as a carboxypeptidase in *Streptococcus pneumoniae*. 14th European meeting on the Molecular Biology of the Pneumococcus (EuroPneumo 2019) (11th-14th June), University of Greifswald, Germany.
- ❖ **Niamatullah Kakar**, Gerhard Burchhardt, Ina Häuslein, Wolfgang Eisenreich and Sven Hammerschmidt. Metabolic profiling of glutamine and arginine in *Streptococcus pneumoniae*. 4th German Pneumococcal and Streptococcal Symposium (22-24 October 2018) Berlin, Germany.
- ❖ Alejandro Gomez-Mejia, Stephanie Hirschmann, Gustavo Gamez, Herman Rath, Ulrike mäder, Lothar Petruschka, Sebastian Böhm, **Niamatullah Kakar**, Viiktor Kluger, Sven Hammerschmidt. Pneumococcal metabolic adaptation and colonization is regulated by the two-component regulatory system 08. 4th German Pneumococcal and Streptococcal Symposium (22-24 October 2018) Berlin, Germany.
- ❖ Frank Schmidt, **Niamatullah Kakar**, Tanja Meyer, Ilias Masouris, Lars Brinkmann, Gerhard Burchhardt, Vishnu Dhople, Uwe Völker, Uwe Koedel and Sven Hammerschmidt. *In vivo* proteome analysis of *Streptococcus pneumoniae* during infections. 4th German Pneumococcal and Streptococcal Symposium (22-24 October 2018) Berlin, Germany.
- ❖ **Niamatullah Kakar**, Gerhard Burchhardt, Ina Häuslein, Wolfgang Eisenreich and Sven Hammerschmidt. Strain specific differences in nitrogen metabolism and amino acid biosynthesis in *Streptococcus pneumoniae*. 9.Tagung der Fachgruppen Mikrobielle pathogenität Gastrointestinale Infektionen (20-22 June 2018) Bad Urach, Germany.
- ❖ Asmatullah Kakar, **Niamatullah Kakar**, Anne-Claire Durand, and Stéphanie Gentile. Global impact of obesity and diabetes on the increase incidence and prevalence of end stage renal disease (ESRD): Review of literature. 26th Annual Meeting of Doctoral School (28 - 29 May 2018) Site UFR de Médecine, La Timone, Aix Marseille University, France.
- ❖ **Niamatullah Kakar**, Gerhard Burchhardt, Ina Häuslein, Wolfgang Eisenreich and Sven Hammerschmidt. Characterization of nitrogen metabolism of *Streptococcus pneumoniae* by isotopologue profiling. (15-18 April 2018) Jahrestagung der VAAM in Wolfsburg, Germany.
- ❖ **Niamatullah Kakar**, Gerhard Burchhardt, Ina Häuslein, Annett Mikolasch, Wolfgang Eisenreich and Sven Hammerschmidt. Interplay between glutamine and arginine on nitrogen metabolism in *Streptococcus pneumoniae*. 1st International Conference on Respiratory Pathogens (IcoRP). (1st - 3rd November 2017) Rostock, Germany.

