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Curriculum Vitae

1. Education and Titles

- Diploma in Mathematics (with honor), Novosibirsk State University (Russia), 1984
- PhD in Mathematics, Sobolev Institute of Mathematics (Novosibirsk, Russia), 1988
- Habilitation awarded, Sobolev Institute of Mathematics (Novosibirsk, Russia), 2001
- Habilitation awarded, Mathematisches Institut der Heinrich-Heine-Universität Düsseldorf, 2010

2. Appointments

- *Sobolev Institute of Mathematics (Novosibirsk, Russia):*
 - Junior Research Fellow, 1987-1989
 - Research Fellow, 1989-1992
 - Senior Research Fellow, 1992-2001
 - Leading Research Fellow (= Professor), 2001
- *Novosibirsk State University, Russia* (simultaneously)
 - Assistant Professor, 1987-2000
 - Associate Professor, 2000-2002
 - Professor, 2002
- *Technische Universität Dortmund* (simultaneously)
 - DAAD Guest-Professor at University Dortmund, April 2006 – March 2008
 - Wissenschaftlicher Mitarbeiter, April 2008 – September 2008 and January 2009 – March 2009
- *Heinrich-Heine-Universität Düsseldorf* (simultaneously)
 - Privatdozent from 2010
 - Wissenschaftlicher Mitarbeiter from July 2009 to March 2010
and in periods between the following appointments:
 - Substitute W2-Professur für Reine Mathematik, April 2010 – September 2010
und Oktober 2011 – September 2012
 - Substitute W3-Professur für Algebra und Zahlentheorie, October 2012 – September 2013
 - Substitute W3-Professur für Partielle Differentialgleichungen, October 2014 – March 2015
 - Substitute W2-Professur für Algebra und Zahlentheorie, October 2015 – September 2016
 - Substitute W3-Professur für Topologie, October 2016 – September 2017
 - Substitute W3-Professur für Partielle Differentialgleichungen, October 2017 – September 2019
 - Substitute W2-Professur für Partielle Differentialgleichungen, October 2019 – July 2020

3. Some longer research visits

- Visiting Researcher, Centre de Recerca Matemàtica, Bellaterra (Spanien), September-December 2004
- Visiting Researcher, Centre de Recerca Matemàtica, Bellaterra (Spanien), September 2007
- Visiting Researcher, Max-Planck-Institute of Mathematics, Bonn, September-December 2008
- Visiting Researcher, Max-Planck-Institute of Mathematics, Bonn, September-December 2010
- Visiting Researcher, University Bielefeld, January-March 2011

4. Awards

- Winner of the contest “Young researcher” at Institute of Mathematics of Siberian Branch of Russian Academy of Sciences, Novosibirsk, 1991
- Mal’cev’s Prize of Siberian Branch of Russian Academy of Sciences, 1992
- Grant of President of Russian Federation for best Habilitation in Mathematics, 2002-2004.
- Nomination to Teaching prize 2018 at Heinrich-Heine-Universität Düsseldorf

