**Hosein Foroutan, NRC Post-Doctoral Fellow, in EPA's National Exposure Research Laboratory**

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**Area of Expertise:** Hosein Foroutan has expertise in numerical analysis of complex multi-scale multi-physics flow systems, and thermal-fluid sciences and turbulent flows (with energy and environmental applications).

**Select Publications:**

Foroutan, H., Young, J., Liu, P., Ran, L., Pleim, J., and Mathur, R., 2016, "Development, implementation, and evaluation of a physics-based windblown dust emission model," will appear in Air Pollution Modeling and its Application XXV.

Foroutan, H. and Yavuzkurt, S., 2015, "Unsteady numerical simulation of flow in draft tube of a hydroturbine operating under various conditions using a partially-averaged Navier-Stokes model," J. Fluids Engineering, Vol. 137(6), p. 061101.

Foroutan, H. and Yavuzkurt, S., 2014, "A partially-averaged Navier-Stokes model for the simulation of turbulent swirling flow with vortex breakdown," International Journal of Heat and Fluid Flow, Vol. 50, pp. 402-416.

Mehdizadeh, A., Foroutan, H., Vijayakumar, G., and Sadiki, A., 2014, "A new formulation of scale adaptive simulation approach to predict complex wall bounded shear flows," Journal of Turbulence, Vol. 15(10), pp. 629-649.

Foroutan, H. and Yavuzkurt, S., 2013, "A model for simulation of turbulent flow with high free stream turbulence implemented in OpenFOAM," Journal of Turbomachinery, Vol. 135(3), p. 031022. (ASME-IGTI Best Technical Paper Award).

View more research publications by [Hosein Foroutan](#).

**Education:**

- B.S. in Mechanical Engineering, Iran University of Science and Technology, 2006
- M.S. in Mechanical Engineering, Iran University of Science and Technology, 2009
- Ph.D. in Mechanical Engineering, Penn State University, 2015

**Professional Experience:**

- Postdoctoral Fellow, U.S. Environmental Protection Agency, Research Triangle Park, NC, 2015 – Present
- Hydro Research Foundation Fellow, Penn State University, PA 2013 – 2014
- Graduate Research Assistant, Penn State University, PA 2009 – 2013

Honors and Awards:

- Early Career Research Award, International Technical Meeting on Air Pollution Modelling and its Application, 2016
- The National Research Council (NRC) of the National Academies Postdoctoral Fellowship Award, 2014
- Hydro Research Foundation (HRF) / U.S. Department of Energy Fellowship Award, 2013
- Iranian-American Academics and Professionals (IAAP) Scholarship Award, 2013
- ASME-IGTI Heat Transfer Committee Best Technical Paper Award, 2012
- Best Graduate Poster, 9th Annual PSU College of Engineering Research Symposium, 2012
- Second Best Poster, 27th Annual PSU Graduate Exhibition Award, 2012
- U.S. Department of Energy Graduate Student Fellowship for Hydropower Research, 2011