

Dr. Sergei V. Chmutov
CURRICULUM VITAE

Born: 12, 1959 in Briansk, Russia.

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Family status: married;

wife: *Chmutova Nina*, b.1959; daughter: *Chmutova Tatiana*, b.1980;

son: *Chmutov Michael*, b.1985.

Citizenship: The US permanent resident. Russian citizen.

EDUCATION

Graduate studies: Department of Mathematics, Moscow State University, 1981-1984.

Undergraduate studies: Department of Mathematics, Moscow State University, 1976-1981.

DEGREES

Ph.D.: Moscow State University, Mathematics. 1985.

Thesis title: *Monodromy group of a critical point of a function.*

Thesis advisor: Professor *A. Varchenko*.

M.S.: Moscow State University. 1981.

Thesis title: *Monodromy group of a critical point of a function in two variables.*

Thesis advisor: Professor *A. Varchenko*.

PROFESSIONAL EXPERIENCE

Permanent positions:

- Associate Professor at The Ohio State University, Mansfield (since 2007);
- Assistant Professor at The Ohio State University, Mansfield (2001-2007);
- Professor at the Independent University of Moscow (1997-1998);
- Head of Laboratory at the Program Systems Institute of the Russian Academy of Sciences, Pereslavl-Zalessky (Russia), (1989-1999);
- Senior Researcher (corresponds to Associate Professor) at the Program Systems Institute, Pereslavl-Zalessky (Russia), 1986 - 1989;
- Junior Researcher (roughly corresponds to Assistant Professor) at the Program Systems Institute, Pereslavl-Zalessky (Russia), 1984 - 1986.

Visiting Positions and Fellowships:

- General Member, MSRI, Berkeley, CA, August-September, 2004;
- Visiting Professor, Mount Holyoke College (MA, USA), 1998-2001;
- Visiting Professor, Max Planck Institute für Mathematik, Bonn, May – August 1997;
- Visiting Professor, University of Toronto and the Fields Institute for Research in Mathematical Sciences, Toronto, January–February 1997;
- Visiting Fellowship at The University of Liverpool, March – June 1996;
- Visiting Professor, Max Planck Institute für Mathematik, Bonn, May – August 1995;
- Fellowship “Emma e Giovanni Sansone”. Scuola Normale Superiore, Pisa, January 1994 – March 1995;
- Visiting Professor, Max Planck Institute für Mathematik, Bonn, July – August 1994;
- Visiting Professor, University of Toronto, October-November 1993.

Membership:

Member of the American Mathematical Society.

Member of the Moscow Mathematical Society.

Research interests:

Vassiliev theory of knot invariants; knot theory; low-dimensional topology; theory of critical points of functions; combinatorics; (topological) graph theory; theory of singularities of algebraic varieties; algebraic geometry; constructive commutative algebra and computer algebra; functional programming languages.

Talks and presentations in 2007.

- *Vassiliev invariants that do not distinguish mutant knots*, Talk at the *Low-Dimensional Algebraic Topology Seminar*, OSU Columbus, October 25, 2007.
- *Thistlethwaite’s theorem for virtual links*, Talk at the *Topology seminar*, Indiana University, Bloomington (IN), October 11, 2007.
- *Thistlethwaite’s theorem for virtual links*, Talk at the International conference *Algebra and Geometry around Knots and Braids*. Euler Institute, St. Petersburg (Russia), September 10, 2007
- *Vassiliev invariants that do not distinguish mutant knots*, Talk at the International conference *Analysis and Singularities* dedicated to the 70th anniversary of V.I. Arnold. Moscow (Russia), August 23, 2007
- *Introduction to Khovanov Homology*, Four lectures at the Mount Holyoke College (MA), April 15 — May 10, 2007.
- *Vassiliev invariants that do not distinguish mutant knots*, Talk at the conference *Knots in Washington XXIV*. George Washington University, Washington (DC), April 14, 2007.
- *Virtual links and the Bollobas-Riordan polynomials of ribbon graphs*. Talk at the *Combinatorics & graph theory seminar*, Michigan State University, East Lansing (MI), February 21, 2007

For more information about my presentations see my web site
<http://www.math.ohio-state.edu/~chmutov/talks.html>.

Publications.

