AmerRasheed

Contact

Dept. of Mathematics
School of Science and Engineering
Lahore University of Management Sciences
Lahore 54792, Pakistan

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Languages

Urdu mother tongue
English Fluency
French Good

Skills

C++, MatLabb
Latex

Research Interests

Numerical Analysis, Scientific Computing, Solidification of Alloys, Phase Field Methods, Finite Element Methods, Fractional Differential Equations, Non-Newtonian Flows.

Academic Experience

Jan. 2015 - Present — **Assistant Professor - Tenure Track** — Lahore, Pakistan
Department of Mathematics, School of Sciences and Engineering, Lahore University of Management Sciences
- Approved Supervisor by Higher Education Commission Pakistan .

Sept. 2011 - Jan. 2015 — **Assistant Professor - Tenure Track** — Wah Cantt. Rawalpindi, Pakistan
Department of Mathematics, COMSATS University Islamabad .

Sept. 2011 - Jan. 2015 — **Assistant Professor - Adjunct** — Islamabad, Pakistan
Virtual Campus, COMSATS University Islamabad
- Course Videos Recorded: Discrete Mathematics (BS Computer Science) .

Sept. 2009 - Aug. 2011 — **Attache Temporaire de l'Enseignment Rechercheur (Visiting Lecturer)** — Rennes, France
Institut Nationale des Sciences et Appliquees .

Sept. 2006 - Oct. 2010 — **PhD Scholar** — Rennes, France
Equipe de Analyse, IRMAR, Institut Nationale des Sciences et Appliquees .

Jan. 2003 - Jun. 2006 — **Lecturer** — Wah Cantt. Rawalpindi, Pakistan
Department of Mathematics, COMSATS University Islamabad .

Education

Sept. 2006 - Oct. 2010 — **PhD, Applied Mathematics** — Rennes, France
Centre de Mathematiquees, INSA de Rennes
Dissertation Title: Dendritic Solidification of Binary Mixtures of Metal under the action of Magnetic Field: Modeling,Mathematical and Numerical Analysis.
Advisor: Prof. Abdel Aziz Belmiloudi, INSA de Rennes, France

Sept. 2001 - Aug. 2003 — **MS, Applied Mathematics** — Islamabad, Pakistan
Quaid-e-Azam University (QAU)
Dissertation Title: Homotopy Analysis Method and its Applications.
Advisor: Prof. Muhammad Ayub, QAU, Islamabad

Sept. 1998 - Aug. 2000 — **Master of Science in Mathematics** — Lahore, Pakistan
The University of Punjab

Sept. 1995 - Aug. 1997 — **Bachelor of Science (Mathematics & Statistics)** — Lahore, Pakistan
The University of Punjab

Projects & Fundings

Funds: PKR 500000	**Project Title: Numerical Simulations of Heat Transfer in Exhaust/Intake Valves of a Two Stroke Engine. (In progress)** Role: PI, Donor: Pakistan Science Foundation, Pakistan	Sept. 2018 - Sept. 2019
Funds: PKR 500000	**Project Title: Some Operators and Commutators on Function Spaces. (Completed)** Role: Co-PI, Donor: Higher Education Commission, Pakistan	Sept. 2011 - Sept. 2012)
Funds: PKR 1,158,900	**To Organize International Conference on Applied Mathematics** Donor: Higher Education Commission, Pakistan	May 22-24, 2017
Funds: PKR 4,53,000	**To Organize CASM Workshop on Algebra and Applications** Donor: Higher Education Commission, Pakistan	Dec. 9-10, 2016
Funds: PKR 9,84,400	**To Organize CASM Conference on Diff. Equations and Applications** Donor: Higher Education Commission, Pakistan	May 26-28, 2016

