***CURRICULUM VITAE***



**Dr. AJAB KHAN**

**Director ORIC**

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Father’s Name: Hazrat Gul

Date of Birth: 13th April 1978

NIC: 15402-67604441

Residence Phone No: 0932-411151

Domicile: District Malakand

## EDUCATION

Sept. 2007 – Jan. 2012 **University of Leicester, UK (QS Ranking 242)**

**PhD in Computer Science (Computer Software Engineering)**

Thesis: Stochastic Simulation of P2P VoIP Network Reconfiguration Using Graph Transformation

Advisor: Prof. Dr. Reiko Heckel

Sept. 1998 – Apr. 2000 **University of Peshawar, Pakistan**

**MSc in Computer Science**

Thesis: Implementation of On-line banking module for PICIC bank Advisor: Prof. Altaf Farooq

Result: 78%

Sept. 1996 – Aug. 1998 **University of Peshawar, Pakistan**

**BSc in Computer *Science*** Result: 68%

# Diploma & Trainings (International)

2018 ICT Application in Higher Education for Asian and European countries (**as Team Leader**), Organized **Southern University of Science and Technology, China.**

2017 Education Management in Pakistan (**as Team Leader**), Organized **Zhejiang Normal University, China.**

2006 IT Human Resource Development SEC Sapporo, Japan, Funded **by JICA**

2004 Dynamic Web Designing Multimedia University, Malaysia, **Funded by MTCP**

# Diploma & Trainings (National)

2018 Microsoft Azur & Cloud, HEC, Islamabad

2016 IP Policy and Patent, HEC, Islamabad

2015 Project Planning, Implementation and Evaluation, HEC, Islamabad

2014 Service Statutes and Establishment code of conduct, QEC, UOM

2013 Audit and Finance (Rules and Statues), QEC, UOM

## Research Experiences

Sep. 2007 – May.2012 Graph Transformation Group, University of Leicester, UK

Modeling Skype like VoIP protocol. These protocols are characterized by high degree of peer dynamism. In this project, we have modeled Skype like VoIP protocol and performed comparative analysis of various algorithms proposed to solve the problem of peer promotion, connection and reconfiguration. I have contributed a new approach of graph transformation-based modeling and used a new tool for implementation of this approach.

## Research Experiences

Dec. 2001 – Aug. 2007 Department of Computer Science, University of Malakand

I was teaching the subjects of model-based development, software engineering and simulation networks. Apart from teaching each year, I have supervised two under graduate thesis and two master theses related to my research interests. My contribution at University of Malakand include campus wide configuration and management of optical fiber-based network, which include two Vsat links and one DRS link.

April. 2001 – Nov. 2001 United Nation Development Programme (UNDP)

Worked as computer programmer and my responsibility at this position was to update the legacy system, used in various departments. I have used the approach of model-based development to completely redesign some of the software modules.

Current Software Research PROJECTS

1. Social Network Modelling and Analysis
2. Stochastic Model for Immune system using Graph Transformation
3. Crystal Growth Architecture for P2P network.
4. Bigdata analysis for business application
5. Zero- Click e-medicine

Research Projects / Competitive Research Grants

**P2P inspired Stochastic Model for Analysis of Polio Management in Pakistan Rs. 2.4 Million from HEC Govt. of Pakistan**

## Teaching, Planning, Research & Administrative Experience

|  |  |
| --- | --- |
| **21st March 2019 till date** | **Director ORIC, BPS-20, Abbottabad UST** |
| 1st January,2019- March 20th, 2019 | **Additional Registrar BPS-19**  **Assistant Professor /HOD** |
| November 2017- December 2018 | **Manager (Research Development), ORIC BPS-19** |
| June 2012 – November, 2017 | In-charge RFID, **Manager (Research Development)** |
| August 2007- June 2012 | Assistant Professor at University of Malakand |
| December 2001 – August, 2007 | **Director (P & D)** , Deputy Controller of Examinations, **Project Director** and Assistant Professor at University of Malakand, Pakistan |
| **Director (P and D)** ***Shaheed Benazir Bhutto Women University, Peshawar*** (Additional Charge) (**Feb. 2006 – Aug. 2007)** |
| May 2001 – November. 2001 | **UNDP EIROP**, Programme Officer PTW, Civil Secretariat, Govt of KPK, Peshawar  (On duty with Commander Signals 11 core Headquarter) |

