

# Curriculum Vitae



## Attaullah

**Date of Birth:** April 10, 1990

**Nationality:** Pakistani

**Mailing Address:** Department of Mathematics & Statistics, Bacha Khan University Charsadda, KPK Pakistan.

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### EDUCATION

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<b>M.Phil</b> (Mathematics)	<b>Institution:</b> Muhammad Ali Jinnah University, Islamabad, Pakistan. 2015
	<b>Thesis:</b> Numerical Solution of the Model for HIV Infection of CD4 <sup>+</sup> T-cells.
	<b>Advisors:</b> Dr. Shafqat Hussain and Dr. Syeda Marriam Bakhtiar
<b>BS</b> (Mathematics)	<b>Institution:</b> Islamia College University Peshawar, Pakistan. 2012
<b>B. ED</b> (Science)	<b>Institution:</b> Allama Iqbal Open University, Islamabad, Pakistan. 2015
<b>H.S.S.C</b> (Pre-Eng)	<b>Institution:</b> Govt: Degree College Timergara Dir (L), Pakistan. 2008
<b>S.S.C</b> (Science)	<b>Institution:</b> Govt: Higher Secondary School Lal Qilla Dir (L), Pakistan. 2006

### COURSES STUDIED IN M.PHIL

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1. Advance Partial Differential Equation
2. Advance Mathematical Analysis
3. Advance Fluid Dynamics-I
4. Advance Fluid Dynamics-II
5. Advance Numerical Techniques
6. Computational Algebra

7. Advance Wave Mechanics
8. Applied Cryptography

## PROFESSIONAL EXPERIENCE

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1. **Position held:** Lecturer  
**Organization:** Bacha Khan University Charsadda, KPK Pakistan.  
**Duration:** September, 2017 to present.
2. **Position held:** Lecturer  
**Organization:** The University of Lahore Sargodha Campus, Sargodha, Pakistan.  
**Duration:** April, 2016 to September, 2017.
3. **Position held:** Visiting Lecturer  
**Organization:** The University of Lahore Sargodha Campus, Sargodha, Pakistan.  
**Duration:** September, 2017 to present.
4. **Position held:** Visiting Lecturer  
**Organization:** Capital University of Science & Technology, Islamabad, Pakistan.  
**Duration:** September, 2015 to March, 2016 (Fall Semester 2015)
5. **Position held:** Lecturer (Private College)  
**Duration:** April, 2012 to February, 2013.

## TEACHING EXPERIENCE

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### Under Graduate Courses:

1. Advance Calculus
2. Numerical Analysis-I
3. Numerical Analysis-II
4. Abstract Algebra
5. Calculus-I
6. Calculus-II
7. Calculus and Analytical Geometry
8. Basic Mathematics for Chemists
9. Applied Mathematics for Business
10. Linear Algebra
11. Ordinary Differential Equation
12. Partial Differential Equation
13. Real Analysis

### Graduate Courses:

1. Applied Fluid Dynamics

## RESEARCH INTEREST

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Fluid Dynamics (dynamics of HIV virus in blood), Computational Bio-Mathematics, Infectious Diseases, Numerical solution of initial value problems, Numerical solution of ordinary differential equations, Galerkin methods & RK methods.

## PUBLICATIONS

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### Journal Publications:

1. **Attaullah**, Muhammad Sohaib, Mathematical Modeling and Numerical Simulation of HIV Infection Model, *Results in Applied Mathematics*, 7 (2020) 100118.
2. **Attaullah**, Rashid Jan, A. Jabeen, Solution of the HIV Infection Model with Full Logistic Proliferation and Variable Source Term Using Galerkin Scheme, *Matrix Science Mathematic*, 4(2)(2020) 37-43.
3. **Attaullah**, S. Hussain, S.M. Bakhtiar, Numerical Solution of the Model for HIV Infection of CD4<sup>+</sup> T-cells, LAP LAMBERT Academic Publishing, 76(2016), ISBN-9783330013094.
4. **Attaullah**, S. Hussain, S. M. Bakhtiar, M. Sagheer, Numerical Solution for HIV Infection of CD4<sup>+</sup> T-cells Model using the Galerkin Scheme (submitted to Journal of *Computational Biology and Chemistry*).
5. M. Sagheer, S. Hussain, **Attaullah**, S. M. Bakhtiar, The effect of different source term of new supply rate of CD4<sup>+</sup> T-cells from thymus on HIV infection model using the Galerkin scheme (submitted to journal of *Computational Biology and Chemistry*).
6. **Attaullah**, S. Hussain, S. M. Bakhtiar, M. Sagheer, Solution of the HIV infection model with a source term for the supply of new CD4<sup>+</sup> T-cells depending on the viral load using FEM (submitted).
7. **Attaullah**, A Galerkin method for solution of HIV infection model using variable source term for the supply of new CD4<sup>+</sup> T-Cells depending on the Concentration of Viral Load (submitted to Malaysian Journal of Mathematical Sciences).