5. Plenary talks and 1-hour invited talks on conferences and workshops from 2001

- Heinrich-Heine-Universität Düsseldorf, January 20-21, 2020, Workshop ‘Group theory days in Düsseldorf’.
1 hour talk: “Algebraically and verbally closed subgroups of groups: Equations in acylindrically hyperbolic groups”.
<https://www.math-uni-duesseldorf.de/~internet/GTD2020>
- Gliwice (Poland), September 9-13, 2019, Conference ‘Groups and their actions’.
Invited talk: “Equations in acylindrically hyperbolic groups. Algebraic, verbal, and existential closedness”.
<http://mat.polsl.pl/groups/>
- Seoul (Korea), July 15-20, 2018, Conference ‘Geometric and Asymptotic Group Theory with Applications (GAGTA 2018)’.
Invited talk: “Equations in acylindrically hyperbolic groups and verbal closedness”.
<https://sites.google.com/view/gagta2018/home>
- Regensburg (Germany), Sept. 25-29, 2017, Conference ‘Manifolds and Groups’.
Invited talk: “Verbal closedness for relatively hyperbolic groups”.
http://www-app.uni-regensburg.de/Fakultaeten/MAT/sfb-higher-invariants/images/sfb_mag2017.pdf
- Sobolev Institute of Mathematics (Novosibirsk, Russia), November 21-25, 2016, Mal’cev Meeting, http://math.nsc.ru/conference/malmeet/16/Main_e.htm
Plenary talk: “From local to global conjugacy in relatively hyperbolic groups”
- Stevens Institute of Technology (NY, USA), June 13-17, 2016, Conference ‘Geometric and Asymptotic Group Theory with Applications (GAGTA-10)’
<http://web.stevens.edu/algebraic/GAGTA2016/program.php>
Plenary talk: “From local to global conjugacy in relatively hyperbolic groups”
- Bedlewo (Poland), June 22-26, 2015, International conference ‘Groups and their Actions’,
<http://mat.polsl.pl/groups/>
Main Speaker: “Train Tracks”
- Bonn (Germany) December 5, 2014, Conference ‘Geometric Group Theory in Bonn’,
Plenary talk: “An algorithm for finding a basis of the fixed point subgroup of an automorphism of a free group”
- Newcastle (QL, Australia), July 21-25, 2014, Conference ‘Geometric and Asymptotic Group Theory with Applications (GAGTA-8)’
Plenary talk: “Infinite words and generalized presentations of groups versus classical combinatorial group theory”
- New York (USA), May 28-31, 2013, Conference ‘Geometric and asymptotic group theory with applications (GAGTA-7)’,
<http://www.stevens.edu/algebraic/GAGTA/index.htm>
Plenary talk: “An efficient algorithm for computing a basis of the fixed point subgroup of an automorphism of a free group”
- South Padre Island (USA), March 21-24, 2013, G^3 -Conference,
<http://www.math.uiuc.edu/~mineyev/ggg/>
Plenary talk 1: “Introduction to train tracks”

Plenary talk 2: “An efficient algorithm for computing the fixed point subgroup of an automorphism of a free group”

- Barcelona-Bellaterra (CRM) (Spain), 10th November, 2012
Workshop for the International Conference ‘Automorphisms of free groups’.
1-hour talk: “A basis of the fixed point subgroup of an automorphism of a free group”
- Düsseldorf (Germany) July 25 - August 3, 2012,
Conference ‘Geometric and Combinatorial Group Theory with Applications (GAGTA-6)’.
Plenary talk: “A basis of the fixed point subgroup of an automorphism of a free group”
- Köln (Germany) September 19-22, 2011,
Minisymposium ‘Geometric Group Theory’ in frames of the DMV-Jahrestagung 2011.
1-hour talk: “Generalized presentations of infinite groups, in particular of $\text{Aut}(F_\omega)$ ”
- Manresa (Barcelona, Spain), July 11-15, 2011,
International Conference ‘Geometric and Asymptotic Group Theory’
Plenary talk: “Some new residual properties of groups”
- Omsk (Russia), August 16-22, 2009,
International Workshop ‘New Algebra-Logical Methods in Solution for Systems of Equations in Algebraic Structures’
<http://omskconf2009.oscsbras.ru/eng.program.html>
1-hour talk: “Conjugacy separability for subgroups of virtually free groups”
- Barcelona (Spain), April 24-25, 2009,
4th Barcelona Weekend in Group Theory.
Invited talk: “On endomorphisms of torsion-free hyperbolic groups”
- Alagna Valsesia (Italy), December 14-20, 2008,
‘Makanin-Razborov Workshop’
<http://www.mas.ncl.ac.uk/~najd2/alagna/>
1-hour talk: “On the fundamental and the first homology groups of the Hawaiian Earrings and of Griffiths’ space”
- Düsseldorf (Germany), November 26-28, 2008,
Workshop ‘Algebra, Geometry, Arithmetic, Dynamics Related to the Solvable Radical and Representations of Finite Groups’
<http://www.math.uni-duesseldorf.de/~grunewald/Conf2008/nov2008.html>
1-hour talk: “On the fundamental and the first homology groups of the Hawaiian Earrings and of Griffiths’ space”
- Erlangen (Germany), September 14-19, 2008,
Minisymposium ‘Combinatorial and geometric group theory’ in frames of the DMV-Jahrestagung 2008
1-hour talk: “A presentation of a subgroup of $F_n \times F_n$ with unsolvable membership problem”
1-hour talk: “On the fundamental and the first homology groups of the Hawaiian Earrings and of Griffiths’ space”
- Manresa, Barcelona (Spain), August 31 - September 4, 2006,
International conference ‘Geometric and asymptotic group theory with applications’
<http://www.epsem.upc.edu/~gagta/programen.shtml>
Plenary talk: “On a Magnus property for some one-relator groups”

