

Nam Q. Le

- CONTACT INFORMATION Mathematics Department *Tel:* (212) 854-4306
Columbia University *Email:* namle@math.columbia.edu
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2990 Broadway, New York, NY 10027
- RESEARCH INTERESTS Partial Differential Equations, Calculus of Variations, Geometric Analysis, Materials Science
- EDUCATION **Courant Institute of Mathematical Sciences, New York University**
Ph.D in Mathematics, September 2008; M.S. in Mathematics, May 2006
- Dissertation: Analysis of Several Sharp-interface Limits in Variational Problems
 - Advisor: Professor Sylvia Serfaty
- Vietnam National University at Hochiminh City**
B.S. in Mathematics, 2002
- Valedictorian
- ACADEMIC APPOINTMENT 2008- Ritt Assistant Professor, Department of Mathematics, Columbia University, New York, New York, USA (on leave academic year 2011-2012)
2011- Assistant Professor of Mathematics, Tan Tao University, Vietnam
2002- 2004 Instructor, Vietnam National University at Hochiminh City
- PUBLICATIONS
1. **N. Q. Le**, A Gamma-Convergence Approach to the Cahn-Hilliard Equation, *Calc. Var. Partial Differential Equations.* **32** (2008), no. 4, 499-522.
 2. **N. Q. Le**, Regularity and Non-existence Results for Some Free-interface Problems Related to Ginzburg-Landau Vortices, *Interfaces Free Bound.* **11** (2009), no. 1, 139-152.
 3. G. A. Francfort, **N. Q. Le** and S. Serfaty, Critical Points of Ambrosio-Tortorelli converge to critical points of Mumford-Shah in the one-dimensional Dirichlet case, *ESAIM Control Optim. Calc. Var.* **15** (2009), no. 3, 576-598.
 4. **N. Q. Le**, Convergence results for critical points of the one-dimensional Ambrosio-Tortorelli functional with fidelity term, *Adv. Differential Equations.* **15** (2010), no. 3-4, 255-282.
 5. **N. Q. Le**, On the convergence of the Ohta-Kawasaki Equation to motion by nonlocal Mullins-Sekerka Law, *SIAM J. Math. Analysis.* **42** (2010), no. 4, 1602-1638.
 6. **N. Q. Le** and N. Sesum, The mean curvature at the first singular time of the mean curvature flow, *Ann. Inst. H. Poincaré Anal. Non Linéaire.* **27** (2010), no. 6, 1441-1459.
 7. **N. Q. Le** and N. Sesum, On the extension of the mean curvature flow, *Math. Z.* **267** (2011), no. 3-4, 583-604.
 8. **N. Q. Le**, Blow up of subcritical quantities at the first singular time of the mean

curvature flow, *Geom. Dedicata*. **151** (2011), no. 1, 361–371.

9. N. Q. Le and N. Sesum, Blow-up rate of the mean curvature during the mean curvature flow and a gap theorem for self-shrinkers, *Comm. Anal. Geom.* **19** (2011), no. 4, 1-27.

10. N. Q. Le, On the second inner variation of the Allen-Cahn functional and its applications, to appear in *Indiana Univ. Math. J.*

11. N. Q. Le and N. Sesum, Remarks on curvature behavior at the first singular time of the Ricci flow, to appear in *Pacific J. Math.*

12. N. Q. Le and O. Savin, Boundary regularity for solutions to the linearized Monge-Ampère equations, arXiv:1109.5677v1 [math.AP].

13. N. Q. Le and O. Savin, Some minimization problems in the class of convex functions with prescribed determinant, arXiv:1109.5676v1 [math.AP].

HONORS AND AWARDS

2012 Visiting Fellow at the Mathematical Sciences Institute, Australian National University from January 10, 2012 to February 20, 2012.
2010 NSF Travel grant to ICM-2010, Hyderabad, India.
2007 SIAM Student Travel Award (for SIAM Conference on Analysis of Partial Differential Equations, December 10-12, 2007, Mesa, Arizona)
2007 NYU Graduate School of Arts and Science Student Travel Grant
2006 Harold Grad Memorial Prize, Courant Institute, New York University
2005–2008 Henry MacCracken Fellowship, New York University
2004-2008 Vietnam Education Foundation Fellowship
2002 Valedictorian, Vietnam National University at Hochiminh City
1997 Gold Medal, Asian Pacific Mathematics Olympiad, Mexico

INVITED VISIT

Department of Mathematics, Simon Fraser University, Burnaby, British Columbia, Canada: September 25 - October 02, 2007

Laboratoire Jacques-Louis Lions, Université Pierre et Marie Curie (Paris 6), Paris, France: March 15 - April 09, 2008

School of Mathematics, University of Minnesota, Minneapolis: June 15- June 20, 2009

Department of Mathematics, Simon Fraser University, Burnaby, British Columbia, Canada: March 15 - March 20, 2010

Département de Mathématiques, Université Paris-Sud 11, August 30-September 06, 2010

Centre for Mathematics and its Applications, Mathematical Sciences Institute, Australian National University, January 10- February 20, 2012.

