

Curriculum Vita

Charles Frohman

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Personal information

- Born February 13, 1956, Detroit, Michigan, USA
- Address: Department of Mathematics, The University of Iowa, Iowa City, IA 52242 USA (frohman@math.uiowa.edu)
- Phone: 335-2543

Higher Education

- B.A. Chemistry and Mathematics, Kalamazoo College, 1978
- Ph.D. in Mathematics, Indiana University 1984, thesis advisor Allan Edmonds

Professional Experience

- Visiting Lecturer, University of California, Santa Barbara, 1984-1986
- Assistant Professor, State University of New York, Buffalo, 1986-1990
- Visiting Associate Professor, University of California, Los Angeles, 1987-1988
- Associate Professor, University of Iowa, 1990-1998
- Member, Mathematical Sciences Research Institute, Berkeley, CA, Spring 1997
- Professor University of Iowa, 1998-

Research Interests

- 3-manifold Topology
- Low Dimensional Geometry
- Combinatorial Group Theory
- Quantum Topology
- Skein Modules and Quantization

Honors, and Grants

- Graduated with departmental honors, Department of Mathematics, Kalamazoo College, 1978
- Award for the best performance on the qualifying examinations, Department of Mathematics, Indiana University, 1980
- Indiana University Graduate Research Fellowship, College of Arts and Sciences, 1984
- Principal Investigator, NSF DMS-8701736, 1987-1989
- Principal Investigator, NSF DMS-9002923, 1990-1992

- Principal Investigator, NSF DMS-9204489, 1993-1996
- Coprincipal Investigator, NSF Grant DMS 9320882, 1994
- Coprincipal Investigator, NSF Grant DMS 9612075, 1997
- Principal Investigator, NSF Grant DMS 9803233, 1998-2001
- Principal Investigator, NSF Grant DMS 0207030, 2002-2005
- Principal Investigator, NSF Grant DMS 0508635, 2005-2008

Professional Activities

Service to the Profession

- NSF panelist (November 2002, February 2004, October 2004, May 2005, February 2006)
- Reviewer for NSF (Topology and Foundations, Geometric Analysis, Material Sciences, EPSCOR, Special Meetings, Collaborative Research)
- Review for NSERC (Topology)
- Outside reviewer for tenure cases at George Washington University (twice), Indiana University and Boise State University (3 times), University of Nebraska, Michigan State University.
- Referee for The Proceedings of the American Mathematical Society, The Transactions of the American Mathematical Society, The Duke Journal of Mathematics, The Journal of Differential Geometry, The Journal of Topology and its Applications, The Proceedings of the Banach Center, The Proceedings of the American Mathematical Society Summer School on Quantization, The Rocky Mountain Journal, Pacific Journal of Mathematics, Knot Theory and its Ramifications, and Topology, Memoirs of the AMS, Algebraic and Geometric Topology, Geometry and Topology, Inventiones Mathematicae, Proceedings of the London Mathematics Society, The Canadian Mathematical Bulletin
- Organizing Committee, Midwest Geometry Conference, 1994
- Co-organizer for a special session on Three-Manifold Topology at a meeting of the American Mathematical Society at the University of Iowa, 1996
- Helped run the CBMS meeting featuring Peter Sarnak, August 1997
- Founded the Iowa Intercollegiate Mathematics Competition, 1994
- Participates in the Topology, Differential Geometry Seminars
- Co-organizer for a special session on Quantum invariants in dimension 3 at a meeting of the American Mathematical Society at the University of Michigan, 2002
- Co-organizer for a special session on Quantum topology at the Midwest Geometry conference at the University of North Dakota, April 2002.
- Co-organizer for a special session on Quantum Topology at the National meeting of the American Mathematical Society, San Antonio, Texas, 2006
- Co-organizer for a special session on Quantum Topology at the Northeast sectional meeting of the American Mathematical Society, Durham, New Hampshire, 2006

Service to the Department and the University

- Member Department Colloquium Committee, 1990-1991

- Member Department Executive Committee, 1993-1995
- Department Committee on Teaching, 1993-1994
- Department Undergraduate Chair, 1994-1995
- Department Undergraduate Committee, 1994-1995
- Department Hiring Committee, 1994-1995
- Department Library Committee, 1997
- Department Graduate Committee, 1997-
- College of Liberal Arts Scholarship Committee, 1997-2000
- Departmental Executive Committee, 1999-2002
- Honors advisor, 2001-2003
- Putnam coach, 2001-
- Religion School External Review
- Hiring Committee 2004-
- Geometric Analysis, Algebraic Geometry search committee
- Vigre Committee