Academic Supervisions

Fall 2015 - Present	**Thesis Title: Numerical Simulations of Some Fractional Viscoelastic Flows (in progress)** Student Name: Muhammad Shuaib Anwar	Ph.D. Thesis
Fall 2016 - Present	**Thesis Title: Numerical Simulations of Some Fractional Maxwell Flows (in progress)** Student Name: Abdul Quayum Khan	Ph.D. Thesis
Fall 2016 - Fall 2017	**Thesis Title: Numerical simulations of unsteady fractional Maxwell flow caused by a stretching surface with the interplay of magnetic field, chemical reaction and thermal radiation** Student Name: Bilal Jamil	MS Thesis
Fall 2016 - Fall 2017	**Thesis Title: Free convection fractional Jeffery flow under the influence of the magnetic field** Student Name: Syeda Fizza Zehra	MS Thesis
Fall 2015 - Fall 2016	**Thesis Title: Numerical Simulations of unsteady fractional fluid flow under the influence of magnetic field** Student Name: Muhammad Nasir	MS Thesis
Spring 2012 - Spring 2013	**Thesis Title: Numerical Simulations of Heat Transfer Flow Between Parallel Plates** Student Name: Fariha Ali	MS Thesis
Spring 2013 - Spring 2014	**Thesis Title: The Flow Simulations of Third Grade Fluid past a Porous Plate.** Student Name: Azka Kausar	MS Thesis
Spring 2013 - Spring 2014	**Thesis Title: Flow Simulations of a Fourth Grade Fluid Using Finite Element Methods.** Student Name: Hanifa Hanif	MS Thesis
Spring 2013 - Spring 2014	**Thesis Title: Unsteady Flow of Fractional Burgers Fluids: A Numerical Study.** Student Name: Sharmeen Shahid	MS Thesis
Spring 2013 - Spring 2014	**Thesis Title: Numerical Heat and Mass Transfer Analysis of a Time Fractional Oldroyd-B Fluid Between Infinite Parallel Plates.** Student Name: Shaista Q. Shah	MS Thesis
Spring 2013 - Spring 2014	**Thesis Title: Numerical study of two dimensional unsteady flow of an anomalous Maxwell fluid.** Student Name: Nazma Javaid	MS Thesis

Conferences & Workshops Organized

Dec. 26-30, 2018	**CASM Workshop on Financial Mathematics** Center for Advanced Studies in Mathematics (CASM) Lahore University of Management Sciences	Director, Organizer
May 22-24, 2017	**International Conference on Applied Mathematics** Center for Advanced Studies in Mathematics (CASM) Lahore University of Management Sciences	Director, Convener
Dec. 19-24, 2016	**Workshop on Financial Mathematics: Teaching the Teachers** Center for Advanced Studies in Mathematics (CASM) Lahore University of Management Sciences	Director, Organizer
Dec. 09-10, 2016	**CASM Workshop on Algebra and Applications** Center for Advanced Studies in Mathematics (CASM) Lahore University of Management Sciences	Director, Organizer
May 26-28, 2016	**International Conference on Differential Equations and Applications** Center for Advanced Studies in Mathematics (CASM) Lahore University of Management Sciences	Director, Convener
June 4-6, 2015	**International Conference on Qualitative and Quantitative Techniques for Differential Equations and Applications** Center for Advanced Studies in Mathematics (CASM) Lahore University of Management Sciences	Director, Convener

Publications

2019 **Interplay of chemical reacting species in a fractional viscoelastic fluid flow**
Amer Rasheed, M. S. Anwar, Journal of Molecular Liquids, 273, 576-588.

2019 **Mixed convection magnetohydrodynamics flow of a nanofluid with heat transfer: A numerical study**
Abdul Quayum, **Amer Rasheed**, Mathematical Problems in Engineering, 3, 576-588.

2018 **Joule heating in magnetic resistive flow with fractional Cattaneo–Maxwell model**
M. S. Anwar, **Amer Rasheed**, Journal of the Brazilian Society of Mechanical Sciences and Engineering, 40(10), 501-520.

2018 **Numerical computations of fractional nonlinear Hartmann flow with revised heat flux model**
Amer Rasheed, M. S. Anwar, Computers & Mathematics with Applications, 76(10), 2421-2433.

2018 **Simulations of variable concentration aspects in a fractional nonlinear viscoelastic fluid flow**
Amer Rasheed, M. S. Anwar, Communications in Nonlinear Science and Numerical Simulation, 65, 261 - 230.

2018 **Numerical simulations of heat transfer to a third grade fluid flowing between two parallel plates**
Amer Rasheed, F. Ali, M. Kamran, T. Akbar, S. A. Khan, Canadian Journal of Physics, 96(5), 465 - 475.

2017 **Simulations of a fractional rate type nanofluid flow with non-integer Caputo time derivatives**
M. S. Anwar, **Amer Rasheed**, Computers & Mathematics with Applications, 74(10), 2485 - 2502.

2017 **Stabilized Approximation of Steady Flow of Third Grade Fluid in Presence of Partial Slip**
Amer Rasheed, A. Kausar, A. Wahab and T. Akbar, Results in Physics, 7, 3181 - 3189.

2017 **A microscopic study of MHD fractional inertial flow through Forchheimer medium**
M. S. Anwar, **Amer Rasheed**, Chinese Journal of Physics, 55, 1690 - 1703.

2017 **Heat transfer at microscopic level in a MHD fractional inertial flow confined between non-isothermal boundaries**
M. S. Anwar, **Amer Rasheed**, European Physical Journal Plus, 132, 305 - 322.

