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(a) Professional Preparation

Moscow Inst. Physics and Tech., Russia Applied Math & Physics M.S. 1994
University of Notre Dame Mechanical Engineering M.S. 1999
University of Notre Dame Aerospace & Mech. Engr Ph.D. 2002
Northwestern University Engr Sci & Appl Math Posdoc 2002-05
Harvard University Engr, Appl Sci & Appl Math Postdoc 2005-07

(b) Appointments

2019-current Professor, Joint appointment between Math Department and Energy and Environmental Systems Department, North Carolina A&T University (NCAT)

2013-2019 Associate Professor, Joint appointment between Math Department and Energy and Environmental Systems Department, North Carolina A&T University (NCAT)

2017, summer Senior Fellow, Summer Faculty Research Program, U.S. Naval Research Laboratory

2007-2013 Assistant Professor, Joint appointment between Math Department and Energy and Environmental Systems Department, North Carolina A&T University

2005-2007 Post Doctoral Fellow, Harvard University, MA, School of Engineering and Applied Sciences, Applied Mathematics

2002-2005 Post Doctoral Fellow, Northwestern University, IL, Department of Engineering Sciences and Applied Mathematics

1996-2002 Research Assistant, University of Notre Dame, IN, Department of Aerospace and Mechanical Engineering

1992-1995 Research Assistant/Engineer, Central Aerohydrodynamic Institute, Zhukovsky city, Russia

(c) Publications

(i) Five most closely related publications

Rastigejev, Y. and S. A. Suslov, 2016: Two-temperature non-equilibrium model of a marine boundary layer laden with evaporating ocean spray under high-wind conditions. *J. Phys. Ocean.*, 46, 3083-3102.

Garcia-Rivera, J., Y.-L. Lin, and Y. Rastigejev, 2016: Cold-air damming - tropical cyclone interaction: A numerical case study of Tropical Storm Kyle (2002) and its influence on heavy rain in the North Carolinas. Meteor. and Atmos. Phys. (MAAP), 128, 347-372.

Rastigejev Y and S. A. Suslov, 2014: E-epsilon model of spray-laden near-sea atmospheric layer in high wind conditions. *J. Phys. Ocean.*, 44, 742-763.

Rastigejev Y., S. A. Suslov, and Y.-L. Lin, 2011: Effect of Ocean Spray on Vertical Momentum Transport under High-wind Conditions. *Boundary-Layer Meteorology*, 141, 1-20.

Rastigejev, Y., and S. Paolucci, 2006 : Wavelet-based adaptive multiresolution computation of viscous reactive flows. Int'l J. Numerical Methods in Fluids, 52, 749-784.

(ii) Five most significant publications

Semakin, A. N. and Y. Rastigejev, 2016: Numerical Simulation of Global-Scale Atmospheric Chemical Transport with High-Order Wavelet-Based Adaptive Mesh Refinement Algorithm. Mon. Wea. Rev., 144, 1469–1486.

Rastigejev, Y., R. Park, M. P. Brenner, and D. J. Jacob, 2010: Resolving intercontinental pollution plumes in global models of atmospheric transport. *J. Geophys. Res.*, 115, D02302, doi:10.1029/2009JD012568.

Rastigejev, Y., M. P. Brenner, and D. J. Jacob, 2007: Spatial Reduction Algorithm for Atmospheric Chemical Transport Models, Proceedings of the National Academy of Sciences of the U.S.A., 104, 13875-13880.

Rastigejev, Y., and M. Matalon, 2006: Nonlinear evolution of hydrodynamically unstable premixed flames, Journal of Fluid Mechanics, 554, 371.

Rastigejev, Y., and M. Matalon, 2006: Numerical simulation of flames as gas-dynamic discontinuities, Combustion Theory and Modelling. 10 (3), 459-481.

(d) SYNERGISTIC ACTIVITIES:

- Taught undergraduate courses: Numerical Methods, Ordinary Differential Equations, Calculus, Algebra & Trigonometry, Introduction to Computational Tools, Meteorological Analysis Lab, and Computer Applications in Meteorology**.**
- Taught graduate courses: Dynamic Meteorology, Atmospheric Physical and Chemical Processes, Climatology, Complex Variables, Physical Meteorology
- Reviewed manuscripts for professional journals.
- Conducted research for projects sponsored by NSF, AFOSR, NOAA, etc.
- Lead PI, "HBCU-RISE Center for Advanced Multi-scale Computational Algorithms (AMCA)", NSF, 10/01/10- 09/30/15
- Developed a Wavelet-based Adaptive Mesh Refinement (WAMR) numerical algorithm (see Semakin and Rastigejev, 2016).
- Developed an advanced model of marine atmospheric boundary layer laden with evaporating ocean spray (see Rastigejev and Suslov, 2016).