**Total Research, Teaching and Administrative experience: 19 Years**

# Achievements

### Abbottabad University of Science and Technology (AUST)

1. The ORIC of AUST was notified by HEC. All the requirements were completed in 22 days and ORIC AUST is now 62nd Notified/Recognized ORIC.
2. The Financial Health of the University is strengthened by recovering liability from students, rents from shops, electricity and gas bills etc.
3. The execution of PSDP approved project has been put on the fast track. As if now Rs. 200 Million has been released against the allocation of Rs. 200 million in the current Financial Year and additional 100 million has been sanctioned by the HEC.
4. The recurring Budget of AUST Rs. 150 Million is agreed by the HEC which is 100% more than the last financial year.

### University of Malakand

1. Developed the Software to computerize the examination conduction, record, and issuance of degree and certificate. The system was first time used in public sector universities. (*Received certificate of excellent performance from Ex-Governor KPK Lt. Gen Syed Iftikhar Hussain Shah*)
2. Worked as Head of the Department of Computer Science and established three labs and one IT center for providing internet facilities and other allied requirements.
3. As Project Director successfully completed the project title “Computerization and network enhancement Programme”

**PSDP (Capital cost of Rs 23.00 million)**

### Shaheed Benazir Bhutto Women University, Peshawar Additional Charge as Director (Planning and Development)

I have prepared PC-1 and executed the project as Project Director

Establishment of Frontier Women University in NWFP at Peshawar.Phase-1 CDWP (now known as Shaheed Benazir Bhutto Women University, Peshawar)

**PSDP (Capital Cost Rs. 456.153 million)**

* Prepared Vision plane for Shaheed Benazir Bhutto Women University, Peshawar
* Prepared and managed to approve the first recurring budget of the University

# Achievements

**As a Director Planning and Development have prepared and executed the following development projects.**

|  |  |  |
| --- | --- | --- |
| **S.No** | **Description of Project** | **Approved by CDWP/DDWP** |
| 1 | *Computerization and Networking Enhancement Program of University of Malakand* | *Rs.23.114 m \** |
| 2 | *Preservation & Research on High Valued Medicinal Plants at High altitude research Center and Campus, Sheringal (Now known as Shaheed Benazir Bhutto University Sheringal)* | *Rs.38.671m* |
| 3 | *Establishment of Department of Forestry at University of Malakand Campus-II, Sheringal, Dir (Upper) (Now known as Shaheed Benazir Bhutto University Sheringal)* | *Rs 28.771m* |
| 4 | *Construction of Hostel for Visiting Faculty at University of Malakand* | *Rs. 13.890m* |
| 5 | *Construction of Hostel for 200 Students at University of Malakand.* | *Rs. 33.346m* |
| 6 | *Establishment of Botanical Garden & Herbarium* | *Rs. 38.361m \** |
| 7 | *Construction of Hostel at Campus II, (Now known as Shaheed Benazir Bhutto University Sheringal)* | *Rs 36.500 m* |
| 8 | *Development of Malakand University at Chackdara* | *Rs. 494.373m\** |
| 9 | *Establishment of Frontier Women University in NWFP at Peshawar. Phase-1 (Additional Charge as Director (P&D)* | *Rs. 456.153m\** |

***\*Served as Project Director in all those projects where provision was not available***

# Achievements

**PSDP and ADP project prepared as advisor for other universities of Pakistan**

|  |  |  |
| --- | --- | --- |
| **S.No** | **Description of Project** | **Approved by CDWP/DDWP** |
| 1 | *Establishment of Sub-Campus of UET, Taxila At Pind Dadan Khan District Jhelum* | *Rs.* *1500.000m* |
| 2 | *Commencement of 4-year undergraduate program in water resource engineering and petroleum engineering at* ***UET, Taxila*** | *Rs.* *987.422 m* |

# Research Collaboration

* 1. University of Leicester, Stochastic Modeling Group, UK
  2. Department of Measurement and Information Systems, Budapest University of Technology and Economics
  3. Kokand State Pedagogical Institute named after Mukimi (Kokand, Uzbekistan)

# New Department/ Universities Establishment

1. University of Malakand, Chackdara, KP http:// [www.uom.edu.pk](http://www.uom.edu.pk)
2. Shaheed Benazir Bhutto Women University, Peshawar
3. Sheringal High Altitude Research Center and Campus (Now Separate University as <http://www.sbbu.edu.pk/>)
4. Commencement of 4-year undergraduate program in water resource engineering and petroleum engineering at UET, Taxila
5. University Public School and Girls College at University of Malakand

Software PROJECTS

I have developed the following software, which has application in research and industry.