- ❖ Frank Schmidt, Tanja Meyer, **Niamatullah Kakar**, Ilias Masouris, Lars Brinkmann, Gerhard Burchhardt, Vishnu Dhople, Uwe Völker, Uwe Koedel and Sven Hammerschmidt. *In vivo* proteome analysis of *Streptococcus pneumoniae* during CSF infections deciphers mechanisms of adaptation. 1st International conference on respiratory pathogens (1st - 3rd November 2017), Rostock, Germany.
- ❖ Alejandro Gomez-Mejia, Stephanie Hirschmann, Gustavo Gamez, Herman Rath, Ulrike mäder, Lothar Petruschka, Sebastian Böhm, **Niamatullah kakar**, Viiktor Kluger, Sven Hammerschmidt. Regulation of fitness and colonization factors by the pneumococcal two-component regulatory system. 1st International conference on respiratory pathogens. (1st - 3rd November 2017), Rostock, Germany.
- ❖ Frank Schmidt, Tanja Meyer, **Niamatullah Kakar**, Ilias Masouris, Lars Brinkmann, Gerhard Burchhardt, Vishnu Dhople, Uwe Völker, Uwe Koedel and Sven Hammerschmidt. *In vivo* proteome analysis of *Streptococcus pneumoniae* during CSF infections deciphers mechanisms of adaptation. 16th Human proteome Organization World Congress HUPO. (17th-21th September), 2017 Dublin, Ireland.
- ❖ Frank Schmidt, Tanja Meyer, **Niamatullah Kakar**, Ilias Masouris, Lars Brinkmann, Gerhard Burchhardt, Vishnu Dhople, Uwe Völker, Uwe Koedel and Sven Hammerschmidt. A proteomics approach to decipher pneumococcal adaptation during CSF infection. 13th European Meeting on the Molecular Biology of the Pneumococcus (EuroPneumo 2017) (27th - 30th June), Karolinska Institute, Stockholm, Sweden.
- ❖ Alejandro Gomez-Mejia, Stephanie Hirschmann, Gustavo Gamez, Herman Rath, Ulrike mäder, Lothar Petruschka, Sebastian Böhm, **Niamatullah Kakar**, Viiktor Kluger, Sven Hammerschmidt. The two-component regulatory system 08 is involved in regulation of pneumococcal fitness and colonization factors. 13th European Meeting on the Molecular Biology of the Pneumococcus (EuroPneumo 2017) 27th - 30th June, 2017, Karolinska Institute, Stockholm, Sweden.
- ❖ Frank Schmidt, Tanja Meyer, **Niamatullah Kakar**, Ilias Masouris, Lars Brinkmann, Gerhard Burchhardt, Vishnu Dhople, Uwe Völker, Uwe Koedel and Sven Hammerschmidt. 68th Annual Meeting of the German Society of Hygiene and Microbiology (DGHM), (11-14 September, 2016), Ulm, Germany. *In vivo* proteomic analysis of bacteria isolated from the cerebrospinal fluid during acute meningitis.
- ❖ Frank Schmidt, Tanja Meyer, **Niamatullah Kakar**, Ilias Masouris, Lars Brinkmann, Gerhard Burchhardt, Vishnu Dhople, Uwe Völker, Uwe Koedel and Sven Hammerschmidt. 3rd German Pneumococcal and Streptococcal Symposium (9-10, September 2016), at Helmholtz Centre for Infection Research Braunschweig, Germany. *In vivo* proteomic analysis of pneumococci isolated from the cerebrospinal fluid during acute meningitis
- ❖ Participation in the 2nd German Pneumococcal and Streptococcal Symposium. (11th-13th, June 2015) Rostock.

PUBLICATIONS

- ❖ Effectiveness of Oxytetracycline and Tylosin Phosphate on Growth of Broiler Chicken. 2021. Pakistan Journal of Zoology. Syed Haseeb Ahmed Shah, Irfan Shahzad Sheikh, Abdul Samad, Muhammad Kamran Taj, Mohammad Masood Tariq, Majed Rafeeq, Sumaira Fazal, **Niamatullah Kakar**, Sabeera Afzal and Asadullah. 2021. PJZ pp 1-9.

