

Tuan N. Pham

Last updated: Jul 2026

Contact Information

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Education

- *Ph.D. Mathematics*
University of Minnesota, Minneapolis, MN, Aug 2018
Advisor: Vladimír Šverák.
Thesis: *Topics in the regularity theory of the Navier-Stokes equations.*
 - *M.Sc. Applied Mathematics*
University of Orleans, Orléans, France, Jul 2012
Thesis: *Matched asymptotic analysis of a phase-field model for alloy solidification.*
 - *B.Sc. Mathematics and Computer Science*
University of Science, Ho Chi Minh City, Vietnam, Oct 2010
Thesis: *Topological degree on class $(S)_+$ and applications to the p -Laplace problems.*
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Research Areas

Partial Differential Equations, Stochastic Processes, Fluid Dynamics, Numerical Analysis.

Academic Positions

- *Assistant Professor*
Faculty of Math and Computing, Brigham Young University-Hawaii, Laie, HI, Aug 2023 - present
- *Affiliated Graduate Faculty*
Department of Mathematics, University of Hawai'i at Mānoa, Honolulu, HI, Jul 2026 - present
- *Courtesy Assistant Professor*
Department of Mathematics, Oregon State University, Corvallis, OR, Sep 2022 - present
- *Research member*
Summer program of Mathematical Problems in Fluid Dynamics (Part II), Mathematical Sciences Research Institute (MSRI), Berkeley, CA, Jul - Aug 2023.
- *Assistant Professor and Pathway Coordinator*
Department of Mathematics, Eastern Oregon University, La Grande, OR, Sep 2022 - Jun 2023
- *Visiting Assistant Professor*
Department of Mathematics, Brigham Young University, Provo, UT, Sep 2020 - Aug 2022.
- *Research member*

Semester program of Mathematical Problems in Fluid Dynamics, Mathematical Sciences Research Institute (MSRI), Berkeley, CA, Jan - May 2021.

- *Fixed-term Assistant Professor*

Department of Mathematics, Oregon State University, Corvallis, OR, Aug 2018 - Aug 2020.

- *Graduate Research / Teaching Assistant*

School of Mathematics, University of Minnesota, Minneapolis, MN, Sep 2012 - May 2018.

- *Summer Intern*

Laboratoire de Physique de la Matière Condensée, École Polytechnique, Palaiseau, France, Apr 2011 - Jul 2011.

- *Graduate Teaching Assistant*

Department of Mathematics and Computer Science, University of Science, Ho Chi Minh City, Vietnam, Nov 2010 - Nov 2011.

Teaching Experience

At Brigham Young University-Hawaii:

Spring	2026	Math 121 (two sections): Principles of Statistics
Winter	2026	Math 107 (two sections): Quantitative Reasoning
Winter	2026	Math 334: Differential Equations
Winter	2026	Math 311: Introduction to Numerical Methods
Fall	2025	Math 107 (two sections): Quantitative Reasoning
Fall	2025	Math 110: College Algebra
Fall	2025	Math 343: Elementary Linear Algebra
Fall	2025	Math 495R: Independent Study
Spring	2025	Math 301: Foundations of Mathematics
Spring	2025	Math 314: Multivariable Calculus
Spring	2025	Math 497R: Mentored Research
Winter	2025	Math 213: Calculus II
Winter	2025	Math 390R: Special Topics in Mathematics
Winter	2025	Math 490R: Mathematics Seminar
Winter	2025	Math 497R: Mentored Research
Fall	2024	Math 107: Quantitative Reasoning
Fall	2024	Math 212: Calculus I
Fall	2024	Math 441: Introduction to Analysis I
Fall	2024	Math 495R: Independence Study
Spring	2024	Math 111: Trigonometry and Analytic Geometry
Spring	2024	Math 214: Multivariable Calculus
Fall	2023	Math 107 (two sections): Quantitative Reasoning
Fall	2023	Math 213: Calculus II

At Eastern Oregon University:

Spring	2023	Instructor, PreCalculus
Spring	2023	Instructor, Calculus III
Spring	2023	Instructor, Differential Equations
Spring	2023	Instructor, Linear Algebra (online, asynchronous)
Winter	2023	Instructor, College Algebra-Part II (online, asynchronous)
Winter	2023	Instructor, Calculus II
Winter	2023	Instructor, Calculus IV
Fall	2022	Instructor, Lotteries and Loans (online, asynchronous)
Fall	2022	Instructor, College Algebra-Part I (online, asynchronous)
Fall	2022	Instructor, Calculus I

At Brigham Young University:

Spring	2022	Instructor, Calculus of Several Variables
Winter	2022	Instructor, Calculus of Several Variables
Fall	2021	Instructor, Ordinary Differential Equations
Winter	2021	Instructor, Calculus of Several Variables
Fall	2020	Instructor, Ordinary Differential Equations
Fall	2020	Instructor, Elementary Linear Algebra

At Oregon State University:

