Thuyen Dang

full name in Vietnamese:
Đặng Triển Thuyên

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Research Interests

Analysis of partial differential equations • Calculus of variations • Homogenization • Regularity theory • Fluid mechanics • Mathematics of materials science.

Education

Ph.D in Mathematics University of Houston, USA. 2018—
Thesis: *Homogenization of non-dilute suspension of viscous fluid with magnetic particles.*
Advisors: Yuliya Gorb and Silvia Jiménez Bolaños.

M.Sc in Mathematics Université Sorbonne Paris Nord, France. 2015—2016
Thesis: *Statistics of visiting times on lattice sites of a random walk.*
Advisor: Denis S. Grebenkov. Rank: Très Bien.

B.Sc in Mathematics University of Science, VNU-HCM, Vietnam. 2011—2015
Thesis: *On the Palais-Smale condition.*
Advisor: Duong Minh Duc. Rank: High Distinction.

Publications

[3] T. Dang, Y. Gorb, and S. Jiménez Bolaños. *Homogenization of a non-linear strongly coupled model of magnetorheological fluids*. Dec. 21, 2021. arXiv: 2112.11550 [math].

[2] T. Dang, Y. Gorb, and S. Jiménez Bolaños. "Global gradient estimate for a divergence problem and its application to the homogenization of a magnetic suspension." *to appear in the Springer AWM Volume Research in the Mathematics of Materials Science* (Dec. 16, 2021). arXiv: 2108.07775 [math].

[1] T. Dang, Y. Gorb, and S. Jiménez Bolaños. "Homogenization of nondilute suspension of viscous fluid with magnetic particles." *SIAM Journal on Applied Mathematics* 81.6 (Sept. 21, 2021), pp. 2547–2568. ISSN: 0036-1399. DOI: 10.1137/21M1413833.

Talks & Presentations

8. *A simplified model for magnetorheological fluid and its corresponding effective system (invited talk)*, 4th Annual Meeting of the SIAM Texas-Louisiana Section, SIAM Texas-Louisiana Section and the University of Texas Rio Grande Valley, South Padre Island, Texas. November 5—7, 2021
7. *A simplified model for magnetorheological fluid and its corresponding effective system (seminar talk, online)*, Oberseminar Mathematik in den Naturwissenschaften, Julius - Maximilians - Universität Würzburg, Germany. October 21, 2021
6. *Global gradient estimate and application to homogenization of a magnetic suspension (poster, online)*, V Workshop on Fluids and PDE, UNICAMP Universidade Estadual de Campinas, Brazil. September 20—October 1, 2021
5. *Global gradient estimate and application to homogenization of a magnetic suspension (poster, online)*, The 30th Jyväskylä Summer School, University of Jyväskylä, Finland. August 9—20, 2021
4. *Homogenization of non-dilute suspension of a viscous fluid with magnetic particles (special session: Diverse Aspects of Elliptic PDEs and Related Problems, online)*, Mathematical Congress of the Americas 2021, Universidad de Buenos Aires and Universidad de Buenos Aires-Conicet, Argentina. July 12—23, 2021
3. *Homogenization of non-dilute suspension of a viscous fluid with magnetic particles (minisymposium: Mathematical modeling and analysis of problems in materials science and fluid dynamics, online)*, SIAM Conference on Mathematical Aspects of Materials Science, Basque Center for Applied Mathematics, Bilbao, Spain. May 17—28, 2021
2. *An effective model for magnetorheological fluids via homogenization (online)*, Graduate Student Paper Presentation 2021, University of Houston, USA. April 23, 2021
1. *Homogenization of one-way coupled Stokes flow with paramagnetic inclusions (contributed talk, online)*, Texas Analysis and Mathematical Physics Symposium 2020/21, University of Texas at Austin, USA. April 9—11, 2021

Professional Development

In addition to the graduate courses taken at home institution, below is the list of training at other institutions:

7. *Optimal Transportation, Geometry and Dynamics (online), taught by Prof. Robert McCann*, The Fields Institute, Canada. January 11—April 7, 2022
6. $\Gamma-$*Convergence and Applications to Phase Transitions (online), taught by Prof. Irene Fonseca*, UTK-PDE Distinguished Lecture Series, University of Tennessee–Knoxville. November 18, 2021—January 20, 2022

5. *Differential calculus on the Wasserstein space and mean field games (online), taught by Prof. Pierre Cardaliaguet*, University of Jyväskylä, Finland. August 16—20, 2021
4. *Soliton stability in nonlinear dispersive PDEs set on the line (online), taught by Prof. Pierre Germain*, Erwin Schrödinger Institute, Austria. April 13—June 1, 2021
3. *Regularity for Partial Differential Equations: elliptic equations, homogenization and fluid mechanics (online), taught by Prof. Christophe Prange*, Cergy Paris University, France. Spring 2021
2. *Advanced Topics in Stochastic Analysis: Modelling Across Scales (online), taught by Prof. Dr. Franca Hoffmann*, University of Bonn, Germany. Winter 2020
1. *Topics in PDE II, taught by Prof. Selim Sukhtaiev*, Rice University, USA. Spring 2019

