

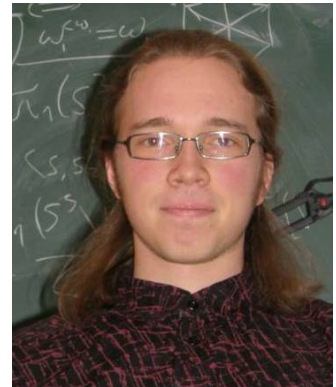
CURRICULUM VITAE

Vadim Kulikov

December 22, 2011

Personal information

Name: Vadim Kulikov
Birth: 8th January 1986
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Studies

Unless otherwise stated, all studies are completed at the University of Helsinki Department of mathematics and statistics and all referred people are from the University of Helsinki.

- 19. Nov. 2011** Ph.D. thesis defence. Opponent: Professor Philip Welch from the University of Bristol. Title: *Playing Games on Sets and Models*. Grade: *eximia cum laude appropatur*. Advisor of the thesis: Tapani Hyttinen. Pre-examiners: Professor Boban Velickovic from the University of Paris 7 and Professor Mirna Dzamonja from the University of East Anglia.
- 18. Jan. 2011** Licentiate's thesis in mathematics. Title: *Generalized Descriptive Set Theory and Classification Theory*. Grade: *eximia cum laude appropatur*. Advisor: Tapani Hyttinen. Examiners: Sy-David Friedman (University of Vienna) and Jouko Väänänen.
- 20. Feb. 2009** Master of Science and Bachelor's degrees in Mathematics. Minors: computer science and theoretical physics.
- 28. Apr. 2008** Master's thesis in mathematics. Title: *Weak Ehrenfeucht Fraïssé Games*. Grade: *Laudatur*. Advisor: Tapani Hyttinen. Examiners: Tapani Hyttinen and Jouko Väänänen.

05. Sep. 2007 Bachelor's thesis. Grade: 5.

04. Jun. 2005 Graduation from Ressu upper-secondary school (Finnish: *lukio*).

Teaching at the University of Helsinki

Fall 2011 Lecturing Topology I. Supervising Martina Aaltonen's master's thesis on knot theory.

Fall 2010 Exercise class instruction in Finite Model Theory. Supervising bachelor thesis of Thomas Eskin and Jukka-Pekka Parviainen on the topics related to Hutchinson's theorem on self-similar fractals in \mathbb{R}^n . During October-November I taught a popular course on Game Theory in Ressu upper secondary school. We proved Brouwer's fixed point theorem via the determinacy of the game of Hex.

Spring 2010 Supervising Eeva Miettinen's bachelor thesis *Hexissä aina joku voittaa – The game of Hex cannot end in a draw*; supervising Mira Tamminen's bachelor thesis *Suurten lukujen laki – The law of large numbers*.

Fall 2009 Supervising Olli Hemminki's bachelor thesis *Nashin tasapaino kahden pelaajan nollasummapeleissä, – Nash equilibrium in two-player zero-sum games*.

Spring 2009 Lectures in two separate short courses on combinatorial and topological Knot Theory. Also teaching Introduction to \LaTeX .

Fall 2008 ICT (Information and Communication Technology) Driving Licence.

Spring 2008 Introduction to \LaTeX .

2006 – 2010 Exercise class instruction in various undergraduate courses such as Analysis I-II, Topology I, Ordinary Differential Equations, Vector Calculus, Logic I, Linear Algebra and Matrices I-II, Measure and Integral Theory, Real Analysis I.

Grants and Employments

01. Jan. 2010 Accepted to the Finnish National Graduate School in Mathematics and its Applications.

01. Sep. 2009 – 15. Dec. 2009 Participating the program Mathematical Logic: Set theory and model theory at the *Mittag-Leffler Institute of the Royal Swedish Academy of Science*.

01. Jul. 2009 Accepted to the graduate School MALJA for a six month period.

- 30. Apr. 2009** Emil Aaltonen foundation: 1500 euro grant for other expenses in the research.
- 04. Mar. 2009** *The young researcher's grant* awarded by the Foundation of the University of Helsinki.