Spring	2020	Instructor, Complex Variables
Winter	2020	Instructor, Linear Algebra II
Winter	2020	Instructor, Introduction to Numerical Analysis
Fall	2019	Instructor, Linear Algebra II
Fall	2019	Instructor, Introduction to Numerical Analysis
Spring	2019	Instructor, Complex Variables
Winter	2019	Instructor, Matrix and Power Series Methods
Winter	2019	Instructor, Integral Calculus (Honors Section)
Fall	2018	Instructor, Linear Algebra I

At University of Minnesota:

Spring	2018	Teaching Assistant, CSE Linear Algebra and Differential Equations
Fall	2017	Teaching Assistant, CSE Multivariable Calculus and Vector Analysis
Fall	2017	Grader, Theory of Partial Differential Equations
Spring	2017	Teaching Assistant, CSE Linear Algebra and Differential Equations
Spring	2017	Grader, Mathematical Analysis of Biological Networks
Fall	2016	Teaching Assistant, Calculus I
Fall	2016	Grader, Geometry I
Fall	2015	Teaching Assistant, Linear Algebra and Differential Equations
Spring	2013	Teaching Assistant, CSE Calculus II
Fall	2012	Teaching Assistant, Pre-Calculus II

At University of Science, Ho Chi Minh City, Vietnam:

Fall	2011	Teaching Assistant, Fundamentals of Calculus I
Fall	2011	Teaching Assistant, Differential and Integral Calculus

Students mentored on research

- Utuaina Peti and Iosefa Taliu: Brigham Young University-Hawaii, undergraduate students competing for the Undergraduate Research Conference (URC), Winter 2026. These students won the Second and Third prizes.

- Giovanni DeMartini and Eve Jevoso: Brigham Young University-Hawaii, undergraduate research assistants, Spring 2025.
 - Simeon Johnson and Joseph Leavitt: Brigham Young University-Hawaii, undergraduate research assistants, Winter 2025.
 - Japeth Caballero and Iosefa Taliu: Brigham Young University-Hawaii, undergraduate research assistants, Summer 2024. These students then presented their research in the URC Winter 2025 and won the First prize.
 - Max Brown: Brigham Young University, undergraduate research assistant, Fall 2021.
 - Hunter Nelson (now a PhD student at the Department of Physics, Virginia Tech): Oregon State University, Summer Undergraduate Research Experience, Summer 2020.
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Peer-review services

- Referee of the Journal London Mathematical Society and the Rocky Mountain Journal of Mathematics.
 - Referee of an article submitted to the book “Statistics of Random Processes and Optimal Control” dedicated to the 90th anniversary of Professor Albert Shiryaev.
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University Services

- AI Ambassador for the Math and Computing Faculty at BYUH since 2026.
 - Undergraduate Research Conference representative for the Math and Computing Faculty at BYUH since 2025.
 - Local organizer and faculty mentor at BYUH for the Putnam Competition since 2025.
 - Faculty advisor for Vietnam Student Club at BYUH since 2023.
 - Committee member of the Hawaii State Math Bowl since 2024.
 - Faculty member leading the effort to acquire the Mathematica software for Eastern Oregon University, 2022-2023. As a result, a 3-year contract between Wolfram Research Inc. and EOU was signed in June 2023.
 - Mathematics Pathway coordinator, Eastern Oregon University, 2022-2023.
 - Co-host of the Regional High School Math Contest at EOU, April 2023.
 - Group leader of the Investigator of Science event (an event for middle school students to explore science at EOU).
 - Linear Algebra committee member, Brigham Young University, 2021-2022.
 - Co-organizer of the 7th annual Cascade Regional Applied Interdisciplinary and Numerical Mathematics (RAIN) Meeting in Corvallis OR, April 2020.
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Other Services

- Judge in MAA Undergraduate Student Poster Session at the Joint Mathematics Meeting in San Diego CA, January 2018.
 - Judge for high school projects and papers at the North Central Regional Junior Science & Humanities Symposium, March 2018.
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Teaching Certificates

- Certificate for completing the Colloquium of the Center of Learning and Teaching at BYUH in Winter 2025.
 - University of Minnesota's certificate for outstanding teaching and dedication to helping students learn, Spring 2018.
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Other Qualifications

- *Languages*
Vietnamese (native), English (fluent), French (basic: reading, writing)
 - *Computing skills*
C, C++, Matlab, Maple, Mathematica, Python, parallel programming, and utilizing HPC system
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Invited talks