## CONFERENCE/WORKSHOP/SEMINAR PAPERS

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1. **Attaullah**, Numerical Solution of the Model for HIV Infection of CD4<sup>+</sup> T-cells with different Variable Source Terms and Cure Rate Using the Galerkin Scheme, 4<sup>th</sup> Conference on Computational Biology and Genomics, Hazara University Mansehra, Pakistan, Organized by Pakistan Society for Computational Biology (PSCB), Sep 27-29, 2017.
2. **Attaullah**, Numerical Solution of the SIR Model Using Galerkin Scheme, In 7<sup>th</sup> International Conference on Recent Developments in Fluid Mechanics and Environmental Sciences, organized by Fluid Mechanics Group (FMG) Pakistan, February 13-15, 2018.
3. **Attaullah**, Numerical Investigation of a Dynamic Model for HIV Infection, In 4<sup>th</sup> International Conference on pure & applied mathematics University of Sargodha, Pakistan, December,21-22, 2018.
4. Attended International Conference on Emerging Technologies (ICET 2013) organized by Muhammad Ali Jinnah University, Islamabad (renamed as Capital University of Science & Technology, Islamabad).
5. Attended 3<sup>rd</sup> One day workshop on Bio informatics june 18<sup>th</sup>, 2013 organized by Muhammad Ali Jinnah University, Islamabad (renamed as Capital University of Science & Technology, Islamabad).
6. Attended Two-Day TOT of Trainers on Humanity, Altruism & Citizenship in Pakistan organized by Ministry of Human Rights and Bacha Khan University Charsadda, KPK on 3<sup>rd</sup> & 4<sup>th</sup> of October, 2017 at Charsadda.
7. Attended Teachers Training & Professional Development (Phase-I) organized by Quality Enhancement Cell, Bacha Khan University Charsadda, KPK on October, 2019.

## RESEARCH COLLABORATION

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1. Dr. Shafqat Hussain  
Associate Professor  
Capital University of Science and Technology Islamabad, Islamabad, Pakistan.

2. Dr. Muhammad Sagheer  
Associate Professor  
Capital University of Science and Technology Islamabad, Islamabad, Pakistan.
3. Dr. Rashid Jan  
School of Mathematics and Statistics, Xian Jiaotong University, Xian 710049, PR China.
4. Prof. Dr. Umer Farooq  
Professor  
Department of Mathematics, University of Bolton, United Kingdom.

#### **GRADUATE RESEARCH SUPERVISION**

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1. Mr. Muhammad Tufail Khan (Degree awarded, 2020)  
dissertation entitled Numerical Approach to a Model for the Interaction of Immune System with HIV, Bacha Khan University Charsadda, KPK.
2. Mrs. Shumaila Perveen (Degree awarded, 2017)  
dissertation entitled Numerical Solution of the Model for the Immune System Response to HIV, The University of Lahore Sargodha Campus, Sargodha.
3. Mr. Arshad Ali (Degree awarded, 2017)  
dissertation entitled Solution of the Mathematical Model of HIV Infection, The University of Lahore Sargodha Campus, Sargodha.
4. Mr. Muhammad Nazir (Degree awarded, 2017)  
dissertation entitled Application of the Finite Element Method for Solving a Mathematical Model for HIV Infection of  $CD4^+$  T-Cells, The University of Lahore Sargodha Campus, Sargodha.
5. Mrs. Amber Jabeen (Degree awarded, 2016)  
dissertation entitled Numerical Analysis of the HIV Infection Model with Full Logistic Proliferation Term Using FEM, The University of Lahore Sargodha Campus, Sargodha.
6. Mrs. Irsa Akram (Degree awarded, 2016)  
dissertation entitled, The Dependence of Variable Source Term for the Supply of New  $CD4^+$  T-Cells on the HIV Infection Model, The University of Lahore Sargodha Campus, Sargodha.