Jan 2013- June 2013 ID card System based on RFID for University of Malakand.

May 2012 – Dec 2012 Koha- customization for Central library, University of Malakand

(Open source)

Sep. 2007 – 2011 GraSS – Graph based stochastic Simulator. I have assisted in the design

, development, and testing of the GraSS

Dec 2007 – April. 2005 UoMIS– a database software examination section, University of

Malakand, Pakistan.

# Experience Related to Statutory Bodies

1. Member of the Academic Council University of Malakand till august, 2007.
2. Member of the Plagiarism Committee University of Malakand since, 2012 till date.
3. Member of Purchase Committee University of Malakand from 2006 to august 2007.
4. Member of Investment Committee University of Malakand till august 2007.
5. Member of the Technical Committee for IT and Related equipment’s since 2012 till date
6. Served as Expert in the Selection Board of University of Malakand.
7. Member as Expert in the Selection Board of the Shaheed Benazir Bhutto Women University, Peshawar till august 2007.
8. Member as Expert in the selection board of the Shaheed Benazir Bhutto University, Sheringal.
9. Member Works Advisory Committee, University of Malakand till august, 2007.
10. Member Works Advisory committee, Shaheed Benazir Bhutto Women University, Peshawar
11. Member of Technical Committee for purchase of equipment’s, Vehicles and Books.
12. Member of various committee for execution of research projects as Manager Research Development.

## PUBLICATIONS

**1.** Ajab Khan and Reiko Heckel. Model-based super peer promotion in P2PVoIP networks using graph transformation. Proceedings of the International Conference on Data Communication (DCNET2011) in Seville Spain. (Best student paper award).

**2.** Ajab Khan, Reiko Heckel, Paolo Torrini, and Istvan Rath. Model -based stochastic simulation of P2P VoIP using graph transformation system. In Proceedings of the 17th International Conference on Analytical and Stochastic Modeling Techniques and Applications (ASMTA'10), Khalid Al- Begain, Dieter Fiems, and William J. Knottenbelt (Eds.). Springer -Verlag, Berlin, Heidelberg, 204-217.

**3.** Ajab Khan and Muhammad. Modelling overlay routing in P2P VoIP using graph transformation system. In Proceeding of the 23rd Annual European Simulation and Modelling Conference (ESM2009), October 26-28, 2009, Holiday Inn Leicester, Leicester, United Kingdom.

**4.** Ajab Khan, Paolo Torrini, Reiko Heckel, Model-based simulation of VoIP network reconfigurations using graph Transformation System. Post- Proceedings of the Doctoral Symposium of the 4th *International Conference on Graph Transformation (ICGT-DS2009), ECEASST, Volume 16*

##### 5.Ajab Khan. Model-based analysis of network reconfigurations using graph transformation systems. In Proceedings of the Doctoral Symposium of the 4th International Conference on Graph Transformations (ICGT '08), Hartmut Ehrig, Reiko Heckel, Grzegorzn Rozenberg, and Gabriele Taentzer (Eds.). Springer-Verlag, Berlin, Heidelberg, 502-504.

##### 6. Book Chapter: [Evaluating Super Node Selection and Load Balancing in P2P VoIP Networks Using Stochastic Graph Transformation](https://www.researchgate.net/publication/278647365_Evaluating_Super_Node_Selection_and_Load_Balancing_in_P2P_VoIP_Networks_Using_Stochastic_Graph_Transformation?ev=prf_pub) by Ajab Khan · [Reiko Heckel](https://www.researchgate.net/researcher/6727071_Reiko_Heckel) ·E-Business and Telecommunications, 01/2012: pages 60-73;

# **7**. Said K. Shah, Khalil Ullah, Ajab Khan, Asfandyar Kkan, Abdul W. Khan, and Iqbal Qasim, Single versus Multi-step Non-Rigid Medical Image Registration of 3D Medical Images, Proceedings of the Pakistan Academy of Science, PROC. OF THE PAS: A; 53, NO. 1

**8**. M. Rashad, I. Ahmad, M. Shah and A. Khan, A NOTE ON BI-PERMUTABLE AG-GROUPOIDS, Journal Science International. (Lahore),28(3),2173-2179,2016 ISSN 1013-5316; CODEN: SINTE 8

**9.** M. N. Khan *et al*., "Improving Energy Efficiency With Content-Based Adaptive and Dynamic Scheduling in Wireless Sensor Networks," in *IEEE Access*, vol. 8, pp. 176495-176520, 2020, doi: 10.1109/ACCESS.2020.3026939.