- Piestany (Slovak Republic), July 16-20, 2005,
Workshop ‘Equations in Groups and Applications of Algebraic Methods in Computer Science and Cryptology’
1-hour talk: “Some methods of detecting the hyperbolicity for one relator groups”
- Novosibirsk (Russia), November 17-19, 2003,
Mal’cev Meeting 03,
<http://math.nsc.ru/conference/malmeet/03/Main.htm>
<http://math.nsc.ru/conference/malmeet/03/Prog.rtf>
Plenary talk: “On Dehn functions of groups”
- Novosibirsk (Russia), November 21-23, 2001,
Mal’cev Meeting 01,
http://math.nsc.ru/conference/malmeet/01/Prog_win.htm
Plenary talk: “On Magnus’ theorem for fundamental groups of compact surfaces”

6. Courses given on workshops

- **9 lectures** for PhD students and researchers on international workshop “Algorithmic problems in group theory and related areas”, Novosibirsk (Russland), 23. Juli – 4. August, 2018 (<http://www.math.nsc.ru/conference/isc/>)
Thema: “Relatively hyperbolic and acylindrically hyperbolic groups”
- **10 lectures** for PhD students and researchers at Universitat Politecnica de Catalunya in Barcelona (Grant of the Spanish Government: ‘Movilidad de profesores visitantes en masteres oficiales’, code MAS2008-00003-P, 2009).
Thema 1: “Automorphisms of free groups and train tracks” (5 lectures in April 2009)
Thema 2: “Hyperbolic groups” (5 lectures in June 2009).

7. Invited talks on research seminars

- Wroclaw University (Poland) (invited by Prof. Osajda, May 2021)
- Steklov Mathematical Institute (Moscow, Russia) (invited by Prof. Lysenok, April 2021)
- Dresden University (Germany) (invited by Prof. Thom, November 2019)
- Wroclaw University (Poland) (invited by Prof. Osajda, March 2018)
- Silesian University of Technology (Gliwice, Poland) (invited by Prof. Iwanow, December 2017)
- Nashville University (USA) (invited by Prof. Osin, March 2017)
- Stevens Institute of Technology (USA),
Group Theory International, Online-Seminar (invited by Prof. Serbin, Mai 2016)
- Universitat Bielefeld (invited by Prof. Bux, April 2016)
- Macquarie University Sydney (Australia) (invited by Prof. Batanin, 2014)
- University of Melbourne (Australia) (invited by Dr. Lawrence Reeves, 2014)
- Stevens Institute of Technology (USA),
Group Theory International Online-Seminar (invited by Prof. Serbin, April 2014)
- University of Illinois at Urbana Champaign (USA)
(invited by Prof. Mineyev, March 25-29, 2013)
- Stevens Institute of Technology (USA),
Group Theory International Online-Seminar (invited by Prof. Miasnikov, 2012)
- Bar-Ilan University (Israel) (invited by Prof. Tsaban, 2011)
- Kiel University (Germany) (invited by Prof. Weidmann, 2011)