#### **GRADUATE RESEARCH CO-SUPERVISION**

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1. Mrs. Nayab Rani (Degree awarded, 2018)  
dissertation entitled, Stability Analysis of an SVIR Epidemic Model with Non-linear Saturated Incidence Rate, The University of Lahore Sargodha Campus, Sargodha.
2. Mrs. Sidra Bashir (Degree awarded, 2018)  
dissertation entitled, Numerical Analysis of the Mathematical Model of Cholera Epidemic Model, The University of Lahore Sargodha Campus, Sargodha.
3. Mrs. Aqsa Gohar (Degree awarded, 2018)  
Analysis of SIR Epidemic Model with Non-linear Incidence Rate, Treatment and Vaccination Strategy, The University of Lahore Sargodha Campus, Sargodha.
4. Mr. Jehangir Ahmad (Degree awarded, 2017)  
dissertation entitled Numerical Solution of SIR Model with Vaccination Treatment Rate Using Galerkin Scheme, The University of Lahore Sargodha Campus, Sargodha.
5. Mr. Atif Waheed (Degree awarded, 2017)  
dissertation entitled, Dynamics of HIV Infection Model with Difference Variable Source Term for Supply Rate of New T-cells, The University of Lahore Sargodha Campus, Sargodha.

6. Mrs. Farhat Ayesha (Degree awarded, 2017)  
dissertation entitled, Dynamical Behaviour of the SIR Model with Treatment and Vaccination Strategy, The University of Lahore Sargodha Campus, Sargodha.
7. Mr. Musharaf Khan (In progress)  
dissertation entitled, Dynamics of SIR Model with Saturated Incidence Rate, Vaccination and Treatment, Bacha Khan University Charsadda, Charsadda.
8. Mrs. Mehwish Mehmood (Degree awarded, 2017)  
dissertation entitled, Numerical solution of the transmission dynamic of acute and chronic hepatitis B, The University of Lahore Sargodha Campus, Sargodha.

## **UNDERGRADUATE RESEARCH SUPERVISION**

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1. Mr. Adil Khurshaid, Mr. Tahir Zaman, Mr. Muhammad Dawood, and Mr. Sanif Ullah (Degree awarded, 2019)  
dissertation entitled Numerical Investigation of the Dynamical Behavior for SVIR Model, Bacha Khan University Charsadda, KPK.

## **AWARDS AND HONOR**

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1. Second position in M. Phil obtained 3.87 cGPA, Muhammad Ali Jinnah University, Islamabad.
2. Completed M. Phil degree with high distinction from Muhammad Ali Jinnah University, Islamabad in 2015.
3. Awarded scholarship for M. Phil from Muhammad Ali Jinnah University, Islamabad.
4. Dean's Honor Roll for earning 3.89 in first semester (Spring 2013) from Muhammad Ali Jinnah University, Islamabad.
5. Dean's Honor Roll for earning 3.89 in 2nd semester (Fall 2013) from Muhammad Ali Jinnah University, Islamabad.
6. Awarded scholarship for BS 3<sup>rd</sup> to 5<sup>th</sup> semester from Islamia College Peshawar, Peshawar.

## **LANGUAGES**

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1. Pashto: Proficient to Speak, Read and Write.
2. Urdu: Proficient to Speak, Read and Write (Native Language).
3. English: Intermediate Listener, Advanced Reading and Writing.

## **COMPUTER SKILLS**

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1. Applications: MS Office, LATEX
2. Platforms: MATLAB, Mathematica
3. Graphics: (Power Point)

## **REFERENCES**

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1. Dr. Noor Rehman  
Assitant Professor/Chairman  
Department of Mathematics & Statistics Bacha Khan University, Charsadda.  
**Email:** [noorrehman@bkuc.edu.pk](mailto:noorrehman@bkuc.edu.pk)

2. Dr. Shafqat Hussain  
Associate Professor  
Department of Mathematics, CUST, Islamabad.  
**Email:** [shafqat.hussain@cust.edu.pk](mailto:shafqat.hussain@cust.edu.pk)
3. Dr. Muhammad Sagheer  
Associate Professor/Chairman  
Department of Mathematics, CUST, Islamabad.  
**Email:** [sagheer@cust.edu.pk](mailto:sagheer@cust.edu.pk)
4. Dr. Umar Farooq  
Professor  
Department of Mathematics, University of Bolton, United Kingdom.  
**Email:** [adalzai3@yahoo.co.uk](mailto:adalzai3@yahoo.co.uk)