Curriculum Vitae

Erik Lindgren
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Personal

Date of birth: 1980-06-30
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Education

Natural science programme, "Åsö Gymnasium", Stockholm 1996-1999
Master degree in engineering physics, KTH, Stockholm 1999-2004
Majeure de mathématiques 1 and 2, Ecole Polytechnique, Paris 2002-2003
Research engineer, KTH, Stockholm Autumn 2004
Doctoral student, Dept. of Mathematics, KTH, Stockholm 2005-2009
Postdoc, Ecole des Ponts/Ecole Polytechnique, Paris, 2009-

Mathematical interest

Free boundary problems, variational problems, geometric measure theory, PDEs both local and non-local and related subjects in general.

Teaching experience

Teaching in basic math courses during my undergraduate studies, KTH, 2003-2004
20% teaching in various undergraduate courses, KTH, 2004-2009

Papers

- A free boundary problem with constant Bernoulli-type boundary condition, joint work with Yannick Privat (Nancy), Nonlinear Anal. 67 (2007), no. 8, 2497–2505.
- Regularity of the free boundary for a semilinear elliptic problem in two dimensions, joint work with Arshak Petrosyan (Purdue), Indiana Univ. Math. J. 57 (2008), no. 7, 3397–3417.
- The two-phase obstacle problem for the p-laplacian when $p \approx 2$, joint work with Anders Edquist (KTH), Calc. Var. Partial Differential Equations 35 (2009), no. 4, 421–433.
- On the two-phase membrane problem with coefficients below the Lipschitz threshold, joint work with Anders Edquist and Henrik Shahgholian (both at KTH), Annales de l'Institut Henri Poincare Non Linear Analysis Volume 26, Issue 6, November-December 2009, Pages 2359-2372.

- The N-membranes problem, joint work with Abdolrahman Razani (Imam Khomeini International University), Bulletin of the IMS, Volume 35, No. 1, April 2009.
- On the penalized obstacle problem in the unit half ball, Electron. J. Diff. Equ., Vol. 2010(2010), No. 09, pp. 1-12.
- The Hölder infinite Laplacian and Hölder extensions, preprint, joint work with Antonin Chambolle and Régis Monneau.
- Optimal regularity of a parabolic free boundary problem of two-phase type with coefficients worse than Lipschitz, preprint, joint work with Jyotshana V. Prajapat (Petroleum Institute).

Invited talks

- On a singular variational problem, extra seminar, RICAM, Linz, June 2005
- On a singular variational problem, analysis seminar, Purdue University, fall 2005
- Introduction to free boundary problems and obstacle problems, junior researchers seminar organized by the Swedish Mathematical Association, Karlstad, fall 2005
- Regularity of the free boundary for a semilinear elliptic problem in two dimension, analysis seminar, Courant Institute, March 2006
- On the two-phase membrane problem with coefficients below the Lipschitz threshold, contribution talk, FBP 2008 conference, KTH, June 2008
- On the two-phase membrane problem with coefficients below the Lipschitz threshold, Petroleum Institute, February 2009
- Two-phase free boundary problems, Group Seminar, Analysis of Partial Differential Equations, RICAM, Linz, Austria, March 2009
- On the two-phase membrane problem with coefficients below the Lipschitz threshold, Linköping, August 2009
- Obstacle-type problems, NTNU, Trondheim, February 2010
- Obstacle-type problems, ENS Cachan, Rennes, March 2010
- On a non-local and non-linear operator of infinite Laplacian-type, Bedlewo, Poland, June 2010

Conference and workshop arrangements

- Mini-symposium in free boundary problems, March 13, 2006, KTH, Stockholm

- Leading a problem solving session, Global and Geometric Aspects of Nonlinear Partial Differential Equations, 2 - 8 July, 2006, Evolene, Switzerland
- Workshop on PDE and Biology, July 9-11, 2007, KTH, Stockholm
- FBP08: Theory and Applications, 9-13 June 2008, KTH, Stockholm

Grants

The engineers' union grant (CF:s kamrathjälpsfonds stipendium), 2002.
Henrik Göranssons Sandviken grant, 2003.
General grant from KTH, 2003.
Travel grant from VR (Swedish Research Council), 2008,2009.
Financed by the Wallenberg foundation, 2006-2009.

Spoken languages

- Swedish, native
- English, fluent
- French, intermediate

Referees

Recommendation letters are available on demand.