Conferences, Workshops & Visits

18. *4th Annual Meeting of the SIAM Texas-Louisiana Section*, SIAM Texas-Louisiana Section and the University of Texas Rio Grande Valley, South Padre Island, Texas. November 5—7, 2021
17. 25th Internet Seminar *Spectral theory for Operators and Semigroups*, Salerno, Italy. October 2021—June 2022
16. *V Workshop on Fluids and PDE (online)*, UNICAMP Universidade Estadual de Campinas, Brazil. September 20—October 1, 2021
15. *Young women in Partial Differential Equations and applications (online)*, Institute for Applied Mathematics, University of Bonn, Germany. September 20—22, 2021
14. *The 30th Jyväskylä Summer School (online)*, University of Jyväskylä, Finland. August 9—20, 2021
13. *Mathematical Congress of the Americas 2021 (online)*, Universidad de Buenos Aires and Universidad de Buenos Aires-Conicet, Argentina. July 12—23, 2021
12. *Hausdorff School on: Trending Tools for the Solvability of Nonlocal Elliptic and Parabolic Equations (online)*, Hausdorff Center for Mathematics, University of Bonn, Germany. June 28—July 2, 2021
11. *SIAM Conference on Mathematical Aspects of Materials Science (online)*, Basque Center for Applied Mathematics, Bilbao, Spain. May 17—28, 2021
10. *Texas Analysis and Mathematical Physics Symposium 2020-21 (online)*, University of Texas at Austin, USA. April 9—11, 2021
9. *ONEPAS Thematic Series - The mathematics of thin structures (7 sessions)*, Online North East PDE and Analysis Seminar, Carnegie Mellon University, USA. April 1—May 13, 2021
8. *Nonlinear Meeting 2021* (online), Differential Equations Group Of North-East, Italy. March 22—23, 2021

7. *Winter School on Analysis and Applied Mathematics (online)*, University of Münster, Germany. February 22—26, 2021
6. *Mathematical and Computational Materials Science Workshop (online)*, The Institute for Mathematical and Statistical Innovation, University of Chicago, USA. February 15—19, 2021
5. 23rd Internet Seminar *Evolutionary Equations*, Hamburg University of Technology, Germany. October 2019—February 2020
4. *Houston Summer School on Dynamical Systems 2019*, University of Houston, Texas, USA. May 30—June 6, 2019
3. *Houston Summer School on Dynamical Systems 2018*, University of Houston, Texas, USA. May 16—24, 2018
2. Mathematical Conference *Summer Meeting 2016*, University of Sciences, VNU-HCM, Vietnam. July 23—24, 2016
1. *Master Internship*, Laboratoire de Physique de la Matière Condensée, École Polytechnique, France. May 1—July 1, 2016

Teaching

At University of Houston, Houston, Texas, USA

Teaching Assistant. *Duties included leading recitation sections, grading exams and homework, holding office hours and tutoring undergraduate students at university academic support centers MUSL and CASA.*

Math 5332	Differential Equations	Spring 2020
Math 3363	Introduction to Partial Differential Equations (2 classes)	
Math 3321	Engineering Mathematics	
Math 4335	Partial Differential Equations I	Fall 2019
Math 3364	Introduction to Complex Analysis	
Math 1431	Calculus I	Summer 2019
Math 1330	Pre-Calculus	
Math 1310	College Algebra	
Math 3304	Elements of Mathematical Analysis	Spring 2019
Math 1431	Calculus I	
Math 3305	Formal and Informal Geometry	Fall 2018
Math 3331	Ordinary Differential Equations	Spring 2018

At University of Science, Ho Chi Minh City, Vietnam

Teaching Assistant & Instructor. *Duties included teaching course materials, leading recitation sections, preparing and grading exams, and holding office hours.*

TTH024	Analysis III	Fall 2017
MTH253	Calculus III for Advanced Program in Computer Science	Summer 2017
TTH104	Functional Analysis	Spring 2017
TTH022	Analysis I – Calculus	Fall 2015
TTH021	Analysis I – Basic Analysis	

Honors & Awards

8. M.Sc degree with Honors (Très Bien), Université Sorbonne Paris Nord, France. 2016
7. B.Sc degree with Honors (Rank 2/300), University of Science, VNU-HCM, Vietnam. 2015
6. VIASM Fellowships for Excellent Students in Mathematics, Vietnam Institute for Advanced Study in Mathematics. 2012—2015
5. Scholarships for Excellent Students, University of Science, VNU-HCM, Vietnam. 2011—2015
4. Odon Vallet Scholarship. 2011
3. Third Prize, Vietnamese Mathematical Olympiad. 2011
2. Silver Medal in Mathematics, Traditional Olympiad of Southern Vietnam - Grade 11, Vietnam. 2010
1. Silver Medal in Mathematics, Traditional Olympiad of Southern Vietnam - Grade 10, Vietnam. 2009

Technical Skills

Software LaTeX, Emacs, Matlab, Octave, Inkscape.

Programming language Python, Julia, R, C.

Languages

Vietnamese Native **English** Fluent

French Beginner

Last updated: January 2, 2022.