

Orestis Vantzos

Curriculum vitae

Institute for Numerical Simulation
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Education

- 2007–2014 **Dr. rer. nat. in Mathematics**, *University of Bonn*, Bonn Germany, *Grade 1.0*.
Doctoral thesis with title "Thin Viscous Films on Curved Geometries" under Prof. Dr. Martin Rumpf.
- 2004–2006 **MA in Mathematics**, *University of North Texas*, Denton TX, *GPA 3.833*.
Master thesis with title "Mathematical modelling of charged liquid droplets: Numerical Simulation and Stability Analysis" under Prof. Dr. Santiago Betelu.
- 1997–2003 **BA in Mathematics**, *University of Athens*, Athens Greece, *7.54/10*.
Focus on Applied Mathematics, with a specialization in Computational Mathematics.

Scholarships, Fellowships

- 2014–2015 **Postdoctoral Research Fellowship**, *University of Bonn*.
2013 **Teaching Assistantship**, *University of Bonn*.
- 2010–2012 **Research Assistantship**, *University of Bonn*.
Funded by the German Research Foundation (DFG) under project SFB 611 "*Singular Phenomena and Scaling in Mathematical Models*".
- 2007–2010 **Scholarship**, *University of Bonn*.
Hausdorff Scholarship from the Bonn International Graduate School (BIGS), funded by the German government's Excellence Initiative.
- 2006–2007 **Project**, *Universidad Autonoma de Madrid*.
Project "Singularities in Fluid Mechanics", funded by the Spanish National Research Council (CSIC), under Prof. Dr. Marco Fontelos.
- 2004–2006 **Teaching Fellowship**, *University of North Texas*.
- 1997–1999 **Fellowship**, *University of Athens*.
Funded by the Greek State Scholarships Foundation (IKY).

Teaching experience

- 2010–2013 **Teaching assistant**, *University of Bonn*.
Teaching assistant for *Mathematics for Engineers I, II and III* and *Mathematics for Engineers (Master)* under Prof. Dr. Martin Rumpf.
- 2004–2006 **Instructor**, *University of North Texas*.
Main instructor of *Foundations of Algebra* and recitation instructor of *Pre-Calculus*.
- 2003 **Mathematica Instructor**, *National Technical University of Athens*.
Mini-courses on *Mathematica* at the Mathematics Department at Uni. of Athens, and at NTUA under the auspices of the IEEE NTUA student branch.

Publications

Note: The **titles** are active links.

- 2014 O Vantzos. **Thin viscous films on curved geometries**. *Dissertation*, University of Bonn, 2014.
- 2013 M Rumpf and O Vantzos. **Numerical gradient flow discretization of viscous thin films on curved geometries**. *M3AS*, 23(05):917–947, 2013.
- 2009 C Eck, MA Fontelos, G Grün, F Klingbeil, and O Vantzos. **On a phase-field model for electrowetting**. *Interfaces and Free Boundaries*, 11(2):259–290, 2009.
- 2008 MA Fontelos, U Kindelán, and O Vantzos. **Evolution of neutral and charged droplets in an electric field**. *Physics of Fluids*, 20(9):092110, 2008.
- 2007 C Eck, MA Fontelos, G Grün, F Klingbeil, and O Vantzos. **A phase field model in electrowetting and related phenomena**. *PAMM*, 7(1):1151205–1151206, 2007.
- 2006 SI Betelú, MA Fontelos, U Kindelán, and O Vantzos. **Singularities on charged viscous droplets**. *Physics of Fluids*, 18(5):1706, 2006.
- 2006 O Vantzos. **Mathematical modeling of charged liquid droplets: numerical simulation and stability analysis**. *MA thesis*, University of North Texas, 2006.

Conferences, Presentations

- 2012 **University of Warwick, Warwick**.
Talk with title "Variational discretization of gradient flows". Invitation by Prof. Dr. Charles Elliott.
- 2012 **Koç University, Istanbul**.
Talk with title "Variational discretization of gradient flows". Invitation by Prof. Dr. Varga Kalantarov.
- 2011 **Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach**.
Talk titled "Natural gradient flow discretization of two-phase mean curvature flow" in Young Researchers session of the workshop "Geometric PDEs: Theory, Numerics and Applications".
- 2011 **University of Basel, Basel**.
Attended "Mini-course on PDE-Constrained Optimization", given by Prof. Dr. Eldad Haber.
- 2011 **Kloster Banz, Lichtenfels**.
Talk with title "Time discretization of thin film flows. A PDE-constraint optimization approach" at the 5th Annual Meeting of the DFG SPP1253 "Optimization with PDEs".
- 2009 **University of Regensburg, Regensburg**.
Talk with title "Natural gradient flow discretization of viscous thin films on curved geometries" at the conference "Optimization with interfaces and free boundaries".
- 2008 **University of Athens, Athens**.
Talk with title "Natural gradient flow discretization of viscous thin films on curved geometries" at the 12th Panhellenic Conference in Mathematical Analysis.
- 2008 **UCLA, Los Angeles CA**.
Attended "Optimal Transport Workshop II: Numerics and Dynamics for Optimal Transport" at the Insitute for Pure & Applied Mathematics (IPAM). Presented a talk titled "Natural gradient flow discretization of viscous thin films on curved geometries" at IPAM.
- 2005 **Wolfram Research, Urbana-Champaign IL**.
Presentation "From Symbols to Objects" at the 2005 Wolfram Technology Conference.

Languages

Greek, *Proficient C2*, Native speaker.

English, *Proficient C2*, Cambridge English: Proficiency (Grade A).

German, *Intermediate B1*, Zertifikat Deutsch (Grade Sehr Gut).

Computer skills

Mathematica, *Expert*.

Developed an OOP extension for the Mathematica language (presentation at the 2005 Wolfram Technology Conference).

C and C++, *Advanced*.

Developed numerical simulation codes for various projects, use of BLAS, LAPACK and STL libraries, deployment in cluster environments.

Python, Julia, *Intermediate*.

Scripting and stand-alone computations.

L^AT_EX, *Advanced*.

Lecture notes, published papers, plus presentations with Beamer.

Computer Science, *Courses*.

"Programming Languages", "Data Structures", "Computer Graphics", "Numerical Linear Algebra" and "Discrete Mathematics" at the University of Athens.

References

Martin Rumpf, *Professor*, University of Bonn.

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Nikolaos Alikakos, *Professor*, University of Athens.

nalikako@math.uoa.gr

Santiago Betelu, *Assistant Professor*, University of North Texas.

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