- Karlsruhe Institute of Technology (Germany) (invited by Prof. Rieder, 2010)
- Moscow MGU (Russia) (invited by Prof. Klyachko, 2010)
- Düsseldorf University (Germany) (2 times; invited by Prof. Grunewald, 2009)
- MPIM Bonn (3 times; invited by Prof. Moree und Prof. Ballmann, 2008, 2010)
- Newcastle (Great Britain) (invited by Prof. Duncan, 2007)
- Edinburgh (Great Britain) (invited by Prof. Howie, 2007)
- Barcelona (Spain) (2 times; invited by Prof. Ventura, 2005, 2007)
- Lausanne (Switzerland) (invited by Prof. Bartholdi, 2006)
- Toulouse (France) (invited by Prof. Boileau, 2004)
- Gdansk (Poland) (5 times; invited by Prof. Szepanski and Zastrow)
- Berlin (Germany) (2 times; invited by Prof. Pinkall, Pohst, and Brinkmann, 2005)
- Bielefeld (Germany) (2 times; invited by Prof. Helling)
- Frankfurt (Germany) (6 times; invited by Prof. Bieri, Burde und Metzler)
- Dortmund (Germany) (3 times; invited by Prof. Rosenberger)
- Bochum (Germany) (6 times; invited by Prof. Zieschang)

8. Some sectional conference talks

- Tel Aviv, Bar Ilan University (Israel), Mai 26 - 30, 2019, Geometric and Asymptotic Group Theory with Application (GAGTA 2019).
<http://u.math.biu.ac.il/~vishne/Conferences/GAGTA2019/program.html>
 Talk: “Algebraically and verbally closed subgroups of groups: Equations in acylindrically hyperbolic groups”
- Salzburg (Austria), September 11 - 15, 2017, 19th OMG Congress and Annual DMV Meeting, Minisymposium M2 Fractals and Wild Topology.
 Talk: “The automorphism group of the free group of infinite countable rank”
- Poznan (Poland), September 17 - 19, 2014, German Mathematical Society (DMV) and Polish Mathematical Society (PTM), (<http://dmv.ptm.org.pl> (<http://dmv.ptm.org.pl/37session.html>))
 Talk: “Generalized presentations of groups, in particular of $\text{Aut}(F_w)$ ”
- Braunschweig (Germany), May 21-24, 2013,
 Workshop ‘Questions, Algorithms, and Computations in Abstract Group Theory’,
http://www.icm.tu-bs.de/ag_algebra/ws-qac/index.php
 Talk: “An efficient algorithm for computing the fixed point subgroup of an automorphism of a free group”
- Braniewo (Poland), July 24-25, 2010,
 Weierstraß-Killing-Colloquium.
<http://mat.ug.edu.pl/index.php?url=mod/article.php&id=356>
 Talk: “On generalized conjugacy separability in the class of virtually free groups”
- Novosibirsk (Russia), August 24-28, 2009,
 Mal’tsev Meeting
 Talk: “Conjugacy separability for subgroups of virtually free groups”
- Göttingen (Germany), November 17-21, 2008,
 Summer School ‘Geometric invariants of groups’
<http://www.uni-math.gwdg.de/www/archiv.html>
 Talk: “On the fundamental and the first homology groups of the Hawaiian Earrings and of Griffiths’ space”