2016 **Finite difference-finite element approach for solving fractional Oldroyd-B equation**
Amer Rasheed, A. Wahab, S. Q. Shah, R. Nawaz, Advances in Difference Equations, 1, 236 - 250.

2015 **Magnetohydrodynamic (MHD) flow analysis of second grade fluids in a porous medium with prescribed vorticity**
T. Akbar, R. Nawaz, M. Kamran, **Amer Rasheed**, AIP Advances, 5, 117 - 133.

2015 **Numerical study of two dimensional unsteady flow of an anomalous Maxwell fluid**
A. Wahab, **Amer Rasheed**, R. Nawaz and N. Javaid, International Journal of Numerical Methods in Heat and Fluid Flow, 25(5), 1120 - 1137.

2015 **Numerical study of a thin film flow of fourth grade fluid**
Amer Rasheed, R. Nawaz, S. A. Khan, H. Hanif and A. Wahab, International Journal of Numerical Methods in Heat and Fluid Flow, 25(4), 929 - 940.

2015 **Numerical Analysis of an Isotropic Phase Field Model with Magnetic Field Effect**
Amer Rasheed, A. Wahab, CR Math, Academay of Sicences Paris Series I, France, 353(3), 219-224.

2014 **Electromagnetic time reversal algorithms and source localization in lossy dielectric media**
A. Wahab, **Amer Rasheed**, T. Hayat and R. Nawaz, Communications in Theoretical Physics, 62(6), 779 - 789.

2014 **An intermediate range solution to a diffraction problem with impedance conditions**
R. Nawaz, A. Wahab and, **Amer Rasheed**, Journal of Modern Optics, 61(16), 1324-1332.

2014 **Localization of extended current source with finite frequencies**
A. Wahab, **Amer Rasheed**, R. Nawaz and S. Anjum, Comptes Rendus Mathematique, 352(11), 917-921.

2013 **Mathematical modelling of numerical simulations of dendrite growth using phase-field method with a magnetic field effect**
Amer Rasheed and A. Belmiloudi, Communications in Computational Physics, 14(2), 477-508.

2012 **An analysis of the phase-field model for isothermal binary alloy solidification with convection under the influence of magnetic field**
Amer Rasheed and A. Belmiloudi, Journal of Mathematical Analysis and Applications, 390(1), 244-274.

2011 **Dynamics of dendrite growth in a binary alloy with magnetic field affect**
Amer Rasheed and A. Belmiloudi and F. Mahé, Discrete Contin. Dyn. Syst., Special Issue, 1224–1233.

2003 **Exact flow of a third grade fluid past a porous plate using homotopy analysis method**
M. Ayub, **Amer Rasheed** and T. Hayat, Int. J. Eng. Sci., 41, 2091-2103.

Preprints

2019 **Fractional calculus approach for the phase dynamics of Josephson junction under the influence of magnetic field**
Amer Rasheed, Imtiaz Ali

Talks in Conferences (selected)

Jan. 1 - 14, 2018	**Influence of magnetic field on dendrites during solidification of binary mixtures** Talk given during a Research and Collaboration Visit in Weierstraas Instutute for Applied Analysis and Stochastics, Berlin, Germany.
March 29 - April 1, 2017	**Numerical Analysis of an Anisotropic Phase Field Model in the Presence of Magnetic Field** The Tenth IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, University of Georgia, Athens, GA, USA.
July 1 - 5, 2016	**Optimal control of the dendrite structure using magnetic field** The 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando USA.
May 28 - 29, 2015	**Dendritic solidification of binary alloys** Recent advances in computational fluid dynamics, Invited Speaker at a workshop organized by mathematics department COMSATS University Islamabad, Pakistan.
Feb. 6 - 7, 2015	**Effect of Magnetic Field on Dendrites during the solidification of binary alloys** Intl. conference on Mathematical and Statistical Models in Economics, Finance and Applied Sciences: Analysis and Methods. Invited Speaker at a Conference organized by Centre for Mathematics and Statistical Sciences (CMSS), Lahore School of Economics (LSE), Pakistan.
May 7-9, 2012	**Dendritic solidification of binary alloys under the action of variable magnetic field** Workshop on Computational Methods in Mathematics, Invited speaker, organized by COMSTECH Islamabad, Pakistan.
Sept. 5 - 10, 2010	**Phase-field method for computationally efficient modeling of the solidification of binary alloy with magnetic field affect** Conference in Numerical Analysis, NumAn2010, Chania Greece.
May 21 - 26, 2010	**Dynamics of dendrite growth in a binary alloy with magnetic field effect** The 8th American Institute of Mathematical Sciences, (AIMS) Conference on Dynamical Systems, Differential Equations and Applications, Dresden Germany.
June 24 - 25, 2010	**Solidification of binary mixtures under the action of magnetic field** Journee Scientifique des Jeunes Chercheurs, Modeling and Simulations, Institut National des Sciences Appliquees Rennes, France.
Nov. 12 - 13, 2009	**Modeling and numerical analysis of the solidification of binary mixtures under the action of magnetic fields** Journee d'equipe d'analyse, Institut de Recherche Mathematique de Rennes (IRMAR), France.