Teaching Assignments

Year	Fall	Spring
05-06	22M:028 Multivariable Calculus	22M:028 Multivariable Calculus 22M:200 Differentiable Topology
04-05	22M:028 Multivariable Calculus 22M:132 General Topology	22M:028 Multivariable Calculus 22M:133 Foundations of Smooth Manifolds
03-04	Developmental Leave	22M:055 Spaces and Functions 22M:200 Differential Topology
02-03	22M:055 Spaces and Functions I 22M:201 Algebraic Topology	22M:055 Spaces and Functions
01-02	22M:025 Honors Calculus I	22M:026 Honors Calculus II 22M:305 Topics in Topology
00-01	22M:055 Spaces and Functions I 22M:201 Algebraic Topology	22M:055 Spaces and Functions 22M:200 Differential Topology
99-00	22M:055 Spaces and Functions I 22M:055 Spaces and Functions I	22M:055 Spaces and Functions I 22M:056 Spaces and Functions II
98-99	22M:055 Spaces and Functions I 22M:042 Multivariable Calculus	22M:055 Spaces and Functions I 22M:056 Spaces and Functions II
97-98	22M:203 Topology of Manifolds 22M:025 Calculus I	22M:301 Geo. and Top. in dim. 3 22M:026 Calculus II
96-97	22M:015 Math for Biological Sciences	Developmental Leave
95-96	22M130 Introduction to Topology	22M:132 Point Set Topology 22M:301 Rep Theory of Quantum Groups

Graduate Students

- Doug Bullock, PhD 1995, Associate Professor Boise State University
- Razvan Gelca, PhD 1997, Assistant Professor Texas Tech University
- Daylene Zielinski, PhD 1998, Associate Professor at Bellarmine College.
- Walter Lofaro, PhD 1998, Associate Professor at University of Wisconsin, Stevens Point

- Mike McLendon, PhD 2002, Assistant Professor at Washington College
- Matt Stoeckel, Kristen Sellke, Carmen Caprau, Juan Ortiz, Robb Todd in process

Publications

All authors names are in alphabetical order. All journals and conference proceedings refereed. My work comes out of collaboration. With Younger people the ideas tend to be mine, with older people the technical work is mine.

1. *One-Sided Incompressible Surfaces in Seifert Fibered Spaces*, Journal of Topology and its Applications **23** (1986) 103-116
2. *Minimal Surfaces and Heegaard Splittings of the Three-Torus*, Pacific Journal of Mathematics **124** (1986) 119-130
3. (with B.Fine) *The Amalgam Structure of the Bianchi Groups*, Comptes Rendus Math. Acad. Sci. R. Can. **8** (1986) 353-356
4. (with B.Fine) *Some Amalgam Structures of the Bianchi Groups*, Proceedings of the American Mathematical Society **102** (1988) 221-229
5. (with J.Hass) *Unstable Minimal Surfaces and Heegaard Splittings of Three-manifolds*, Inventiones Mathematicae **95** (1988) 529-540
6. *An Unknotting Lemma for Systems of Arcs in $F \times I$* , Pacific Journal of Mathematics **138** (1989) 59-66
7. *The Topological Uniqueness of Triply Periodic Minimal Surfaces in \mathbf{R}^3* , Journal of Differential Geometry **31** (1990) 277-283
8. (with W. Meeks) *The Topology of Complete One-Ended Minimal Surfaces and Heegaard Surfaces in \mathbf{R}^3* , Bulletin of the American Mathematical Society **23** (1990) 417-421
9. (with E. Klassen) *Planar Representations of Knot Groups*, Commentarii Mathematica Helvetica **66** (1991) 340-361.
10. *Heegaard Splittings of the Three-Ball*, Topology 90, Proceedings of the Research Semester in Low Dimensional Topology at Ohio State University, de Gruyter Verlag, Berlin
11. (with D.Long) *Casson's Invariant and Surgery on Knots* Proceedings of the Edinburgh Society **35** (1992) 383-395
12. (with A.Nicas) *The Alexander Polynomial via Topological Quantum Field Theory*, in Differential Geometry, Global Analysis and Topology, Proceedings of the Canadian Mathematical Society, American Mathematical Society
13. *Unitary Representations of Knot Groups*, Topology **32** (1993) 121-144
14. (with A.Nicas) *An Intersection Homology Invariant of Knots*, Topology **33** (1994) 123-158
15. (with W. Meeks) *The Ordering Theorem for the Ends of a Minimal Surface* Topology **36** No. 3 (1997) 605-617
16. (with J. Kania-Bartoszyńska) *$SO(3)$ Topological Quantum Field Theory*, Communications in Geometry and Analysis **4** (1997) 589-679
17. (with W. Meeks) *The Topological Uniqueness of One-Ended Minimal Surfaces in \mathbf{R}^3* , Journal of the American Mathematical Society **10** No. 3 1997 495-512
18. (with Bullock, and Kania-Bartoszyńska) *Understanding the Kauffman Bracket Skein Module*, Journal of Knot Theory and its Ramifications, Vol. 8, No. 3, pp 265-277, (1999)
19. (with Bullock, and Kania-Bartoszyńska) *Skein Homology*, Canad. Math. Bull. Vol 41 (2) (1998) pp. 140-144