- Oberwolfach (Germany), June 22-28, 2008,
Workshop ‘Profinite and Asymptotic Group Theory’
<http://www.mfo.de/programme/schedule/2008/>
Talk: “The conjugacy problem for some extensions of groups and a presentation of Mihailova’s subgroup”
- Bendlewo (Poland), July 1-7, 2007,
International conference ‘Groups and their actions’
<http://mat.polsl.pl/groups/index-2.html>
Talk: “Subgroups of small index in $\text{Aut}(F_n)$ and Kazhdan’s property (T)”
- Marseille, CIRM (France), February 26 - March 2, 2007,
International conference ‘Groups 007’
<http://www.latp.univ-mrs.fr/~coulbois/Groups007/index.html>
Talk: “Subgroups of small index in $\text{Aut}(F_n)$ and Kazhdan’s property (T)”
- Novosibirsk (Russia), November 15-17, 2005,
Maltsev Meeting 05.
http://www.math.nsc.ru/conference/malmeet/05/Main_e.htm
<http://www.math.nsc.ru/conference/malmeet/05/Main.htm>
Talk: “On the generalized Whitehead problem for hyperbolic groups”
- Barcelona (Spain), June 28 - July 2, 2005,
Barcelona Conference on Geometric Group Theory.
Talk: “Endomorphisms of hyperbolic groups”
- Mainz (Germany), June 16-19, 2005,
2nd Joint Meeting of AMS, DMV, ÖMG
<http://www.mathematik.uni-mainz.de/mainz2005/program/CP.pdf>
Two talks:
1) “The conjugacy problem in free-by-hyperbolic groups”
2) “On the generalized Whitehead problem for hyperbolic groups”
- Bendlewo (Poland), April 18-24, 2004,
Conference on ‘Geometric group theory’
<http://www.math.uni.wroc.pl/ggt/geom04>
Talk: “Mean Dehn functions of groups”
- Sankt Petersburg (Russia), September 11-22, 2002,
International Algebraic Conference dedicated to the memory of Z.I. Borevich
<http://www.umsolver.com/proceeding.htm>
Talk: “An analogue of a theorem of Magnus for fundamental groups of surfaces”
- Sevilla (Spain), June 18-21, 2003
First Joint Meeting AMS/RSME
<http://www-ma4.upc.edu/~burillo/sevilla.html>
Talk: “An analogue of a Magnus’ theorem for surface groups and some other one-relator groups”
- Ustron (Poland), June 10-14, 2003,
International conference ‘Groups and Group Rings’
<http://mat.polsl.pl/groups/starekonf/a2.html>

- Gaeta (Italy), June 1-6, 2003,
International Conference “Geometric, Combinatorial and Dynamical Aspects of Infinite Groups”
- Some earlier conferences with sectional talks:
Cortona (Italy), 2002; Hattingen (Germany), 2001; Haifa (Israel), 2000; Warwick (England), 1999; Southampton (England), 1997; Anogia, Crete (Greece), 1996.

9. Organisation of Conferences

- I am a member of the Steering Committee of GAGTA, <http://gagta.org>
This committee organizes conferences on geometric and asymptotic group theory.
- Main organizer of the international conference
“Geometric and Combinatorial Group Theory with Applications (GAGTA-6)”,
Heinrich-Heine-Universität Düsseldorf, July 25 - August 3, 2012.
<http://reh.math.uni-duesseldorf.de/~gcgta/>
- Organizer of the minisymposium in frames of the DMV-Jahrestagung 2011
“Geometric Group Theory”,
Universität Köln (Germany), September 19-22, 2011.
http://www.mi.uni-koeln.de/dmv_2011/index/minisymposien.html
- Member of the Scientific Committee of the international conference
“Geometric and Asymptotic Group Theory with Applications (GAGTA-5)”,
Manresa, Barcelona (Spain), July 11-15, 2011.
<http://www.epsem.upc.edu/~gagta5>
- Main organizer of the minisymposium in frames of the DMV-Jahrestagung 2008
“Combinatorial and geometric group theory”,
Universität Erlangen (Germany), September 14-19, 2008.
<http://www.mi.uni-erlangen.de/~dmvadmin/dmv08/vortragprogramm/minisymposien.shtml>
- Main organizer of the international conference
“Combinatorial and Geometric Group Theory with Applications”,
Technische Universität Dortmund (Germany), August 27-31, 2007.
<http://www.mathematik.uni-dortmund.de/~gcgta>
- Coorganizer of the Malt’sev Meeting,
Institute of Mathematics of SB RAS, Novosibirsk (Russia), November 17-19, 1998.
<http://math.nsc.ru/conference/malmeet/index.htm>

