

Dr. Muhammad Akram
Assistant Professor,
Department of Mathematics,
GC. University, Katchery Road,
Lahore 54000.
Ph. No.0092-307-7541660
E.mail:makram71@yahoo.com



Education

Ph. D. Applied Mathematics

December 2008 University of Kaiserslautern, Germany

- **Major:** Constructive Approximation
- **Advisor:** Prof. Dr. Volker Michel
- **Dissertation:** Constructive Approximation on the 3-Dimensional ball With Focus on Locally Supported Kernels and the Helmholtz Decomposition.
- **PhD. Admission Thesis:** Multiresolution Analysis of the Martian Topography, 2005.

M. Phil. Mathematics

May 1997 Bahauddin Zakariya University, Multan, Pakistan.

- **Major:** Functional Analysis
- **Advisor:** Dr. Abdul Rahim Khan
- **Thesis:** Some Studies on Open Mapping and Closed Graph Theorems

M.Sc. Pure Mathematics

January 1994 Bahauddin Zakariya University, Multan, Pakistan.

Teaching Experience

April 2004 – Present

Assistant Professor

GC. University, Lahore, Pakistan

Teaching Assignments:

- Calculus I, Calculus II, Advance Calculus, Real Analysis, Fourier Analysis and Its Applications and Numerical Analysis.
- Used Instructional Technology in class presentations.

July 2000 – March 2004

Lecturer

GC. University, Lahore, Pakistan.

Teaching Assignments:

- Calculus I, Trigonometry , Differential Equations, Vector Analysis
- Calculus II, Real Analysis, Complex Analysis, Discrete Math.

September 1999- July 2000

Lecturer
Al-Khair University
College of Professional Studies
Multan

Teaching Assignments:

- Linear Algebra, Discrete Mathematics, Business Math.

September 1997 – September 1999 Visiting Lecturer

University College of
Engineering & Technology,
BZU, Multan.

Teaching Assignments:

- Calculus II, Numerical Analysis and Differential Equations.

September 1997 – September 1999 Visiting Lecturer

Al-Khair University
College of Professional Studies
Multan

Teaching Assignments:

- Linear Algebra, Numerical Analysis, Discrete Mathematics, Business Math, Mathematical Statistics and Operation Research.

International Links

Recently visited University of Siegen Germany for two months 15.08-14-10-10, as a guest professor to work on a joint research project “ Extension of the Theory of Orthonormal Polynomials on 3d-balls”with Prof. Dr. Volker Michel.

Current Research Student

M.Phil

1. Amna Ishtiaq (Started research work)

2. Nosheen (Started research work)
3. Zeeshan Afzal (Started research Work)

Msc.

1. **Nadia Ashfaq**
2. **Muhammad Bilal Bhatti**
3. **Muhammad Waqas Siddique**

Supervised Thesis

M.Phil Thesis

- Azhar. Ali. Zafar: Fixed Point Theorems on a General Class of Contraction Maps, 2003.

Msc Theses

- Abaid ur Rahman Virk: Numerical Solution of Parabolic PDE'S. 2010.
- Muhammad Nadeem Ahmad: Legendre Polynomials and Spherical Harmonics, 2010.
- Farzana Shaheen: Fuzzy Topological Spaces, 2003.
- Imran Baig: Fuzzy Measures, 2003.
- Jahan Nawaz: Fuzzy Logic, 2002.
- Erum Jafar: Complex Measures, 2002.

Papers/ Publications

- **Regularisation of the Helmholtz Decomposition and Its Applications to Geomagnetic Field Modelling**, Int J geomath, 1 (2010) pp. 101-120.
- **Common fixed point theorems for a general class of contraction maps in a generalized metric space**, Int. Journal of Math. Analysis, Vol. 5, 2011, no. 16, pp.757 – 763.
- **Some results on common fixed point of mappings satisfying A-contraction type condition in symmetric spaces**, Accepted for publication in International Journal of Mathematical Analysis.
- **Locally Supported Approximate Identities on the Unit Ball**, Rev. Mat. Comput. 23 (2010) pp. 233-249.
- **Constructive Approximation on the 3-Dimensional Ball with Focus on Locally Supported Kernels and**

the Helmholtz Decomposition, (PhD Thesis) Shaker Verlag Aachen 2009.