Extra Curricular Activities

Director	**Centre for Advanced Studies in Mathematics (CASM)** School of Science and Engineering, Lahore University of Management Sciences, Pakistan	Since Jan. 2016
Member	**Department Graduate Committee** School of Science and Engineering, Lahore University of Management Sciences, Pakistan	Since Jan. 2016
Member	**Department Faculty Search Committee** School of Science and Engineering, Lahore University of Management Sciences, Pakistan	Since Jan. 2016
Member	**University examinations and standing committee** Lahore University of Management Sciences, Pakistan	Since July 2017

Member	**University Faculty Housing Committee** Lahore University of Management Sciences, Pakistan	July 2016 - June 2017
Member	**University Sar-Sabz Committee** Lahore University of Management Sciences, Pakistan	July 2016 - June 2017
Member	**University Convocation Committee** Lahore University of Management Sciences, Pakistan	July 2015 - June 2016
Member	**Department Research Committee** Lahore University of Management Sciences, Pakistan	July 2015 - June 2016
Member	**Department Communication Committee** Lahore University of Management Sciences, Pakistan	Jan. 2015 - June 2016
Chair	**Department of Mathematics** COMSATS University Islamabad, Wah Campus, Pakistan	Jan. 2014 - Jan. 2015
Coordinator	**MS Mathematics, Department of Mathematics** COMSATS University Islamabad, Wah Campus, Pakistan	Sept. 2011 - Jan. 2014
Convener	**COMSATS Mathematical Olympiad** Series organized every year in the month of March, COMSATS University Islamabad, Wah Campus, Pakistan	Sept. 2012 - Jan. 2015
Convener	**Departmental Thesis Advisory Committee** Series organized every year in the month of March, COMSATS University Islamabad, Wah Campus, Pakistan	Sept. 2011 - Jan. 2015

Teachings

Courses taught in Lahore University of Management Sciences (LUMS)

- Calculus - I
- Linear Algebra with differential equations
- Ordinary differential equations
- Numerical analysis
- Advanced numerical analysis (graduate course)

Courses taught in Institut National des Sciences Appliquees (INSA) de Rennes

- Analyse - I, Analyse - II
- Algebre - I, Algebre - II
- Geometrie

Courses taught in COMSATS University Islamabad (CUI), Wah Campus

- Calculus with Analytic Geometry
- Ordinary differential equations
- Linear Algebra
- Numerical computations
- Discrete mathematics
- Business mathematics
- Advanced partial differential equations (graduate)
- Advanced engineering mathematics (graduate)
- Advanced numerical analysis (graduate)

Teachings Evaluations (LUMS)

Semester	Course Name	Type	No. Students	Evaluations
Fall 2018	Calculus - I	Undergraduate	146	4.23/5
Spring 2018	Advanced Numerical Analysis	Graduate	59	4.14/5
Spring 2018	Linear Algebra	Undergraduate	141	4.15/5
Fall 2017	Calculus - I	Undergraduate	208	4.38/5
Spring 2017	Advanced Numerical Analysis	Graduate	55	4.20/5
Spring 2017	Ordinary Differential Eq's	Undergraduate	11	3.91/5
Fall 2016	Calculus - I	Undergraduate	80	4.46/5
Spring 2016	Advanced Numerical Analysis	Graduate	36	4.49/5
Spring 2016	Ordinary Differential Eq's	Undergraduate	2	4.83/5
Fall 2015	Calculus - I	Undergraduate	28	4.36/5
Fall 2015	Ordinary Differential Eq's	Undergraduate	8	4.08/5
Spring 2015	Numerical Analysis	Undergraduate	9	4.68/5

Personalia

Date/Place of Birth	**June 12, 1977/ Rawalpindi, PAKISTAN**
Nationality	**Pakistani**
Marital Status	**Married (2 kids)**
NIC No.	**37405-5128748-5**

References

Prof. Aziz Belmiloudi
Centre de Mathematiquees, INSA de Rennes, France
aziz.belmiloudi@insa-rennes.fr

Prof. Muhammad Ayub
Dean, Natural and Basic Sciences,
Quaid-e-Azam University Islamabad, Pakistan
mayub@qau.edu.pk