- ❖ *In vivo* proteomics identifies the competence regulon and AliB oligopeptide transporter as pathogenic factors in pneumococcal meningitis. 2019. Frank Schmidt, **Niamatullah Kakar**, Tanja Meyer, Maren Depke, Ilias Masouris, Gerhard Burchhardt, Alejandro Gómez-Mejia, Vishnu Dhople, Leiv Sigve Håvarstein, Zhi Sun, Robert L. Moritz, Uwe Völker, Uwe Koedel and Sven Hammerschmidt. 2019. PLoS Pathog 15(7): e1007987.
- ❖ Pneumococcal Metabolic Adaptation and Colonization Are Regulated by the Two-Component Regulatory System 08. Alejandro Gómez-Mejia, Gustavo Gámez, Stephanie Hirschmann, Viktor Kluger, Hermann Rath, Sebastian Böhm, Franziska Voss, **Niamatullah Kakar**, Lothar Petruschka, Uwe Völker, Reinhold Brückner, Ulrike Mäder, Sven Hammerschmidt. 2018. mSphere. Vol. 3(3), e00165-18.
- ❖ Study on Accuracy and Efficiency of Molecular Diagnostic Techniques used for Tuberculosis and Analysis of Associated Risk Factors for Tuberculosis in Jail Inmates of Quetta, Pakistan. **Niamatullah Kakar**, Farhat Abbas, Muhammad Shafee and Tauseef Asmat. 2018. Pakistan J. Zool., vol. 50(4), pp 1461-1465.
- ❖ Prevalence of human immunodeficiency virus in the inmates of district Jail Quetta, Balochistan. **Niamatullah Kakar**, Tauseef Muhammad Asmat, Ferhat Abbas, Habib Ur-Rehman, Asmatullah Kakar, Kalimullah Khan and Farah Sabeen Bugti. 2017. Pure Appl. Biol., 6(1): 164-170.
- ❖ Thrombocytopenia as a Diagnostic Marker for Identifying Patients with Malaria in Endemic Regions. 2014. **Niamatullah kakar**, Asmatullah, Habib Ur-Rehman, Zahid Mehmood, Ashif sajjad, Qudratullah, Mohammad Ashraf. International Journal of Advanced Research. Vol 2 (4), pp. 35-42.
- ❖ Hematological profile and risk factors associated with pulmonary tuberculosis patients in Quetta, Pakistan. 2014. Muhammad Shafee, Ferhat Abbas, Muhammad Ashraf, Mohammad Alam Mengal, **Niamatullah Kakar**, Zafar Ahmad, Fawad Ali. Pak J Med Sci. Vol. 30 (1).
- ❖ Assessment of Newer Commercial Serological (ICT) Test for the Diagnosis of Active Pulmonary Tuberculosis in TB Endemic Areas. 2014. **Niamatullah Kakar**, Asmatullah, Habib Ur Rehman, Mohammad Ashraf, Amanullah. IOSR Journal of Pharmacy and Biological Sciences (IOSR-JPBS). Volume 9, Issue 2 Ver. II (Mar-Apr. 2014), PP 98-102.
- ❖ Seroprevalence and Risk Factors of Hepatitis B, C and Sexually Transmitted Treponema Pallidum Infections in Jail Inmates of Quetta, Balochistan. 2014. **Niamatullah Kakar**, Habibur Rehman, Ferhat Abbas, Asmatullah Kakar, Ihsanullah Kakar and Muhammad Ali Khan. Glo. Adv. Res. J. Med. Med. Sci. 2014. Vol. 3 (11) pp. 367-373
- ❖ Procedure Development for Identification of Histamine from Chicken Meat. Umar Bacha, Muhammad Nasir, Naveed Akbar, Yasir Allah Ditta, Muhammad Asif Ali, Javed Muhammad, Abdul Wajid, Muhammad Aamir Iqbal, Asad Amjad, Ihsanullah Kakar, **Niamatullah**, Amna Ashraf Bajwa & Hina Ijaz. Nature Protocol Exchange 2013. doi:10.1038/protex.2013.099.
- ❖ Misdiagnosis of tuberculosis: Sputum culture is a useful diagnostic tool in Quetta, Pakistan. 2012. **Niamatullah Kakar**, Hazir Rahman, Muhammad Qasim, Kalimullah Khan, Mohammad Ashraf, Habib Ur Rehman, Sardar Ali, and Abdul Malik Tareen. African Journal of Microbiology Research Vol. 6(47), pp.7389-7391.

