DENIS GAIDASHEV

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Matematiska Institutionen
Uppsala Universitet
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Signe Tillischgatan 4
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EDUCATION

University of Texas at Austin, Austin, USA
Doctor of Philosophy 1997-2003
Supervisors: Hans Koch and Jerry Bona.

Moscow Engineering Physics Institute (MEPhI), Moscow, Russia
Diploma 1991-1997
Supervisor: Sergey Zhdanov

ACADEMIC TITLES

Docent in Mathematics
awarded by Uppsala University on 26/04/2012

EMPLOYMENT

Uppsala University, Uppsala, Sweden
Forskarassistent 03/2009-present

University of Bergen, Bergen, Norway
Postdoctoral fellow 09/2008-02/2009

Centre de recherches mathématiques, Montreal, Canada
Postdoctoral fellow 01/2008-07/2008

Kungliga Tekniska Högskolan, Stockholm, Sweden
Postdoctoral fellow 09/2006-12/2007

University of Toronto, Toronto, Canada
Postdoctoral fellow 09/2003-08/2006

SELECTED CONFERENCE TALKS

Dynamic Days98, 1998, Chapel Hill, NC.

1999 Solitons, Collapses and Turbulence, Cheronogolovka, Russia.

2002 Spring Topology and Dynamics Conference, Austin, TX.

2003 Young Mathematicians Conference in PDE's and Dynamical Systems, The Fields Institute, Toronto, Canada.

2004 Workshop on Hamiltonian Dynamical Systems, CRM, Montreal, Canada.

2005 Dynamics, Probability and Conformal Invariance, Banff, Alberta, Canada.

2005 Workshop on Renormalization in Dynamics, The Fields Institute, Toronto, Canada.

2006 Holomorphic Dynamics Workshop, The Fields Institute, Toronto, Canada.

2007 NATO Advanced Study Institute Workshop on Hamiltonian Dynamical Systems and Applications, CRM, Montreal, Canada.

2008 Workshop on Initial Conditions, CRM, Montreal, Canada.

2008 Workshop on Singularities, Hamiltonian and gradient flows, CRM, Montreal, Canada.

2008 Low Complexity Dynamics, BIRS, Banff, Canada.

2008 Workshop on Computer-Assisted Proofs in Dynamics, Imperial College London, UK.

2009 Dynamics, Topology and Computations, Bedlewo, Poland,

2010 Dynamics and PDE's, Mittag-Lefler, Stockholm.

2011 Computational Methods in Dynamics, ICTP, Trieste, Italy.

PROGRAM PARTICIPATION

2005 Thematic Program "Renormalization and Universality in Mathematics and Mathematical Physics", The Fields Institute, Toronto, Canada.

2008 Thematic Semester "Dynamical Systems and Evolution Equations", CRM, Montreal, Canada.

2010 Thematic Semester "Dynamics and PDE's", KTH, Stockholm, Sweden.

ORGANIZATIONAL DUTIES

Organizer and lecturer at the **Mini-course on Renormalization of Hamiltonian Flows"**, 2003, University of Toronto, Toronto, Canada.

Co-organizer of the Dynamics seminar, University of Toronto, 2003-2006.

Co-organizer of the UU-KTH Dynamics, Number Theory and Analysis seminar, Uppsala, 2009-present.

Co-organizer of the "Workshop on rigorous computations in dynamics", Uppsala, Oct 2011.

PUBLICATIONS **Refereed publications in international journals:**

1) D. Gaidashev, B. Winckler, *Existence of a Lorenz renormalization fixed point of an arbitrary critical order*, to appear in Nonlinearity, e-print math/DS:1107.4507.

2) D. Gaidashev, T. Johnson, *A Numerical Study of Infinitely Renormalizable Area-preserving Maps*, to appear in Dynamical Systems, DOI: 10.1080/14689367.2012.673559, e-print math/DS:1107.3424.

3) D. Gaidashev, *Period Doubling Renormalization for Area-Preserving Maps and Mild Computer Assistance in Contraction Mapping Principle*, Int. Journal of Bifurcations and Chaos, 21(11) (2011), 3217-3230.

4) D. Gaidashev, *On analytic perturbations of a family of Feigenbaum-like equations*, J. Math. Anal. And Appl. 374(2) (2010), 355–373.

5) D. Gaidashev, H. Koch, *Period doubling in area-preserving maps: an associated one-dimensional problem*, Ergod. Theor. and Dyn. Sys., FirstView Article (Sept 2010), 1–36.

6) D. Gaidashev, T. Johnson, *Dynamics of the Universal Area-Preserving Map: Stable Sets*, J. Mod. Dyn. **3**(4) (2009), 1–39.

7) D. Gaidashev, T. Johnson, *Dynamics of the Universal Area-Preserving Map: Hyperbolic Sets*, Nonlinearity **22**(10) (2009), 2487–2521.

8) D. Gaidashev, D. Khmelev, *On Numerical Algorithms for the Solution of a Beltrami Equation*, SIAM J Numer. Anal. **46**(5) (2008), 2238–2253.

9) D. Gaidashev, M. Yampolsky, *Cylinder renormalization of Siegel disks*, Exp. Math. **16**(2) (2007), 215–226.

10) D. Gaidashev, *Cylinder renormalization for Siegel disks and a constructive Measurable Riemann Mapping Theorem*, Nonlinearity **20**(3) (2007), 713–741.

11) D. Gaidashev, *Renormalization of isoenergetically degenerate Hamiltonian flows and associated bifurcations of invariant tori*, Discrete Contin. Dyn. Syst. **13**(1) (2005), 63–102.

12) D. Gaidashev, H. Koch, *Renormalization and shearless invariant tori: numerical results*, Nonlinearity **17**(5) (2004), 1713–1722.

13) D. Gaidashev, S. Zhdanov, *On the transverse instability of the two-dimensional Benjamin-Ono solitons*, Phys. Fluids **16**(6) (2004), 1915–1921.

Preprints and e-prints:

1) D. Gaidashev, T. Johnson, M. Martens *Rigidity for infinitely-renormalizable area-preserving maps*, e-print math/DS:1205.0826, *submitted*.

2) D. Gaidashev, *Renormalization for Lorenz maps of long monotone combinatorial types*, e-print math/DS:1204.2504, *submitted*.