- **A General Class of Contractions: A-contractions.** Novi Sad J. Math. Vol. 38 No. 1 (2008), pp. 25-33.
- **Some axioms that are equivalent to principle of continuous induction**, Journal of Pure and Applied Sciences, Vol. 23, No.1 (2004), pp. 15-19.
- **Some fixed point theorems for a general class of contraction maps.** JPAS. Vol.22 NO. 2 (2004).
- **A Fixed Point Theorem for A-contractions on a Class of Generalized Metric Spaces.** Korean J. Math. Sciences Vol.10 (2003) No. 2, pp. 1-5. Available free at (www.kjms.or.kr)
- **Some Fixed Point Theorems for Multi-valued A*-Mappings.** Korean J. Math. Sciences Vol. 10 (2003) No. 2, pp. 7-12. Available free at (www.kjms.or.kr)
- **Equivalence of Completeness Axiom and Continuous Induction.** Sci. Int. (Lahore), Vol. 13 (2001) No. 3, pp. 211-213.
- **On Open mapping And Closed Graph Theorems.** Punjab University Journal of Mathematics, Vol. XXXi (1998), pp. 95-102.

Conferences/Workshops/ Schools

- Attended Summer school on Industrial Mathematics in September 2010 at University of Kaiserslautern, Germany.
- Delivered a talk on Locally Supported Approximate Identities in a Summer Conference in Mathematics July 27-28 , 2009, being held at Lahore University of Management Sciences, Lahore.
- Attended Workshop on Geomathematics, 2-4 July, 2008, Kaiserslautern, Germany.
- Attended Workshop on Inverse Problems, 24-25 Nov. 2005, Tripstadt, Germany.
- Presented a paper in 1st World Conferences on the 21st Century Mathematics, 2004, held at ASSMS, Lahore.

Talks/ Presentations

- **Talks**
Constructive Approximation on the 3-D Ball: At Geomathematics Group University of Kaiserslautern Germany.
- **Poster**
Geomathematics Workshop 2-4 July 2008,

Kaiserslautern: Locally supported Kernels on the 3-D Ball.

Awards and Honors

- Awarded Scholarship from HEC Pakistan for PhD Studies.

Academic & Professional Services

- Member of M.Phil Admission Committee 2009 to date.
- Departmental External links coordinator 2009 to date.
- Departmental representative Quality Enhance Cell 2009 to date.
- Member of Academic Council GC. University 2002-2004.
- Member of the Curriculum Committee 2003-2004..
- Member of Departmental Admission Committee 2002-2004
- Joint Secretary of Zakariyan Mathematical Society 1994-1995.

Instruction Technology/ Computer Skills

- Learned and used Instruction Technology like Graphing Calculator Blackboard, SMaRT Board and MyMathlab.
- C++, MATLAB, Visual Basic, LATEX , HTML & MS Office etc.

Professional Memberships

- Punjab Mathematical Society
- Zakariyan Mathematical Society

References

- **Prof. Dr. Volker Michel**
Univ.-Prof. Dr. Volker Michel
Geomathematics Group
Department of Mathematics
University of Siegen
Emmy-Noether-Campus
Walter-Flex-Str. 3
57068 Siegen

Tel.: ++49-271-740-3515

E-mail: michel@mathematik.uni-siegen.de

- **Prof. Dr. Willi Freeden**
University of Kaiserslautern
Department of Mathematics
Geomathematics Group, Building 49, Room 518
P. O. Box 30 49
D-67653 Kaiserslautern

Ph:++49 631-205-2852 or ++49 631-205-3867

E.mail: freeden@mathematik.uni-kl.de

- **Prof. Dr. Abdul Rahim Khan**

Department of Mathematical Sciences

King Fahd University of Petroleum &
Minerals(KFUPM), Dhahran 31261, Saudi Arabia.

E.mail: arahim@kfupm.edu.sa