- ❖ Clinical Manifestations and Distribution of Cutaneous Leishmaniasis in Pakistan. 2011. Abaseen Khan Afghan, Masoom Kassi, Pashtoon Murtaza Kasi, Adil Ayub, **Niamatullah Kakar**, and Shah Muhammad Marri. Journal of Tropical Medicine Vol. 2011, Article ID 359145, 8 pages. doi:10.1155/2011/359145.
- ❖ Global impact of obesity and diabetes on the increase incidence and prevalence of end stage renal disease (ESRD): A systematic review. Asmatullah Kakar, **Niamatullah Kakar**, Anne-Claire Durand, Yosra Mouelhi and Stephanie Gentile. (**Submitted** in the "BMC Nephrology") Submission ID: BNEP-D-20-01237.
- ❖ The nutritional significance of selenium, cobalt and magnesium, and the effects of its deficiency on animal health. Habib ur Rehman, Mohammad Din, **Niamatullah Kakar** and Ahmad Khan Tareen 2020. Indo american journal of pharmaceutical sciences., 07(01), 201-212.
- ❖ Detrimental characteristics of climate change on livestock production and reproduction. Rehman Habib Ur, Kakar Asmat ullah, **Kakar Niamatullah**, Rehman Fazal ur, Khan Deedar Ahmed, Ahmed Sarfaraz Khan and Ahmed Shakeel. 2020. World Journal of Advanced Research and Reviews. 05(03), 114–123.
- ❖ Classification, Etiology, Similarities and Management of Diabetes Mellitus in Canine and Feline with respect to Humans. 2020 Habib-Ur-Rehman, **Niamatullah Kakar**, Asmatullah Kakar and Sanaullah Khan. 2020. International Journal of Creative and Innovative Research in All studies (IJCIRAS). 3 (2), 2581-5334.
- ❖ Zoonotic Brucellosis: Seroprevalence and different serological tests comparison in ovine and caprine population in district Quetta, Balochistan. 2020. Habib-Ur-Rehman, **Niamatullah Kakar**, and Asmatullah Kakar. 2020. World Journal of Biology Pharmacy and Health Sciences. 2 (3), 044-050.
- ❖ Nutraceutical Applications of Copper, Manganese and Zinc In Rumen Metabolism And Body Immune Processes. Habib-Ur-Rehman, Kaleemullah, Fazal ur Reman, Ali akbar, Munir Ahmad Khan, **Niamatullah Kakar**, Muhammad Zafar Ahmad, Asmatullah Kakar, Ihsanullah Kakar, Qudratullah, Mir Ahmad Kakar, Muhammad Ayub and Siraj Ahmad Kakar. 2018. Indo American journal of pharmaceutical sciences., 05 (01), 226-235.
- ❖ Study On Blood Biochemical-Theileriosis In Domestic Sheep In The District Quetta, Balochistan Pakistan. Habib-Ur-Rehman, **Niamatullah Kakar**, Asmatullah Kakar, Qudratullah and Kaleemullah Mandokhail. 2017. Annals of Veterinary and Animal Science., 4(3): 78-82
- ❖ Characterization of nitrogen metabolism of *Streptococcus pneumoniae* by isotopologue profiling. **Niamatullah Kakar**, Gerhard Burchhardt, Ina Häuslein, Wolfgang Eisenreich and Sven Hammerschmidt (**Manuscript in Preparation**).
- ❖ Structural and Functional Characterization of Putative Peptidase ArcT in *Streptococcus pneumoniae*. **Niamatullah Kakar**, Gerhard Burchhardt, Annett Mikolasch and Sven Hammerschmidt. (**Manuscript in Preparation**).
- ❖ The redox-sensing protein Rex, a transcriptional regulator of glycolytic enzymes in *Streptococcus pneumoniae*. Schulz C., P. Gierok, L. Seifert, **Niamatullah Kakar**, A. Müller, L. Petruschka, M. Lalk, S. Hammerschmidt (**Manuscript in Preparation**).