- University of Hawai'i at Mānoa, Math Colloquium, Nov 2025.
- AMS Special Session on Advances in Numerical Methods for Fluid Dynamics, Jan 2025.
- AMS Contributed Paper Session on Mechanics and Fluid Mechanics, Jan 2025
- BYUH Faculty Advisory Council Forum, Mar 2024.
- CUNY Graduate Center, Harmonic Analysis and PDE Seminar, Dec 2021.
- Seminar of Applied Data Assimilation and Parameter Tuning (ADAPT), Nov 2021.
- MSRI, Applied Fluids seminar, May 2021.
- University of Utah, Probability/Harmonic Analysis Seminar, Sep 2020.
- Oneworld Symposium: Stochastic Analysis - including SPDEs, Aug 2020.
- Saigon PDE Workshop, Ho Chi Minh City, Vietnam, Jul 2020.
- Oregon State University, Analysis & Math Bio Seminar, Feb 2020.
- AMS Special Sections on Recent Advances in the Theory of Fluid Dynamics / PDEs, Data and Inverse Problems, University of Utah, Oct 2020.
- Oregon State University, Applied Mathematics and Computation Seminar, Jan 2020.
- Brigham Young University, Mathematics Colloquium, Dec 2019.
- Oregon State University, Analysis Seminar, Oct 2019.
- 2nd Biennial Meeting of the SIAM Pacific Northwest Section, Seattle University, Oct 2019.
- Oregon State University, Analysis Seminar, Apr 2019.
- Brigham Young University, Analysis Seminar, Feb 2019.
- Oregon State University, Analysis Seminar, Nov 2018.
- Oregon State University, Analysis Seminar, Nov 2018.
- Oregon State University, Mathematics colloquium, Oct 2018.
- University of Wisconsin–Madison, 81st Midwest PDE seminar, Apr 2018.

- Brigham Young University, Mathematics colloquium, Feb 2018.
- University of Minnesota, PDE Seminar, Oct 2017.
- University of Minnesota, Student PDE Seminar, Feb 2016.

Publications

1. Radu Dascaliuc, Tuan Pham, Enrique Thomann, and Edward Waymire: “Navier-Stokes Equations with Fractional Dissipation and Associated Doubly Stochastic Yule Cascades” (available online at [arXiv:2509.10806](https://arxiv.org/abs/2509.10806)).
2. Radu Dascaliuc, Tuan Pham, Enrique Thomann, and Edward Waymire: “Transformation of Stochastic Recursions and Critical Phenomena in the Analysis of the Aldous-Shields-Athreya Cascade and Related Mean Flow Equations” (submitted, available online at [arXiv:2411.00629](https://arxiv.org/abs/2411.00629)).
3. Radu Dascaliuc, Tuan Pham, Enrique Thomann, and Edward Waymire: “Erratum to Stochastic explosion and non-uniqueness for α -Riccati equation”. *Journal of Mathematical Analysis and Applications*, Vol 527, Issue 2. (Also available online at [arXiv:2103.06912](https://arxiv.org/abs/2103.06912)).
4. Radu Dascaliuc, Tuan N. Pham, Enrique Thomann: “On Le Jan-Sznitman’s stochastic approach to the Navier-Stokes equations”. *Transactions of the American Mathematical Society*, Vol 377, No. 4, 2335-2365, April 2024. Available online at [arXiv:1910.05500](https://arxiv.org/abs/1910.05500).
5. Radu Dascaliuc, Tuan N. Pham, Enrique Thomann: “Erratum to Stochastic explosion and non-uniqueness for α -Riccati equation [J. Math. Anal. Appl. 476 (1) (2019) 53–85]”. *Journal of Mathematical Analysis and Applications*, Vol 527, Issue 2, November 2023. Available online at [arXiv:2303.05482](https://arxiv.org/abs/2303.05482).
6. Radu Dascaliuc, Tuan N. Pham, Enrique Thomann, Edward Waymire: “Doubly Stochastic Yule Cascades (Part I): The explosion problem in the time-reversible case”. *Journal of Functional Analysis*, Vol 284, Issue 1, 2023. <https://doi.org/10.1016/j.jfa.2022.109722>.
7. Radu Dascaliuc, Tuan N. Pham, Enrique Thomann, Edward Waymire: “Doubly Stochastic Yule Cascades (Part II): The explosion problem in the non-reversible case”. *To appear on Annales de l’Institut Henri Poincaré, Probabilités et Statistiques*. Available online at [arXiv:2107.13182](https://arxiv.org/abs/2107.13182).
8. Tuan N. Pham: “Global regularity criteria for the Navier-Stokes equations based on one approximate solution” (submitted, available online at [arXiv:1910.05501](https://arxiv.org/abs/1910.05501)).
9. Tuan N. Pham and Jared P. Whitehead: “On the hydrodynamic stability of stochastically driven flows” (in preparation).
10. Tuan N. Pham: “On the explosion problem of nonhomogeneous Yule cascades” (in preparation).
11. Tuan N. Pham, Vladimír Šverák: “Minimal blowup data for potential Navier-Stokes singularities in the half space” (in preparation).
12. Tuan N. Pham: “Conservation of frequencies and the global regularity of the Navier-Stokes equations” (in preparation).
13. Tuan N. Pham: “Topics in the regularity theory of the Navier-Stokes equations” (PhD thesis). University of Minnesota, 2018, pp. vii+133. URL: <http://hdl.handle.net/11299/201125>.

Expository notes

1. [Correction to Equation \(4.5\)](#) in the paper “Zeros of complex caloric functions and singularities of complex viscous Burgers equation” by Poláčik and Šverák (J Reine Angew Math 616:205–217, 2008).
 2. Linear Partial Differential Equations with Constant Coefficients. Available online at: <https://web.engr.oregonstate.edu/~phamt3/Old-websites/UMN/docs/Oral-paper.pdf>
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