

# Curriculum Vitae

Name	<b>Dr. Norayr Matevosyan</b>
Date and place of birth	24/07/1979, Yerevan, Armenia
Current residence	United Kingdom
<b>Current Position</b>	Senior Research Associate, Department of Applied Mathematics & Theoretical Physics, University of Cambridge, Wilberforce Road, Cambridge CB3 0WA, UK
Telephone / Fax	+44 (0)1223 7 60 449 / +44 (0)1223 7 65 900
Email	n.matevosyan@damtp.cam.ac.uk
Homepage	<a href="http://www.damtp.cam.ac.uk/user/nm438">http://www.damtp.cam.ac.uk/user/nm438</a>

## Education

2003: PhD. in Mathematics: Royal Institute of Technology, Stockholm.

1995 - 1999: BSc. in Mathematics: Yerevan State University (Excellency Diploma)

1992 - 1995: Secondary School: with special Physics - Mathematics emphasis (Excellency Diploma)

## Former Positions

2005 - 2008: Assistant Professor at the Department of Mathematics, University of Vienna.

2003 - 2005: Postdoctoral position at the RICAM, Linz.

## Languages

Fluent English, German, native Russian and Armenian.

## Publication List

*Two-phase semilinear free boundary problem with a degenerate phase*, Calculus of Variations and PDE's, to appear, with A. Petrosyan.

*Almost monotonicity formulas for elliptic and parabolic operators with variable coefficients*, Communications On Pure & Applied Mathematics, to appear, with A. Petrosyan.

- A level set based shape optimization method for an elliptic obstacle problem*, to appear, M3 AS: Mathematical Models and Methods in Applied Sciences, with M. Burger and M.-T. Wolfram.
- On a parabolic free boundary equation modeling price formation*, M3 AS: Mathematical Models and Methods in Applied Sciences, vol 19, 10(2009), 1929–1957, with P.A. Markowich, J.-F. Pietschmann, and M.-T. Wolfram.
- Regularity of a free boundary in parabolic problem without sign restriction*, Indiana Univ. Math. J. 58, No. 2 (2009), with D.E. Apushkinskaya and N.N. Uraltseva.
- On the tangential touch between the free and the fixed boundaries for the two-phase obstacle-like problem*, Ark. Mat. 44 (2006), no. 1, 115, with J. Andersson, H. Mikayelyan
- Tangential touch between free and fixed boundaries in a problem from superconductivity*, Comm. Partial Differential Equations 30 (2005), no. 7-9, 1205–1216.
- Behavior of the free boundary near contact points with the fixed boundary for nonlinear elliptic equations*, Monatsh. Math. 142 (2004), no. 1-2, 1725, with Markowich, Peter.
- Three spheres theorem for harmonic functions*, J. Contemp. Math. Anal. 34 (1999), no. 3, 1–9 (2000); translated from Izv. Nats. Akad. Nauk Armenii Mat. 34 (1999), no. 3, 5–13 (2001), with Arakelian, N. U.

## Research Interests

- Free Boundary Problems (FBPs)
- Application of FBPs to financial mathematics
- Application of FBPs to image processing
- Application of FBPs to problems arising in the models of type II superconductivity
- Level set Methods
- Fully non-linear elliptic equations

## Selected talks

- 2010: *Kolmogorov Equations in Physics and Finance*, International Conference, Modena, Italy.
- 2009: *Madrid Autonoma - Math Cambridge CMS Applied PDEs Days*, Cambridge.
- 2008: *Free Boundary Problems Theory and Applications*, International Conference, Stockholm, Sweden.

- 2007: *Topics in non-linear PDEs, CIM/UC summer school*, Coimbra, Portugal.
- 2006: *Conference: Geometric methods in nonlinear PDEs and free boundary problems*, Saint-Petersburg, Russia.
- 2005: *Conference: Free boundary problems, theory and applications*, Coimbra, Portugal.  
*III International Symposium on Nonlinear PDEs and Free Boundary Problems*, Buenos Aires, Argentina.
- 2004: *Conference: Global and Geometric Aspects in Nonlinear PDE*, Yerevan, Armenia.  
*Workshop: Technological Applications of PDE's*, Florianopolis, Brazil.

### **Selected Work Experience**

Teaching at the university.

Conference organization.

Research project management.

Completed project on advanced image processing software based on non-linear PDE-s.

Advisor on IT development plans at the university.

### **Selected Technical Skills**

Deep understanding and ability to create algorithms for digital noise reduction, sharpening, smoothing.

Deep knowledge of Digital Photography, Image Processing, Video Editing, Printing, color calibration.

Advanced knowledge of Latex, Adobe Acrobat, Mathematica, Photoshop, Dreamweaver, Illustrator, Apple Final Cut Pro, Corel Draw, Adobe Lightroom, Adobe Premiere, Nikon Capture, Phase one Capture one, Noise Ninja

Advanced knowledge of Apple Mac OS X, Microsoft Windows, Linux (Debian and RPM based), Sun Solaris operating systems.

Proficient in Apple iWorks, Microsoft office.