ON GOING PROJECT: _____

- ❖ Molecular epidemiology of community circulating *Streptococcus pneumoniae*, associated risk factors and antimicrobial sensitivity among carriage in children in Quetta, Pakistan: a community highly exposed to respiratory infections. Ref No: 291/IPFP-II (Batch-I)/SRGP/NAHE/HEC/2020/264.

ADDITIONAL INFORMATION _____

❖ Scientific laboratory skills:

Microbial techniques: Cultivation and Transformation of Bacteria, Cryocultures preservation of bacterial strains, Determination of CFU, Preparation of protein lysate, Estimation of pneumococcal growth, Growth and survival of *bacteria* under oxidative stress conditions, Protein expression under stress conditions by immunoblotting, sample preparation for electron microscopy

Molecular biological methods: Isolation of plasmid DNA from *E. coli* and pneumococci by column chromatography and alkaline lysis, Isolation of DNA fragments from agarose gel, Plasmid DNA purification and concentration, Restriction digestion and ligation, Agarose gel electrophoresis, Extraction of genomic, Polymerase chain reaction (PCR) and RT-PCR, Generation of *mutants*, Generation of plasmid-based complementation, Generation of heterologous expression vectors

Protein analysis and biochemical techniques: Heterologous expression of pneumococcal proteins in *E. coli*, Purification of the heterologously expressed proteins by affinity chromatography, Protein purification under reducing condition, Purification of His₆-tagged proteins by protino Ni-TED column and Ni-TED Resin, Ion exchange chromatography (MonoQ), Gel filtration, Dialysis of protein solution, Buffer exchange of the purified protein, Elimination of the His₆-tag from the recombinant protein, SDS-polyacrylamide gel electrophoresis (SDS-PAGE), Protein concentration and Bradford assay, Protein concentration, Protein staining with Coomassie and Silver staining

Western blot analysis: Immune detection using NBT/BCIP substrate, Chemiluminescence reaction Fluorescence detection with LI-COR system, Quantification of the immunoblot by LI-COR system

Immunological methods: Mouse immunization and generation of polyclonal antibodies, IgG purification by protein A-sepharose affinity chromatography

Cell culture technique: Cultivation of the eukaryotic cell for infection experiment, Cells count using Neubauer counting chamber, Antibiotic protection assay, Double immunofluorescence (DIF) staining, Cryocultures for the preservation of eukaryotic cell lines:

Enzymatic assay determination: Apo-enzyme and reconstituted protein preparation, Determination of peptidase and N-acetylornithinase activity, LCMS analysis

Nitrogen metabolism (¹⁵N-isotopologue profiling): Cultivation for ¹⁵N-labelling experiments and sample preparation for GC-MS analysis

- ❖ **Articles reviewed for Journals:** International Journal of STD & AIDS
International Journal of Pharmaceutical Research

- ❖ **Computer skills:** Microsoft word, Power point, Excel, Graph Pad prism, Adobe illustrator

❖ **Achievements:**

- Achieved HEC-DAAD Overseas Scholarship (Germany) for PhD (PHASE-II, Batch V)
- Award of research project under “Start-Up Research Grant Program (SRGP) for IPFP (Phase-II) under title “Molecular epidemiology of community circulating *Streptococcus pneumoniae*, associated risk factors and antimicrobial sensitivity among carriage in children in Quetta, Pakistan: a community highly exposed to respiratory infections. Rs 1.0 million. Ref No: 291/IPFP-II (Batch-I)/SRGP/NAHE/HEC/2020/264.