**10**. A. Khan and M. A. Khan, "P2P inspired stochastic model for analysis of polio management in Pakistan,"*2016 First IEEE International Conference on Computer Communication and the Internet (ICCCI)*, Wuhan, 2016, pp. 503-506. doi: 10.1109/CCI.2016.7778974

**11**. I. Ahmad, R. Naz , M. Rashad and A. Khan, [A Comparative Study of AG\*-groupoids,](http://www.thenucleuspak.org.pk/Fulltext/MS-1287.pdf) The nucleus Pakistan, Category Y journal, Vol 53(4), 2016

**12**. F. Hussain, R. M. Hashim, A. Khan, M. Naeem, Generalization of Bisemirings, IJCSIS, Vol 14-9, Pages 275-289, September 2016.

**13**. I. Ullah , N. Ul Amin , M. Zareei, , A. Zeb , H. Khattak , A. Khan and S. Goudarzi, A Lightweight and Provable Secured Certiﬁcateless Signcryption Approach for Crowdsourced IIoT Applications, *Symmetry* **2019**, *11*(11), 1386; [**https://doi.org/10.3390/sym11111386**](https://doi.org/10.3390/sym11111386)

**14**. Saeed Ullah Jan, Fawad Qayum, Ajab Khan et al. An improved lightweight privacy preserving authentication scheme for SIP-based-VOIP using smart card. JOURNAL OF SOFTWARE ENGINEERING & INTELLIGENT SYSTEMS ISSN 2518-8739 31st December 2017, Volume 2, Issue 3

**15**. Saeed Ullah Jan, Fawad Qayum, Ajab Khan, SIP Issues and Challenges- A Scalable Three Factor Authentication Scheme, Mehran University Research Journal of Engineering and Technology, Vol 39 No. 2, 287-309, April 2020 p-ISSN:0254-7821, e-ISSN: 2413-7219,DOI: 10.22581/muet1982.2002.07

**16.** Hashmat Ali\*, Zulfiqar Ali Memon, Ajab Khan, Muhammad Muddassar Khan, Imad Ali, Khan Baz, Muhammad Arif, Manzoor Hussain, Waqar Jalal, Terrorist Activities, Investor Sentiment, and Stock Returns: Evidence from Pakistan, International Journal of Economics and Financial Issues, 2020, 10(3), 139-148, ISSN: 2146-4138, DOI: <https://doi.org/10.32479/ijefi.9591>

**17**. Imad Ali, Imran Khan, Hashmat Ali, Khan Baz, Qiang Zhang, Ajab Khan, Xuexi Huo, The impact of agriculture trade and exchange rate on economic growth of Pakistan: an NARDL and asymmetric analysis approach, Ciência Rural, Santa Maria, v.50:4, e20190005, 2020, <http://dx.doi.org/10.1590/0103-8478cr20190005>

**18**. Ali, Imad & Khan, Imran & Ali, Hashmat & Baz, Khan & Zhang, Qiangqiang & Khan, Ajab & Huo, Xuexi. (2020). Does Cereal crops asymmetrically affect Agriculture gross domestic product in Pakistan? Using NARDL model approach. Ciência Rural. 50. 10.1590/0103-8478cr20190295., DOI: 10.1590/0103-8478cr20190295

**19**. Abbas, Sohail; Haqdad, Muhammad; Khan, Muhammad Zahid; Rahman, Haseeb Ur; Khan, Ajab; Rehman, Atta Ur, SURVIVABILITY ANALYSIS OF MANET ROUTING PROTOCOLS UNDER DOS ATTACKS, KSII Transactions on Internet and Information Systems, Vol. 14, No. 9, September 30, 2020  
 10.3837/tiis.2020.09.004,



