

## CURRICULUM VITAE

Dr. Tanja Eisner

### Personal data

Birth name: Lobova  
Date of birth: 01.07.1980  
Place of birth: Kharkov, Ukraine  
Citizenship: Germany  
Marital status: divorced  
Postal address: Korteweg-de Vries Institute for Mathematics  
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### Education

1997–2002 Studies at Kharkov National University  
Diploma in Applied Mathematics (with distinction)  
Advisor: Prof. Anna M. Vishnyakova  
Diploma thesis “On variation preserving operators”  
2003–2004 Studies at the University of Tübingen  
Diploma in Mathematics (with distinction)  
Advisor: Prof. Rainer Nagel  
Diploma thesis “Polynomially bounded semigroups”  
2005–2007 Ph.D. studies at the University of Tübingen  
Advisor: Prof. Rainer Nagel  
Thesis “Stability of operators and  $C_0$ -semigroups”  
June 2007 Ph.D. in Mathematics  
July 2010 Habilitation in Mathematics

## Research Interests

- Functional analysis (semigroup theory, operator theory)
- Ergodic theory (mixing, rigidity, multiple ergodic theorems)
- Complex analysis (location of zeros of entire functions)

## Publications: Books

24. Lectures on Operator Theoretic Aspects of Ergodic Theory, in preparation. (with B. Farkas, M. Haase and R. Nagel)
23. Stability of Operators and Operator Semigroups, Operator Theory: Advances and Applications, Vol. 209. Birkhäuser Verlag, Basel, 2010, 204 pp.

## Publications: Papers and Preprints

22. *On the Wiener-Wintner theorem for nilsequences*, submitted.
21. *On typical properties of Hilbert space operators*, Israel J. Math., to appear. (with Tamás Mátrai)
20. *Rigidity of contractions on Hilbert spaces*, Groups Geom. Dyn., to appear.
19. *Large values of the Gowers-Host-Kra seminorms*, J. Anal. Math., to appear. (with Terence Tao)
18. *On the entangled ergodic theorem*, Ann. Scuola Norm. Sup. Pisa Cl. Sci., to appear. (with Dávid Kunszenti-Kovács)
17. *Hilbertian Jamison sequences and rigid dynamical systems*, J. Funct. Anal. **261** (2011), 2013-2052. (with Sophie Grivaux)
16. *Nonconventional ergodic averages and multiple recurrence for von Neumann dynamical systems*, Pacific J. Math. **250** (2011), 1–60. (with Tim Austin and Terence Tao)

15. *A “typical” contraction is unitary*, Enseign. Math. (2) **56** (2010), 403–410.
14. *On the weak analogue of the Trotter-Kato theorem*, Taiwanese J. Math. **14** (2010), 1411–1416. (with András Serény)
13. *Embedding operators into strongly continuous semigroups*, Arch. Math. (Basel) **92** (2009), 451–460.
12. *Category theorems for stable semigroups*, Ergodic Theory Dynamical Systems **29** (2009), 487–494. (with András Serény)
11. *The growth of a  $C_0$ -semigroup characterised by its cogenerator*, J. Evol. Equ. **8** (2008), 749–764. (with Hans Zwart)
10. *Category theorems for stable operators on Hilbert spaces*, Acta Sci. Math. (Szeged) **74** (2008), 259–270. (with András Serény)
9. *The spectral mapping property of delay semigroups*, Compl. Anal. Oper. Theory **2** (2008), 273–283. (with András Bátkai and Yuri Latushkin)
8. *Weak stability of orbits of  $C_0$ -semigroups on Banach spaces*. In H. Amann, W. Arendt, M. Hieber, F. Neubrander, S. Nicaise, J. von Below (eds), Functional Analysis and Evolution Equations. The Günter Lumer Volume (2007), 201–208. (with Bálint Farkas)
7. *A note on polynomially growing  $C_0$ -semigroups*, Semigroup Forum **75** (2007), 438–445. (with Hans Zwart)
6. *Weakly and almost weakly stable  $C_0$ -semigroups*, Int. J. Dyn. Syst. Diff. Eq. **1** (2007), 44–57. (with Bálint Farkas, Rainer Nagel and András Serény)
5. *Continuous-time Kreiss resolvent condition on infinite-dimensional spaces*, Math. Comp. **75** (2006), 1971–1985. (with Hans Zwart)
4. *Polynomially bounded  $C_0$ -semigroups*, Semigroup Forum **70** (2005), 118–126.