10. Courses taught at universities in Germany (Düsseldorf and Dortmund)

• **Research seminars** (for researchers and PhD students)

http://www.math.uni-duesseldorf.de/~bogopolski/research_seminar_geometric_group_theory.html

Joint Düsseldorf – Gliwice seminar “Geometric Group Theory – 2020”. WiSe 2020 – now.

“Geometric Group Theory”. SoSe 2011 – 2019.

“Computational Algebra and Number Theory” (with F. Grunewald, W. Singhof and E. Klimenko)
SoSe 2009 – SoSe 2010.

• **Lectures** (for bachelor and master students)

Kummer Theory and Fermat’s Last Theorem (with seminars): SoSe 2021

Boundary questions of Group Theory and Logic (with seminars): WiSe 2020/21

Introduction to Number Theory (with seminars): SoSe 2020

Number Theory (with seminars): WiSe 2012/13

Introduction to Group Theory (with seminars): WiSe 2016/17

Fuchsian Groups (with seminars): SoSe 2014/15

Coxeter Groups I and II (with seminars): WiSe 2013/14, SoSe 2014

Group Theory (with seminars): WiSe 2012/13, WiSe 2011/12

Geometric Group Theory (with seminars): WiSe 2019/20

Combinatorial Group Theory (with seminars): SoSe 2019

Algorithmic Group Theory (with seminars): 2007/08

Hyperbolic Groups: SoSe 2006

Lie-Algebras und Lie-Groups: WiSe 2007/08, SoSe 2007

Algorithmic Algebra (with seminars): SoSe 2008, WiSe 2006/07

Algorithmic Algebra (with seminars): WiSe 2008/09

Algorithmic Algebra and applications to Kryptography. Parts I and II (with seminars):

SoSe 2006, WiSe 2006/07, SoSe 2007

Linear Algebra I (with tutorial): SoSe 2018, WiSe 2015/16, SoSe 2013, SoSe 2012, SoSe 2011, SoSe 2010

Linear Algebra II (with tutorial): SoSe 2016,

Analysis I (with tutorial): SoSe 2017, WiSe 2014/15

Analysis II (with tutorial): SoSe 2019, WiSe 2017/18, SoSe 2015

• **Seminars** (for students)

Combinatorial und Geometric Group Theory: SoSe 2018

Facets of Geometrical Group Theory: WiSe 2017/18, SoSe 2020

Number Theory: SoSe 2017, SoSe 2013

Lie-Algebras and Lie-Groups: SoSe 2016

Applications of Galois Theory: WiSe 2015/16

Selected Chapters of Group Theory: SoSe 2008

Number Theory and Geometric Group Theory: WiSe 2006/07

Limit-Groups: SoSe 2006

• **Proseminars** (for bachelor students)

Proseminar “Proofs from THE BOOK”: WiSe 2019/20

Proseminar Linear Algebra: WiSe 2008/09, SoSe 2010

Proseminar Linear Algebra for gymnasium teachers: SoSe 2008

11. My former PhD students

- C. Feldkamp: “Magnus Eigenschaft und Freiheitsätze für Gruppen” (completed 2020)
- T. Leßmann: “Some algorithmic problems for automorphisms of free groups” (completed 2016)
- A. Elsayy: “Subgroup conjugacy separability property” (completed 2012)
- K. Sviridov: “Magnus property and hyperbolic groups” (completed 2011)
- N. Buskin: “One-relator hyperbolic groups” (completed 2009)
- O. Maslakova: “Fixed-point subgroups of automorphisms of free groups” (completed 2004)