## International PRESENTATIONS

2018 ICT and Higher Education of Pakistan, Southern University of Science and Technology, China (MOOC Lecture)

2016 P2P Network and VIATRA, China Central University, Wuhan, China

2015 P2P inspired stochastic model for Analysis of Polio, New York, USA

2013 Social Network and P2P network, Liverpool Hope University, UK

2011 Model-based super peer promotion in P2P VoIP networks using graph transformation, University of Seville, Spain. (DCNet2011)

2010 Model-based stochastic simulation of P2P VoI using graph transformation system, University of Glamorgan, UK (ASMTA2010)

2009 Modeling overlay routing using graph transformation, De Montfort University (DMU), Leicester, UK. (ESM2009)

2008 Stochastic modeling using graph transformation, Department of Computer Science, University of Leicester, UK.

2008 P2P VoIP reconfiguration using graph transformation, Department of Computer Science, University of Leicester, UK. (ICGT2008)

## HONORS AND AWARDS

July 2011 Best student paper award at International Conference on Data Communication (DCNET2011)

September 2007 Faculty Development Scholarship (50,000 Gbp), Govt. of Pakistan

November 2006 [Japan International Cooperation Agency f](http://www.google.co.uk/url?sa=t&amp;rct=j&amp;q=jica&amp;source=web&amp;cd=1&amp;ved=0CCoQFjAA&amp;url=http%3A%2F%2Fwww.jica.go.jp%2Fenglish%2F&amp;ei=q_g4T8yKOs_Y8QO24eCDCA&amp;usg=AFQjCNGyR1WNjnQVjT_kXqpmxSmzWtN4FA)or 6 month diploma

(appx 20,000 $)

July 2005 Three certificates of excellent performance at positions, Lecturer, Deputy Controller and Project Director from Governor KPK, Pakistan.

March 2004 Malaysian Technical Cooperation Programme (MTCP) for certificate course at multimedia University, Malaysia.

# PhD/ MPhil Supervised

# MPhil: 05 PhD: 01

# Conference/ Workshop Organized

* International Workshop on “Eradication of Polio using ICT” funded by the ICT & RD fund Govt. of Pakistan, Higher Education Commission (HEC) of Pakistan and ORIC University of Malakand, Pakistan, September 2015 (**Principal Organizer**)
* Dice Mega Innovation and Entrepreneurship (DICE-AUST-2019) (**Chief Organizer**)

90 plus Universities Participated, 109 ideas were presented, 6 secured industrial funding.

(http://dice.aust.edu.pk)

# Software Used

|  |  |  |
| --- | --- | --- |
| * C, C++ and visual C | --- | expert level experience |
| * Java, Eclipse, VB * Unix, Linux, Ubuntu, FreeBSD | ---  --- | expert level experience expert level experience |
| * MATLAB | --- | expert level experience |
| * Ns-2, Tiger, Root, AGG | --- | expert level experience |

# Courses Taught

|  |  |  |
| --- | --- | --- |
| **MS and PhD Courses** |  |  |

* System Performance Evaluation
* Modelling and Simulation
* Generative Software Development
* Software Testing
* Graph Theory
* Wireless Sensor Networks
* Discrete Event System
* Mode-based software development

**Under Graduate Courses**

* Fundamentals of Computer Networks and Data Communication
* Networks Strategies
* Information Security
* Software Project Management
* Software Engineering
* Software Re-engineering
* Human Computer Interaction
* Technology Management

# Journals/Books

* Author for Text Book and practical book for intermediate level, KPK Text Book Board.
* Reviewer for The International Journal of Cyber-Security and Digital Forensics (IJCSDF)
* Reviewer for Third International Conference on Digital Information, Networking, and Wireless Communications
* Reviewer for [The International Conference on Electrical and Bio-medical Engineering, Clean](http://sdiwc.net/conferences/ebecegc2015) [Energy and Green Computing (EBECEGC2015)](http://sdiwc.net/conferences/ebecegc2015)

# Research Reference

1. Reiko Heckel, Dr.-Ing. (TU Berlin, 1998), habil. (Univ. of Paderborn, 2003)

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# Other References

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2. Prof. Dr. Jehandar Shah, Ex Vice Chancellor, University of Malakand, Phone Number: 03454607804
3. [Dr. M. Mazhar Saeed](https://pk.linkedin.com/in/dr-m-mazhar-saeed-865b9927), DG (Planning), Higher Education Commission, Islamabad
4. Mr. Muhammad Shahid, Director (Planning), Higher Education Commission, Islamabad