❖ **Membership:**

- Student member of the German Society of Hygiene and Microbiology (DGHM), 2017-2019
- American Society for Microbiology (ASM) at the Global Outreach. Membership No: 100001531

❖ **Certificates:**

- Certificate of participation, “Virtual Biological Risk Management Conference” 4-5 June 2021. Organized by Pakistan Biological safety management” and NIH Fogarty.
- Certificate of attendance as a participant on “COVID-19 Pandemic and role of Microbiologist” “COVID-19: Herd immunity” 21st April 2021. Organized by American Society for Microbiology (ASM).
- Certificate of participation “Two weeks training on fundamental of project management course. 27th March 2021. Organized by National academy of higher education (NAHE) in partnership with Oxon Global (OxG).
- Certificate of attendance as a participant on “COVID-19 Pandemic and role of Microbiologist” and COVID-19 Vaccine and Vaccination” 7th April 2021. Organized by American Society for Microbiology (ASM).
- Certificate of training on Laboratory Diagnostic on Respiratory Viruses & Quality Assurance, 8th March 2021. Organized by National Institute of Health Islamabad (NIH), at Bolan Medical Complex Quetta, Pakistan
- Certificate of participation “Training on COVID-19 Laboratory Diagnosis and Biosafety 18.10.2020”. Organized by National Institute of Health Islamabad (NIH), Pakistan.
- Certificate of successfully completing four-week online training “National Faculty Development Programme (NFDP) 2020 organized by National Academy of Higher Education (NAHE), Higher education commission (HEC) Islamabad, July-August 2020.
- Certificate of attendance 14th European Meeting on the Molecular Biology of the Pneumococcus, 2019, Greifswald, Germany
- Certificate of attendance “1st International Conference on Respiratory Pathogens (IcoRP) 2017, Rostock, Germany
- Certificate of attendance “1st Summer School on `Infection Biology` September 28-30, 2016, Greifswald, Germany
- Certificate of attendance workshop “Figure Making” April 5-6 2016, Greifswald, Germany

- Certificate of attendance workshop “Getting started in the PhD and solving conflict in the lab” May 27-29, 2015 Greifswald, Germany.
- Certificate of Excellence from Provincial reference laboratory (PRL) Quetta Pakistan (2014)
- Certificate of Appreciation from Provincial TB control program (PTP) Quetta Pakistan (2014)
- Certificate of publication from International organization of Scientific Research (IOSR Journals) in recognition of the publication of manuscript (2014)
- Certificate of Publication from International Journal of Advanced Research (IJAR 2014)
- Certificate of training on MTB culture techniques at National Reference Laboratory (NRL), Islamabad, Pakistan (2012)
- Certificate of Training of Trainer (TOT) and planning workshop on Fluorescence based AFB Microscopy (LED) at National Reference Laboratory (NRL), Islamabad, Pakistan (Organized by National TB control program) (2012)
- Certificate of Two weeks training on sputum smear microscopy and Gene Xpert at Ojha Chest institute, Provincial Reference laboratory (PRL), Karachi, Pakistan (2011)
- Laboratory experience certificate from Prof. M.Masoom Khan Laboratory (2010)
- Certificate of training on chemistry analyzer (Micro Lab 300) at Prof. Masoom Khan Lab Quetta, Pakistan (2006).

❖ **Language proficiency:**

English- Excellent, Urdu-Excellent, Pashto- Excellent

REFERENCES

- **Prof. Dr. Sven Hammerschmidt** (sven.hammerschmidt@uni-greifswald.de)
Department of Molecular Genetics and infection biology. Interfaculty institute of Genetics and Functional Genomics. Center for Functional Genomics of Microbes, University of Greifswald, Germany. Tel: +49 (0)3834 420 5700
- **Dr. Gerhard Burchhardt** (Gerhard.Burchhardt@uni-greifswald.de)
Department of Molecular Genetics and infection biology. Interfaculty institute of Genetics and Functional Genomics. Center for Functional Genomics of Microbes, University of Greifswald, Germany. Tel: +49 (0)3834 420 5712
- **Prof. Dr. Wolfgang Eisenreich** (wolfgang.eisenreich@ch.tum.de)
Lehrstuhl für Biochemie, Department für Chemie, Technical university Munchen, Lichtenbergstraße 4 85747 Garching. Germany Tel + 49-89-289-13336
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