Peter Jantsch

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Education

Ph.D. Mathematics, University of Tennessee, Knoxville, August 2017

Dissertation: Efficient Methods for Multidimensional Global Polynomial Approximation with Applications to Random Partial Differential Equations

Advisor: Prof. Clayton G. Webster

M.S. Mathematics, University of Tennessee, Knoxville, May 2014

B.S. Mathematics, *Summa Cum Laude*, Grove City College, May 2011

GPA: 3.91/4.0, Major QPA: 4.0/4.0

Employment

Assistant Professor of Mathematics, Wheaton College, July 2020-present

National Science Foundation Mathematical Sciences Postdoctoral Research Fellow, Sept 2017-Aug 2020

Scientific Advisor: Prof. Ronald DeVore

Visiting Assistant Professor, Texas A&M University, Sept 2017-Aug 2020

Graduate Research Assistant: University of Tennessee, 2013-2017

Graduate Teaching Associate: University of Tennessee, 2011-2013

Publications

D. Guinard, **P. Jantsch**. *Nonlinear model reduction for anisotropic analytic functions*. (in preparation)

W.C. Amdat (Wheaton College Applied Math Data Analysis Team). *The Chicago Hardship Index: An Introduction to Urban Inequity*. Journal of Statistics and Data Science Education. 29:3, 328-336, (2021). https://www.tandfonline.com/doi/pdf/10.1080/26939169.2021.1994489

A. Bonito, A. Cohen, R. DeVore, D. Guinard, **P. Jantsch**, G. Petrova. *Nonlinear methods for model reduction*. ESAIM: M2AN. 55 (2) 507-531 (2021). https://doi.org/10.1051/m2an/2020057

A. Bonito, R. DeVore, D. Guinard, **P. Jantsch**, G. Petrova. *Polynomial Approximation of Anisotropic Analytic Functions of Several Variables*. Constr Approximation (2021). https://doi.org/10.1007/s00365-020-09511-4

P. Jantsch, C. Webster. *Sparse Grid Quadratures Based on Conformal Mappings*. Sparse Grids and Applications - Miami, FL 2016. Lecture Notes in Computational Science and Engineering, vol 123. (2018). https://doi.org/10.1007/978-3-319-75426-0_6

P. Jantsch, C. Webster, G. Zhang. *On the Lebesgue Constant of Weighted Leja Points in Unbounded Domains*. IMA Journal of Numerical Analysis (2018). https://doi.org/10.1093/imanum/dry002

D. Galindo, **P. Jantsch**, C. Webster, G. Zhang. *Accelerating Stochastic Collocation Methods for PDEs with Random Coefficients*. SIAM/ASA J. Uncertainty Quantification, 4(1), 1111-1137. (2016). http://dx.doi.org/10.1137/15M1019568

A. Teckentrup, **P. Jantsch**, C. Webster, M. Gunzburger. *A Multilevel Stochastic Collocation Method for PDEs with Random Coefficients*. SIAM/ASA J. Uncertainty Quantification, 3(1), 1046-1074 (2015). http://dx.doi.org/10.1137/140969002

Awards

Mathematical Association of America Project NExT Fellowship, 2021-2022.

National Science Foundation Mathematical Sciences Postdoctoral Research Fellowship, Sept 2017 to August 2020

Quantification of Uncertainty: Improving Efficiency and Technology (QUIET) Workshop travel support - SISSA, Trieste, Italy, July 2017

University of Tennessee Graduate Student Senate Outstanding Achievement in Graduate Research Award, April 2017

Society for Industrial and Applied Mathematics travel support to attend the SIAM Conference on Computational Science and Engineering - Salt Lake City, UT March 2015

Mathematical Sciences Research Institute (MSRI) support of local and travel expenses for the MSRI Summer Graduate School on Stochastic Partial Differential Equations - Berkely, CA, July 2014

Oak Ridge National Laboratory Higher Education Research Experience summer fellowship, May-July 2013

University of Tennessee Dorthea & Edgar D. Eaves Graduate Teaching Award, May 2012

Grove City College Philip N. Carpenter Senior Mathematics Award, April 2011

Grove City College Franklin C. Ketler Mathematics Prize, April 2011

Grove City College Student Opportunities in Accelerated Research summer program, June 2010

Grove City College Trustee's Scholarship and Presidential Scholarship, 2007-2011

Computer Software and Languages

Languages: Python, R, C++, Matlab, LaTeX

Experience with data munging, visualization, and machine learning with statistical software packages in Python and R. Implementing high-dimensional interpolation, adaptive finite elements, and optimization methods, as well as parallel computing techniques.

Professional Memberships

Society for Industrial and Applied Mathematics (SIAM)

- Activity Group in Uncertainty Quantification
- Activity Group in Data Science

Mathematical Association of America

Pi Mu Epsilon Mathematics Honorary