3. *On entire functions having Taylor sections with only real zeros*, Mat. Fiz. Anal. Geom. **11** (2004), 449–469. (with Olga M. Katkova and Anna M. Vishnyakova)
2. *On power series having sections with only real zeros*, Comput. Methods Funct. Theory **3** (2003), 425–441. (with Olga M. Katkova and Anna M. Vishnyakova)
1. *On variation preserving operators*, Mat. Fiz. Anal. Geom. **10** (2003), 94–105.

### Conferences and Schools

- 04/2012 Ergodic Theory and Dynamical Systems: Perspectives and Prospects, University of Warwick, England
- 04/2012 Nederlands Mathematisch Congres, Eindhoven, Netherlands
- 12/2011 “Recent advances in modern dynamics”, University of Warwick, England
- 06/2011 Conference “Analyse 2011, en l’honneur de Martine et Hervé Queffélec”, Lille, France
- 04/2011 Workshop on Ergodic Theory of Group Actions, Tours, France
- 04/2011 Workshop on Ergodic Theory and Number Theory, Warwick, England
- 01/2011 Workshop in honor of the 70th birthday of Rainer Nagel, Blaubeuren, Germany
- 08/2010 “A Conference in honor of the 70th birthday of Endre Szemerédi”, Budapest, Hungary
- 07/2010 21<sup>st</sup> International Workshop on Operator Theory and its Applications, TU Berlin, Germany
- 1-2/2010 “Dynamical Systems School on Periodic Approximations in Ergodic Theory”, Pisa, Italy
- 11/2009 “Progress in Dynamics” (on 65th birthday of Anatole Katok), Paris, France
- 09/2009 “First Meeting on Asymptotics of Operator Semigroups”, Oxford, England
- 07/2009 “Dynamical Numbers: Interplay between Dynamical Systems and Number Theory”, Bonn, Germany
- 05/2009 “Dynamical Systems and Randomness”, Paris, France

- 11/2008 Workshop “Discrete Rigidity Phenomena in Additive Combinatorics”, MSRI, Berkeley, USA
- 10/2008 Conference on Functional Analysis (on the occasion of the 70th birthday of Professor Bernhard Gramsch), Mainz, Germany
- 10/2008 “Semigroups of Operators: Theory and Applications” (on the occasion of the 75th birthday of Professor Jan Kisyński), Naleczow, Poland
- 09/2008 Jahrestagung der Deutschen Mathematiker-Vereinigung, Erlangen, Germany
- 08/2008 Workshops within the program “Ergodic Theory and Additive Combinatorics”, MSRI, Berkeley, USA
- 07/2008 Summer School on Discrete and Continuous Dynamical Systems, Cortona, Italy
- 06/2008 5th Linear Algebra Workshop, Kranjska Gora, Slovenia
- 04/2008 Workshop “Encounters between Discrete and Continuous Mathematics”, Blaubeuren, Germany
- 02/2008 Winter School on Harmonic Analysis and Evolution Equations, Parma, Italy
- 12/2007 “Evolution Equations: the State of the Art”, Reischensburg, Germany
- 09/2006 Jahrestagung der Deutschen Mathematiker-Vereinigung, Bonn, Germany
- 08/2006 International Congress of Mathematicians, Madrid, Spain
- 07/2005 “Positivity IV - Theory and Applications”, Dresden, Germany
- 06/2005 “Harmonic Analysis and Partial Differential Equations”, Kiel, Germany
- 07/2004 Summer School on Evolution Equations and Applications, Cortona, Italy

### **Seminar and Colloquium Talks**

- 03/2012 Utrecht University, Netherlands
- 02/2012 University of Warwick, England
- 02/2012 University of Leipzig, Germany
- 12/2011 Leiden University, Netherlands
- 11/2011 Mathematical Sciences Research Institute, Berkeley, USA
- 10/2011 University of California, Riverside, USA

