Ahmad Jan

Curriculum Vitæ

Current Position

Aug 2015 – to date
Postdoctoral Research Associate
Climate Change Science Institute
Environmental Sciences Division,
Oak Ridge National Laboratory,
Email: jana@ornl.gov

Research Interests

• Hydrologic modeling • Modeling permafrost dynamics • Uncertainty quantification • Parameter estimation • Subsurface flows and characterization

Education

2011 – 2015
Doctor of Philosophy (Applied Mathematics)
University of Wyoming, USA
2005 – 2007
Master of Science (Computational Mathematics)
GIK Institute of Eng. Sci. & Tech., Pakistan
2003 – 2005
Master of Science (Applied Mathematics)
Quaid-i-Azam University Islamabad, Pakistan

Thesis & Dissertation titles

Doctor of Philosophy	A Bayesian Framework for the Validation of Porous Media Flow Models at the Laboratory Scale
Master of Science	Nonlinear PDE and Radial Basis Functions

Work experience

• May 2007 – November 2009
GIK Institute of Eng. Sci. & Tech., Pakistan
Lecturer
Courses taught: ODE for Engineers, Calc-I, II, Numerical Analysis
• December 2009 – May 2010
TU Graz Austria
Project Assistant
Development of a project at Institute for Structural Analysis

Publications

• A Bayesian Framework for the Validation of Models for Subsurface Flows: Synthetic Experiments (Accepted for publication in Computational Geo-Sciences).
• Validation of a compositional model for the simulation of CO_2 injection into saline aquifers (submitted).
• Ahmad Jan, et al., A comparative study of the numerical solution of a class of KdV equation, Applied Mathematics & Comput. Vol 199(2008) pp. 425-434.
• Ahmad Jan, et al., A meshfree method for numerical solution of KdV equation, Engineering Analysis with Boundary Elements Vol 32(2008) pp.849-855.
• Ahmad Jan, et al., Application of meshfree collocation method to a class of nonlinear partial differential equations, Engineering Analysis with Boundary Elements Vol 33(2009) pp. 661-667.
• Ahmad Jan, A computational meshless method for the generalized Burger's Huxley equation, Applied mathematical modeling, Vol 33(2009) pp. 3718-3729.

Major Courses

• Uncertainty Quantification • Object Oriented Programming for Scientific Computing • Reservoir Modeling • Flow Thru Porous Media • Mathematics of Flow Thru Porous Media • Porous Media Flow • Computational Methods • Continuum Mechanics • Computational Fluid Dynamics • Principle of Stochastic Modeling • Fluid Mechanics

C++ projects and experience

• Developer of the UQ framework in the UW Team Simulator for Compositional Fluid Flow
• Finite Element Framework for Elliptic Equations
• The Mendelbrot Fractal
• Linked List class
• Conjugate Gradient Method

Communication skills

English	Oral: fluent – Written: fluent
Pushto	Native speaker
Urdu	Native speaker

Software skills

Expert	C/C++, Linux, Matlab, subversion, LaTeX, MS office
Intermediate	OriginLab, Paraview, MPI, GLE
Basic level	CUDA

Distinctions

• Scholarship for two years under Talent farming scheme (Higher Education Commission, Pakistan), 2004.
• NESCOM excellence award in MS for holding first position in the faculty of Engineering Sciences, May 2007.
• Dean's Distinction Certificate
• Shanti Sehgal's award 2014
• Catherine Gibbs Shaw's award 2014

Conference talks

• Presented at the CFSF 2014 conference, Laramie WY, USA. • Presented at the 6th Interpore conference 2014, Milwaukee WI, USA
• Presented at the CFSF 2014 conference, Laramie WY, USA.

References

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• Prof. Myron Allen, University of Wyoming
Phone # +1-307-766-3292
Email: allen@uwyo.edu
• Dr. Marcio Borges, LNCC Brazil
Email: mrborges@lncc.br