Jun Wang

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Education

B.S. Mathematics, Peking University, 2012.

M.S. Mathematics, New York University, 2014.

Ph.D. Mathematics, New York University, 2017.

Dissertation: Integral Equation Methods for the Heat Equation in Moving Geometry

Advisor: Leslie Greengard

Professional Appointments

Research Assistant, New York University, 2014-2017

Flatiron Research Fellow, Flatiron Institute, 2017-2020

Assistant Professor, Tsinghua University, 2020-now

Conferences and Talks

Talk: Fast Methods for the Evaluation of Heat Potentials in Moving Geometry.
SIAM Conference on Computational Science and Engineering, Atlanta, Georgia, USA, 2017.

Poster: Fast Methods for the Evaluation of Heat Potentials in Moving Geometry.
Modern Advances in Computational and Applied Mathematics, New Haven, Connecticut, USA, 2017.

Talk: Integral Equation Methods for the Heat Equation in Moving Geometry.
SIAM Annual Meeting, Portland, Oregon, USA, 2018.

Talk: Numerical Solution of the Doubly Periodic Mobility Problem in Two Dimensions.
Flatiron Institute, New York, New York, USA, 2018.

Talk: Adaptive Methods for Diffusion and Fluid Flows in Complex Geometries.
Applied Mathematics and Statistics Youth Forum,Peking University, Beijing, China, 2018.

Talk: Integral Equation Methods for the Heat Equation in Moving Geometries.
SIAM Conference on Computational Science and Engineering, Spokane, Washington, USA, 2019.

Talk: Fast Boundary Integral Solvers for Shearing Stokes Flows.
International Multigrid Conference, Kunming, Yunnan, China, 2019.

Talk: Introduction to Integral Equation Methods.
Flatiron Internal Conference, New York, New York, USA, 2019.

Professional Activities

Minisymposium (co-organizer): Recent Advances in Integral Equation Methods.
SIAM Annual Meeting, Portland, Oregon, USA, 2018.

Minisymposium (co-organizer): Integral equation-based methods for the simulation of time-dependent systems.
SIAM Annual Meeting, Toronto, Ontario, Canada, 2020.

Honors

Sandra Bleistein Prize, Courant Institute of Mathematical Sciences, 2016.

Henry M. MacCracken Fellowship, New York University, 2014-2016.

Meritorious Award in Mathematical Contest in Modeling, SIAM, 2010.

Teaching Experience

Teaching Assistant, Calculus I, Courant Institute of Mathematical Sciences, 2014.

Teaching Assistant, Advanced Topics in Numerical Analysis, Courant Institute of Mathematical Sciences, 2014.

Teaching Assistant, Complex Analysis, Courant Institute of Mathematical Sciences, 2015.

Teaching Assistant, Calculus II, Courant Institute of Mathematical Sciences, 2015.

Teaching Assistant, Mathematical Analysis, Courant Institute of Mathematical Sciences, 2016.

Selected Publications

An adaptive fast Gauss transform in two dimensions.
(with L. Greengard). SIAM J. Sci. Comput. (2018) [arxiv]

Hybrid asymptotic/numerical methods for the evaluation of layer heat potentials in two dimensions.
(with L. Greengard). Adv. Comput. Math. (2019) [arxiv]

Explicit unconditionally stable methods for the heat equation via potential theory.
(with A. Barnett, C.L. Epstein, L. Greengard, and S. Jiang). Pure Appl. Analysis (2019) [arxiv]

On the accurate evaluation of unsteady Stokes layer potentials in moving two-dimensional geometries.
(with L. Greengard and S. Jiang). Adv. Comput. Math. (2019) [arxiv]

An integral equation method for the simulation of doubly-periodic suspensions of rigid bodies in a shearing viscous flow.
(with A. Barnett and E. Nazockdast). J. Comput. Phys. (2020) [arxiv]

Fast integral equation methods for linear and semilinear heat equations in moving domains.
(with L. Greengard, S. Jiang and S. Veerapaneni). (2020) [arxiv]