10/2011 University of Central Florida, USA  
10/2011 University of California, Los Angeles, USA  
07/2011 University of Darmstadt, Germany  
07/2011 University of Tübingen, Germany  
06/2011 Bergische Universität Wuppertal, Germany  
06/2011 University of Strasbourg, France  
05/2011 Utrecht University, Netherlands  
05/2011 Ecole Polytechnique Fédérale de Lausanne, Switzerland  
05/2011 Vrije Universiteit Amsterdam, Netherlands  
02/2011 University of Amsterdam, Netherlands  
12/2010 University of Tübingen, Germany  
10/2010 University of California, Los Angeles, USA  
06/2010 Delft University of Technology, Netherlands  
06/2010 University of Amsterdam, Netherlands  
04/2010 University of California, Los Angeles, USA  
01/2010 Ecole Polytechnique Fédérale de Lausanne, Switzerland  
01/2010 University of Lille, France  
01/2010 University of Tübingen, Germany  
12/2009 University of Eichstätt, Germany  
10/2009 University of California, Los Angeles, USA  
06/2009 University of Marburg, Germany  
06/2009 University of Metz, France  
04/2009 University of California, Los Angeles, USA  
09/2008 University of Memphis, USA  
11/2007 University of Darmstadt, Germany  
11/2007 University of Karlsruhe, Germany  
10/2007 University of Salerno, University of Florence, Italy  
04/2007 University of Toruń, Poland  
03/2007 Eötvös Loránd University, Budapest, Hungary  
11/2006 Scuola Normale Superiore di Pisa, Italy  
11/2006 University of Karlsruhe, Germany  
09/2006 University of Valladolid, Spain  
05/2006 Eötvös Loránd University, Budapest, Hungary  
05/2006 University of Darmstadt, Germany  
03/2006 Louisiana State University, Baton Rouge, USA  
02/2006 University of Missouri, Columbia, USA  
05/2005 University of Bari, University of Lecce, Italy  
01/2005 University of Ljubljana, Slovenia

10/2004 Eötvös Loránd University, Budapest, Hungary  
08/2004 Kharkov National University, Ukraine

## Research Stays

2006, 2 months University of Missouri, Columbia, USA (host: Yuri Latushkin)  
2009, 1 month University of Metz, France (host: Ralph Chill)  
2009-11, 7 months University of California, Los Angeles, USA (host: Terence Tao)

## Teaching

- Graduate course “Ergodic Theory with a view towards Number Theory” (Spring 2012, Amsterdam)
- Undergraduate course “Linear Analysis” (Spring 2011, 2012 Amsterdam)
- Graduate course “Control theory” (2010/11, Tübingen)
- Graduate course “Operator Semigroups” (2010, Tübingen)
- Undergraduate course “Mathematics I for Physicists” (2009/10, Tübingen)
- Internet Seminar “Ergodic theory: an operator-theoretic approach” (2008/09), joint with Rainer Nagel, Bálint Farkas and Markus Haase (virtual co-lecturer)
- Graduate course “Functional Analysis” (2008/09, Tübingen)
- Graduate course “Linear Dynamical Systems” (2008, 2010, Tübingen)
- Graduate course “Asymptotics of Operator Semigroups” (2007/08, Tübingen)
- Seminar Functional Analysis (2009, 2009/10, 2010/11, Tübingen)
- Seminar Operator Theory (2007, 2007/08, 2008/09, Tübingen)

## Positions

01.07.–31.12.2007      Scientific Assistant, University of Tübingen  
1.2.2009–31.12.2010   Scientific Assistant, University of Tübingen  
1.1.2011–now            Assistant Professor, University of Amsterdam

## Scholarships and Awards

- Ph.D. scholarship by Studienstiftung des deutschen Volkes
- Best Ph.D. thesis (Promotionspreis) at Fakultät für Mathematik und Physik in 2006/07
- Postdoctoral scholarship by Dr. Meyer–Struckmann–Stiftung (via Studienstiftung des deutschen Volkes)
- Margarete von Wrangell fellowship, financed by the Ministry of Science, Research and the Arts of Baden-Württemberg
- MacGillavri Fellowship

April 23, 2012