INVITED TALK

Analysis and PDE seminar, Mathematical Sciences Institute, Australian National University, February 07, 2012. Talk title: *Boundary regularity for solutions to the linearized Monge-Ampere equations and application.*

IMIA seminar, Institute for Mathematics and its Applications, School of Mathematics and Statistics, University of Wollongong, Australia, January 20, 2012. Talk title: *The*

nature of singularities for Type-I mean curvature flow.

Plenary talk, the Vietnamese national conference on Algebra, Geometry and Topology (Dahito 2011), Thai Nguyen, Vietnam, November 3-5, 2011. Talk title: *Regularity results for the mean curvature flow.*

AMS Spring Eastern Sectional Meeting Worcester, MA, April 9-10, 2011. Talk title: *Boundary regularity for minimizers of the Futaki invariant functional with constraints.*

PDE Seminar, Brown University, Division of Applied Mathematics, March 18. Talk title: *Boundary regularity for solutions to the linearized Monge-Ampere equations and application.*

FRG Workshop. March 14-16, 2011, Princeton University. Talk title: *Blow-up rate of the mean curvature during the mean curvature flow.*

Colloquium, Department of Mathematics, Louisiana State University, February 04, 2011. Talk title: *Regularity results for the mean curvature flow.*

Colloquium, Department of Mathematical Sciences, Binghamton University, January 17, 2011. Talk title: *Regularity results for the mean curvature flow.*

University of Connecticut, PDE and Differential Geometry Seminar, October 18, 2010. Talk title: *Regularity results for the mean curvature flow.*

Département de Mathématiques, Université Paris-Sud 11, France, September 01, 2010. Talk title: *On the convergence of the Ohta-Kawasaki Equation to motion by nonlocal Mullins-Sekerka Law.*

Differential Geometry Seminar, CUNY Graduate Center, May 11, 2010. Talk title: *Optimal conditions for the extension of the Ricci flow and the mean curvature flow equations.*

35th Annual Spring Lecture Series, Minimal Surfaces and Mean Curvature Flow, University of Arkansas, April 15-17, 2010. Talk title: *Blow up of subcritical quantities at the first singular time of the mean curvature flow.*

Differential Geometry - Mathematical Physics - Partial Differential Equations Seminar, University of British Columbia, Canada, March 16, 2010. Talk Title: *Optimal conditions for the extension of the mean curvature flow.*

Sapporo Winter School 2010, Hokkaido University, Sapporo, Japan, February 17-February 19, 2010. Talk title: *On the convergence of the Ohta-Kawasaki Equation to motion by nonlocal Mullins-Sekerka Law.*

Princeton University, Differential Geometry and Geometric Analysis Seminar, February 12, 2010. Talk title: *Optimal conditions for the extension of the mean curvature flow.*

Courant Institute Analysis Seminar, February 11, 2010. Talk title: *Optimal conditions for the extension of the mean curvature flow.*

University of Pennsylvania, Analysis Seminar, February 09, 2010. Talk title: *On the convergence of the Ohta-Kawasaki Equation to motion by nonlocal Mullins-Sekerka Law.*

SIAM Conference on Analysis of Partial Differential Equations, December 07-10, 2009, Miami, Florida. Talk title: *On the convergence of the Ohta-Kawasaki Equation to motion by nonlocal Mullins-Sekerka Law*.

Texas Tech University, 9th Annual Red Raider Mini-Symposium: Non-linear Analysis, PDEs and Applications, October 29 - 31, 2009. Talk title: *On the convergence of the Ohta-Kawasaki Equation to motion by nonlocal Mullins-Sekerka Law*

Columbia University Geometry and Analysis Seminar (October 16, 2008). Talk title: *A gamma-convergence approach to the Cahn-Hilliard equation*.

MIT PDE Seminar (April 16, 2008). Talk title: *On the convergence of critical points of the Ambrosio-Tortorelli functional*.

Graduate Student/Postdoc Seminar, Courant Institute, NYU (February 15, 2008). Talk title: *Positivity of Limiting Vorticities for the Ginzburg-Landau Equations*

A Gamma-Convergence Approach to the Cahn-Hilliard Equation, SIAM Conference on Analysis of Partial Differential Equations, December 10-12, 2007, Mesa, Arizona.

A Gamma-Convergence Approach to the Cahn-Hilliard Equation, Materials Working Seminar, Courant Institute, NYU, November 19, 2007.

SYNERGISTIC
ACTIVITIES

PhD thesis defense committee: Abby Shaw-Krauss, Columbia University (2010).

Referee for:

Geometria Dedicata

Kodai Mathematical Journal

Networks and Heterogeneous Media

Transactions of the American Mathematical Society.

MEMBERSHIP

American Mathematical Society, Society for Industrial and Applied Mathematics, Vietnamese Mathematical Society.

OTHER ACTIVITIES

2009-

Running

Races finished: Newport liberty half marathon, New Jersey:

2009 (1 hour, 59 minutes, 47 seconds)

2010 (1 hour, 59 minutes, 54 seconds)