Travis Askham

Curriculum Vitae

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Education and Qualifications

2016	Ph.D.	New York University
2010	M.A.	University of California Los Angeles
2010	B.Sc.	University of California Los Angeles

Professional Appointments

2016 – Research Associate of Applied Mathematics, Department of Applied Mathematics, University of Washington

Publications

Journal Articles & Books

[1] Travis Askham and Antoine J Cerfon, An adaptive fast multipole accelerated poisson solver for complex geometries. *Journal of Computational Physics*, 344:1–22, 2017.

[2] Travis Askham, *Integral-equation methods for inhomogeneous elliptic partial differential equations in complex geometry*. Ph.D. thesis, New York University, 2016.

[3] Travis Askham and Leslie Greengard, Norm-preserving discretization of integral equations for elliptic PDEs with internal layers I: the one-dimensional case. *SIAM Review*, 56(4):625–641, 2014.

Preprints

[1] Travis Askham and J Nathan Kutz, Variable projection methods for an optimized dynamic mode decomposition. *arXiv preprint arXiv:1704.02343*, 2017.

[2] Manas Rachh and Travis Askham, Integral equation formulation of the biharmonic dirichlet problem. *arXiv preprint arXiv:1705.09715*, 2017.

Honors & Awards

2016	Wilhelm Magnus Memorial Prize, Courant Institute of Mathematical Sciences
2010	Daus Award in Mathematics, University of California Los Angeles

Grants & Fellowships

2015	Dean's Dissertation Fellowship, New York University
2010–2015	Henry M. MacCracken Fellowship, New York University

Teaching Experience

University of Washington

Scientific Computing

Courant Institute of Mathematical Sciences

Numerical Methods I (Reader)
Analysis I (Teaching Assistant)
Ordinary Differential Equations (Teaching Assistant)

Research Experience

2012–2015 Research Assistant, Courant Institute of Mathematical Sciences, New York University. Principal Investigator: Leslie Greengard. Project: Novel methods for electromagnetic simulation and design

Conference Activity

Participation

2017 Talk. Variable projection for Generalizing the Dynamic Mode Decomposition, SIAM CSE. Atlanta, GA, USA

2017 Talk. An algorithm for the DMD with unevenly spaced time samples, BIRS Workshop on Data-Driven Methods. Banff, Alberta, Canada

2016 Talk. Integral-Equation Methods for Inhomogeneous Elliptic PDEs (and applications), SIAM Annual Conference. Boston, MA, USA

2014 Poster. Volume Integrals in Complex Geometry: A Case Study of Poisson's Equation, CBMS-NSF Conference: Fast-Direct Solvers for Elliptic PDEs, Dartmouth College. Hanover, NH, USA

2013 Poster. On the discretization of integral equations for divergence-form PDEs with internal layers, Integral Equations Methods: Fast Algorithms and Applications (BIRS Workshop), Banff International Research Station. Banff, Alberta, Canada

2013 Talk. On the discretization of integral equations for elliptic PDEs with internal layers, Mid-Atlantic Numerical Analysis Day, Temple University. Philadelphia, PA, USA

Organization

2017 Mini-symposium. Data-driven characterization, control, and uncertainty quantification of dynamical systems, SIAM CSE. Atlanta, GA, USA

Service to Profession

Referee

Journal of Computational Physics

Member

SIAM (since 2011)

Skills

Coding

Mastery	Fortran77, MATLAB
Proficiency	C99/C++, LaTeX
Familiarity	OpenMP, OpenCL (in C99), Python, Julia, PHP, HTML

Speaking & Reading

English (native)
Spanish (elementary proficiency)

Biographical

Born	1987
Citizen	United States