Awards

- 2009** Lindelöf prize awarded by the Finnish Mathematical Society.
- 2009** A 500 euro award for a master's thesis of grade laudatur awarded by the Faculty of Sc. of the Uni. Helsinki.
- 2007** Chosen by the student organization Matrix ry as one of the best teaching assistants at the Dep. Math. & Stat..
- 2005** Lydia and Karl G. Lindberg allowance for mathematical studies in Ressu Upper Secondary school.
- 2004** Fifth place in the scientific competition *Viksu* arranged by the Academy of Finland. Title of the work: *Real numbers: found or invented?*

Talks and Media

- 10. Nov. 2011** A mathematical contribution to a humoristic article in a leading Finnish news paper, NYT-liite, about "why the cord of the ear phones gets knotted in the pocket".
- 11. Jul. 2011** Infinity conference at CRM, Barcelona. *Borel Equivalence Relations on 2^κ , $\kappa > \omega$.*
- 20. Sep. 2010** GAMES 2010, Oxford, England. *Weak Ehrenfeucht-Fraïssé Games.*
- 28. Jul. 2010** Logic Colloquium 2010, Paris, France. *Equivalence relations on the generalized Cantor space.*
- 04. Jan. 2010** Jyväskylä Mathematics Days: Invited talk on *Complexity of Classification Problems.*
- 04. Aug. 2009** Logic Colloquium 2009, Sofia, Bulgaria. *Weak Ehrenfeucht-Fraïssé Games.*
- 27. Jul. 2009** Interviewed by the Finnish radio channel Yle Radio 1 in the program *Matematiikan aika (Time for Mathematics).*

- 29. Apr. 2008** Uni. Helsinki, Dep.Math.Stat.: Geometric Measure Theory / Pertti Mattila;
Vadim Kulikov: *Isoperimetric inequality*.
- 12. Mar. 2008** Uni. Helsinki, Dep.Math.Stat.: Students' Seminar / Hirvonen-Pirinen-Vähäkangas;
Vadim Kulikov: *Axiom of determinacy implies that all subsets of reals are measurable*.
- 27. Feb. 2008, 12. Mar. 2008** Uni. Helsinki, Dep.Math.Stat.: Logic seminar/Hyttinen-Väänänen;
Vadim Kulikov: *Non-determinacy of weak Ehrenfeucht-Fraïssé-Games*.
- 21. Nov. 2008** Uni. Helsinki, Dep.Math.Stat.: Logic seminar/Hyttinen-Väänänen; Vadim
Kulikov: *A pair of non-isomorphic EF-equivalent models*.
- 28. Sep. 2007** University of Amsterdam, Institute for Logic Language and Computation:
GLLC-meeting (Games in Logic, Language and Computation). Topic of the talk:
weak Ehrenfeucht-Fraïssé game.

Working experience

2008 – 2011 Research in mathematics.

2006 – 2011 See section *Teaching at the University of Helsinki* above.

2004 – 2008 Random substitutions of mathematics and physics teachers in upper secondary schools. Among them: Ressu Upper Secondary School, Rudolf Steiner school, Helsinki School of Natural Sciences (Helsingin luonnontiedelukio).

2007 – 2008 Summer job driving taxi on the streets of Helsinki.

1. Aug. 2005 – 2. Aug. 2006 Alternative service at the Department of Mathematics and Statistics of the University of Helsinki.

Other experience

2010 Organizing the Students' Seminar at the math department of the University of Helsinki.

2004 – 2005 Organizing a math club at the Ressu Upper Secondary School.

Languages

- Finnish: Native
- Russian: Native

- English: fluent written and spoken
- German: simple conversation
- Swedish: simple conversation

Computer skills

Basic or advanced understanding and usage of at least the following systems and programming environments:

Emacs, Python, Java, Object Pascal, Html, \LaTeX , UNIX, MatLab.

Computer science was one of my minors in the master of sciences program.

Other interests and hobbies

Guitar, stop-motion animations, cuisine, traveling, miscellaneous sports.

LIST OF PUBLICATIONS

Vadim Kulikov

December 22, 2011

Scientific

2008 *Weak Ehrenfeucht-Fraïssé Games* with Tapani Hyttinen, Trans. Amer. Math. Soc. 363 (2011), 3309-3334.

Articles submitted to scientific journals

2011 *Borel Equivalence Relations on the Generalized Cantor Space*.

2011 *Generalized Descriptive Set Theory and Classification Theory* with Tapani Hyttinen and Sy-David Friedman.

Articles in preparation

- *Definability of Knots*.

Non-scientific

2010 *Knots in Art and Mathematics* (Solmut taiteessa ja matematiikassa), math journal Solmu (in Finnish).

2009 *Emmy Noether, life story* with Matti Lehtinen, math journal Solmu (in Finnish).

2008 *Sofia Kovalevskaja, life story*, math journal Solmu (in Finnish).

Blog

www.vadimkulikov.com/blog/

Originally a mathematical blog for all interested. Recently got also a non-mathematical flavour.