Mateen Ahmad

Graduate Research Assistant

Department of Earth and Atmospheric Sciences

University of Houston. Tx, 77004, USA

E-mail: mahmad18@uh.edu, Cell: (832)-718-7999

Academic Career

Aug 2019 – Present Doctor of Philosophy (Ph.D.), University of Houston
Academic Advisor: Dr. Bernhard Rappenglueck

2006 – 2008 M.Phil. Applied Mathematics, University of Engineering and Technology, Lahore, Pakistan

1999 - 2002 M.Sc. Applied Mathematics, University of Engineering and Technology, Lahore, Pakistan.

Professional Career

Dec 2012 – Present Assistant Professor of Mathematics, Rachna College of Engineering and Technology (a campus of University of Engineering and Technology, Lahore), Gujranwala, Pakistan

Apr 2007 - Dec 2012 Lecturer of Mathematics, Rachna College of Engineering and Technology (a campus of University of Engineering and Technology, Lahore), Gujranwala, Pakistan

Courses taught at Undergraduate level

- Calculus-I and Calculus-II
- Engineering Mathematics I, II, and III
- Complex Variables and its Applications
- Linear Algebra and its Applications
- Applied Probability and Statistics
- Vectors and tensors for Engineers
- Differential Equations and Transforms
- Numerical Methods and Scientific Computing for Engineers with C++ and Matlab

Research Interests

- Algorithms for Boundary Layer Height Retrieval
- Machine Learning
- Atmospheric Modeling
- Numerical Analysis and Scientific Computing
- Computational Fluid Dynamics

Term Projects and Thesis

Micropulse Lidar - Algorithm Development for Boundary Layer Height Determination (Term project for GEOL 6332 Boundary layers and Turbulence)

Computational Fluid Dynamics for Heat Enhancement Method for Cooling Channels (Final year thesis for M.Phil. Applied Mathematics)

Numerical Solutions of Ordinary Differential Equations (Final year project for M.Sc. Applied Mathematics)

Publications

Osibanjo, O. O., Rappenglück, B., **Ahmad, M.**, Jaimes-Palomera, M., Rivera-Hernández, O., Prieto-González, R., & Retama, A. (2022). Intercomparison of planetary boundary-layer height in Mexico City as retrieved by microwave radiometer, micro-pulse lidar and radiosondes. Atmospheric Research, 271, 106088.

M. Ahmad, M. Shafiq and I.A. Chaudhry, Heat Transfer Augmentation Through Electric Fan Heater Using Computational Fluid Dynamics, Pakistan Journal of Engineering and Applied Science, UET, Lahore(p1-5) Volume 10, January 2012, ISSN 1995-1302

Qureshi, W.A.; Khan, R.A.J.; **Ahmad, M.;** Bashir, A.; An efficient approach for target tracking and error minimization using Kalman Filtering Technique, April 2007 ICEE, IEEE Catalog Number: 07EX1653C, ISBN: 1-4244-0893-8, Library of Congress: 2006939760

Computer Skills

- Matlab, C++, R, and Python
- Machine Learning
- Weather Research and Forecasting (WRF) Model
- AERMOD (EPA's dispersion model), NOAA HYSPLIT
- Ansys Fluent

Manuscript Reviews (8)

Air Quality, Atmosphere and Health