Artem Igorevich Yankov

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OBJECTIVE   A position that utilizes computational science and mathematical modeling to solve challenging, real-world problems in a stimulating and fast-paced environment.

EDUCATION   **University of Michigan**   Ann Arbor, MI
Ph.D, Nuclear Engineering and Radiological Sciences   Expected 2014

Rose-Hulman Institute of Technology   Terre Haute, IN
B.S., Mathematics   May, 2010
B.S., Physics
Minor: Computational Science
Clarence P. Sousley Award for demonstration of exceptional performance in the mathematical sciences.

SKILLS   *Programming Languages:* Python, Fortran, SQL, LaTeX, Matlab, shell scripting languages
Libraries: Numpy, SciPy, matplotlib, scikit-learn, MPI
Software: Maple, Minitab, Dakota, Tableau, numerical linear algebra packages
Operating Systems: Unix, Windows, OS X
Machine Learning: MapReduce, Neural Networks, Logistic/Linear Regression, SVM

EXPERIENCE   *Graduate Student Research Assistant*   July 2010-present
University of Michigan, Department of Nuclear Engineering, Ann Arbor, MI

- Developing, analyzing, and applying novel techniques for the uncertainty quantification of computer models for nuclear reactor core simulation.
- Thesis work in the construction of surrogates for computer models with large numbers of correlated, stochastic inputs.
- Coupled software to apply uncertainty quantification techniques to time-dependent reactor simulations in a parallel computing environment.

Undergraduate Intern   Summer 2009
Idaho National Laboratory, Idaho Falls, ID

- Investigated effects of placing gas gap in irradiation capsule experiments at the Advanced Test Reactor.
- Used finite element analysis to obtain a uniform specimen temperature profile by adjusting gas gap parameters.
- Investigated the minimum size of coolant flow channel for design experiments needed to meet thermal-hydraulic safety requirements.

Research Experience for Undergraduates   Summer 2008
Brigham Young University, Department of Mathematics, Provo, UT

- Research in Lagrangian formulations of mechanics with designer conservation laws.

PUBLICATIONS

A. Yankov and T. Downar, "Application of Adaptive Hierarchical Sparse Grid Collocation to the Uncertainty Quantification of Nuclear Reactor Simulators," *International Conference on Mathematics and Computational Methods Applied to Nuclear Science and Engineering*, Sun Valley, Idaho, USA, May 5-9, 2013.

A. Yankov, B. Collins, M. Klein, et al., "A Two-Step Approach to Uncertainty Quantification of Core Simulators," *Science and Technology of Nuclear Installations*, vol. 2012, Article ID 767096, 9 pages, 2012. doi:10.1155/2012/767096.

A. Yankov, B. Collins, M. A. Jessee, et al., "A Generalized Adjoint Approach for Quantifying Reflector Assembly Discontinuity Factor Uncertainties," *Proc. PHYSOR 2012*, Knoxville, Tennessee, USA, April 1520 (2012).
- Best Student Paper Award at PHYSOR 2012.

A. Yankov, M. Klein, M. A. Jessee, et al., "Comparison of XSUSA and Two-Step Approaches for Full-Core Uncertainty Quantification," *Proc. PHYSOR 2012*, Knoxville, Tennessee, USA, April 1520 (2012).

CONFERENCES ATTENDED

Reduced Order Modeling in General Relativity	June, 2013
California Institute of Technology, Pasadena, CA	
Mathematics and Computation	May, 2013
American Nuclear Society, Sun Valley, Idaho	
Uncertainty Analysis in Best-Estimate Modeling	May, 2012
Karlsruhe Institute of Technology, Karlsruhe, Germany	
PHYSOR Advances in Reactor Physics	April, 2012
Oak Ridge National Laboratory, Knoxville, TN	
Modeling, Experimentation, and Validation School	July, 2011
Argonne National Laboratory, Argonne, IL	

EXTRA-CURRICULAR ACTIVITIES

Tough Mudder 2012
Detroit Free Press Half-Marathon 2012
Ann Arbor Marathon 2013
Ann Arbor Parks and Recreation Ice Hockey
Predictive Analytics of Southeast Michigan Meetup Group
Kaggle