

Zhichao Peng

CONTACT INFORMATION	Department of Mathematical Sciences Rensselaer Polytechnic Institute 110 8th Street Troy, NY, 12180 USA	pengz2@rpi.edu https://zhichaopengmath.github.io
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EDUCATION	Department of Mathematical Sciences, Rensselaer Polytechnic Institute, Troy, NY, USA
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Ph.D. Candidate, Applied Mathematics, 08/2015-05/2020 (expected)

- Advisor: Professor Fengyan Li

School of Mathematical Sciences, Peking University, Beijing, P.R.China

B.S. in Mathematics, 09/2011 - 07/2015

RESEARCH INTERESTS	<ul style="list-style-type: none">• Finite element methods: discontinuous Galerkin (DG) method, discontinuous Petrov-Galerkin (DPG) method• Structure preserving methods: asymptotic preserving, positivity preserving, energy stable• Numerical methods for multi-scale kinetic transport models, Maxwell's equations in nonlinear media
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RESEARCH EXPERIENCE	08/2015 – 05/2020	Student research assistant Advisor: Professor Fengyan Li Rensselaer Polytechnic Institute
	05/2019 – 08/2019	Student Intern Advisor: Dr. Xianzhu Tang Los Alamos National Laboratory

PUBLICATIONS	<ul style="list-style-type: none">• Submitted<ul style="list-style-type: none">– Z. Peng, Y. Cheng, J.-M. Qiu, F. Li, <i>Stability-enhanced AP IMEX-LDG schemes for linear kinetic transport equations under a diffusive scaling</i>, submitted to Journal of Computational Physics , 07/2019– Z. Peng, V. A. Bokil, Y. Cheng, F. Li, <i>Asymptotic and positivity preserving methods for Kerr-Debye model with Lorentz dispersion in one dimension</i>, submitted to Journal of Computational Physics (under minor revision), 05/2019• Preprints<ul style="list-style-type: none">– Z. Peng, Y. Cheng, J.-M. Qiu, F. Li, <i>Stability, asymptotic and error analysis of AP IMEX-LDG schemes for linear kinetic transport equations under a diffusive scaling</i>– Z. Peng, Q. Tang, X.-Z. Tang, <i>An adaptive discontinuous Petrov-Galerkin method for the Grad-Shafranov equation</i>
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PRESENTATIONS	<ul style="list-style-type: none"> • Invited talks <ul style="list-style-type: none"> – Applied Math Days, Rensselaer Polytechnic Institute, 04/05/2019 - 04/06/2019 – Seminar, School of Mathematical Sciences, University of Science and Technology of China, Hefei, China, 12/25/2018 – Seminar, School of Mathematical Sciences, Peking University, Beijing, China, 12/27/2018 – 2018 SIAM Annual Meeting, Oregon Convention Center, Portland, OR, USA, 07/09/2018 - 07/13/2018 – The 3rd Annual Meeting of SIAM Central States Section, Colorado State University, Fort Collins, CO, USA, 09/29/2017 - 10/01/2017 • Poster presentation <ul style="list-style-type: none"> – The ICERM 2018 Topical Workshop: Computational Aspects of Time Dependent Electromagnetic Wave Problems in Complex Materials, ICERM, Providence, RI, USA, 07/25/2018 - 07/29/2018
PROFESSIONAL TRAVEL	<ul style="list-style-type: none"> • Model and Dimension Reduction in Uncertain and Dynamic Systems, ICERM, Providence, RI, USA 01/27/2020 - 05/01/2020 • Frontiers in Applied and Computational Mathematics, ICERM, Providence, RI, USA, 01/04/2017- 01/06/2017
TEACHING EXPERIENCE	<p>Fall, 2019 Teaching Assistant, MATH 2400 - Introduction to Differential Equations, Rensselaer Polytechnic Institute, Fall 2019</p> <p>Fall, 2018 Teaching Assistant, MATH 4090 - Foundation of Analysis, Rensselaer Polytechnic Institute, Fall 2018</p> <p>Fall, 2017 Teaching Assistant, MATH 4200 - Mathematical Analysis I, Rensselaer Polytechnic Institute, Fall 2017</p> <p>Fall, 2017 Teaching Assistant, MATH 4090 - Foundation of Analysis, Rensselaer Polytechnic Institute, Fall 2017</p>
HONORS AND AWARDS	<p>2018 Founders Award of Excellence, Rensselaer Polytechnic Institute</p>
PROFESSIONAL SERVICE	<p>Reviewers for <i>SIAM Journal on Scientific Computing</i>, <i>Journal of Applied Mathematics and Physics</i></p>
RELEVANT SKILLS	<ul style="list-style-type: none"> • Fortran, C, C++, Matlab, • MPI, PETSC, MFEM, HYPRE, Latex, Git • English, Chinese