I have 37 publication, 3 papers accepted for publication, a paper and a book in preparation. My papers were published in the prestigious mathematical journals: **Acta Applicandae Mathematicae**, **Algebraic and Geometric Topology**, **Communications in Mathematical Physics**, **European Journal of Combinatorics**, **Functional Analysis and its applications**, **International Mathematics Research Notices**, **Inventiones mathematicae**, **Journal of Algebraic Geometry**, **Journal of Knot Theory and its Ramifications**, **Lecture Notes in Computer Science**, **Mathematicshe Annalen**, **Moscow Mathematical Journal**, **Moscow University Mathematics Bulletin**, **Proceedings of the American Mathematical Society**, **Programming and Computer Software**, **Russian Mathematical Surveys**, **Topology**, **Topology and its Applications**.

The complete list of my publications is on the web site
<http://www.math.ohio-state.edu/~chmutov/list-pub.html>.

GRANTS

- Professional Development Grant, OSU-Mansfield, August — September, 2004; \$950.
- Professional Development Grant, OSU-Mansfield, June — July, 2002; \$1000.
- Grant of the Netherlands Organization for Scientific Research (NWO), project 47.03.005 (Netherlands), 1995-97;
- Grant GR/L/15814 of EPSRC for a Visiting Fellowship at The University of Liverpool (England), March – June, 1996;
- Fellowship “Emma e Giovanni Sansone” (Scuola Normale Superiore, Pisa, Italy), 1994.
- AMS fSU grant (Russia), 1993;
- Soros Foundation grant (Russia), 1993.

UNDERGRADUATE RESEARCH

During Summer quarters of 2005, 2006, and 2007 I was an advisor of the VIGRE working groups. In these programs the OSU undergraduate and beginning graduate students were involved in research projects in topology, combinatorics, and their mutual interaction. The most significant results obtained are reported in three research papers coauthored by the undergraduate students. Two of them are already accepted for publication in the **European Journal of Combinatorics** and in the **Journal of Knot Theory and its Ramifications**. The third one is still in preparation. My students made three presentations of their results at professional research conferences (Knots in Washington XXI. George Washington University, Washington, DC, 2005, AMS Sectional Meetings #1009, Bard College, Annandale-on-Hudson, NY, 2005 and #1025, Miami University, Oxford, OH, 2007) and 10 presentations on various undergraduate conferences in Ohio, Massachusetts, and Virginia.

Also in 2006 I was an invited lecturer at the the REU site at the Louisiana State University, Baton Rouge (LA) where I gave four lectures four undergraduate students, and an invited speaker at the MASS Colloquium, Penn State University (PA) where I delivered a lecture *Virtual links and ribbon graphs*.

SERVICE

Service to the community.

I participated in the Mathematics Open House for Hilliard's City Schools (April 18, 2006). Since 2004 I run the program "MathTime" for local middle and high school students. I was a participant of the project, "Working Through the Concepts: Math, teaching, and reflection" for Mansfield high school math teachers. I serviced to the Ontario (Ohio) police department as a Russian interpreter (August 2004).

Service to the OSU Mansfield.

I made a peer review of teaching for THOMAS GREGORY (Associate Professor, Math 148, Au'07) and for GABRIELA POPA (visiting Assistant Professor of Math and Physics, Physics 111, Au'05). I am a member of the Marketing and Publicity Committee since 2005 (chair of the committee during 2006). I was a member of the Honors Committee during the Autumn quarter 2005 and a member of the Computer & Instructional Technology Committee (2001–2004).

Service to the OSU Math Department.

I am one of the organizers of the permanent *Low-Dimensional Algebraic Topology Seminar* at the Math Department. I am a member of the Instructional Improvement and Evaluation Committee (IIEC) since Autumn 2007 and a member of the Rasor-Bareis-Gordon Competition Committee at the Math Department in Columbus since Autumn 2006. I was an organizer of the VIGRE working groups "Knots and Graphs" and "Knot theory and Combinatorics" during Summers 2005, 2006, 2007, and a coorganizer (together with Qi Chen and Thomas Kerler) of a VIGRE working group "Khovanov Homology and the Jones Polynomial of Knots and Links" in Spring 2005. I delivered two "Invitation to Research" lectures "Knot Invariants" on November 7 and 14, 2005.

Service to the discipline.

I was a referee of papers submitted to the following journals: **Mathematicshe Annalen** (November 2007), **European Journal of Combinatorics** (December 2006), **Journal of the London Mathematical Society** (October 2005), **Journal of Algebraic Geometry** (April 2005). I was a coorganizer (together with Thomas Kerler) of the Special Session on Quantum Topology at the AMS Sectional Meeting #1025, Miami University, Oxford, Ohio. March 16-17, 2007. I was an external reviewer of the Ph.D. dissertation "A Categorification for the Chromatic Polynomial" by Laure Helme-Guizon at the George Washington University in May 2005.