20. (with Bullock, and Kania-Bartoszyńska) *Skein Quantization and Lattice Gauge Field Theory*, Chaos, Solitons and Fractals, Vol 9, No 4/5 pp. 811-824, (1998)
21. (with Bullock, and Kania-Bartoszyńska) *Topological Interpretations of Lattice Gauge Field Theory*, Comm. Math. Phys 198, 47-81 (1998)
22. (with Gelca) *Skein Modules and the Noncommutative Torus*, Trans. Amer. Math. Soc. **352** (2000), 4877-4888.
23. (with Kania-Bartoszyńska) *Quantum Obstruction Theory* Math. Proc. Camb. Phil. Soc. (2001) **131**, 279-293.
24. (with Gelca and LoFaro) *The A-polynomial from the Noncommutative Viewpoint*, Trans. Amer. Math. Soc. 354 (2002), no. 2, 735–747
25. (with Bullock, and Kania-Bartoszyńska) *The Yang-Mills measure in the Kauffman Bracket Skein Module*, Comment. Math. Helv. 78 (2003), no. 1, 1–17.
26. (with Kania-Bartoszyńska) *A Matrix Model for Quantum SL_2* , Diagrammatic Morphisms and Applications, Contemporary Math 318, AMS 2003.
27. (with Bullock, and Kania-Bartoszyńska) *The Kauffman Bracket Skein Module as an Algebra of Observables*, Proc. Amer. Math. Soc. 130 (2002), no. 8, 2479–2485
28. (with Kania-Bartoszyńska) *Shadow world evaluation of the Yang-Mills measure* Algebraic and Geometric Topology 4 (2004), paper no. 17, pages 311-332

To Appear

- (with W. Meeks) The Topological Classification of Minimal Surfaces in \mathbf{R}^3 . *Annals of Mathematics*

Submitted

- (with Marta Asaeda) A Note on the Bar-Natan Skein Module
- (with Kania-Bartoszyńska) The Quantum Content of the Normal Surface Theory of a Three-manifold.

In Process

- Natural Volumes on Character Varieties and the Turaev-Viro invariant at level infinity.
- (with Ilwoo Cho) The Kauffman bracket skein algebra from an operator theoretic viewpoint
- (with Kathy Zhong) The Yang-Mills measure in the $SU(3)$ -skein module. (see my web page)

Pedagogical Manuscripts

These manuscripts grew out of classes I taught. I use them to teach my graduate students the foundations of topology. I hope to publish these as books, once they have ripened.

- *The ideas behind the Calculus*, These are notes that I developed for 22M:055.
- *Elementary Topology: An Approach through Metric Spaces*, These are notes for the class 22M:130
- *Quantum Algebra and Representations of the Braid Group*, This manuscript comes from a topics course I taught.
- *Lectures on the Topology of 3-manifolds*, These come from a topics course I taught on 3-manifolds.
- *Lectures on Heegaard Splittings and Minimal Surfaces*, These grew out of a series of lectures I gave at UC San Diego.

Invited Talks

- *One-Sided Incompressible Surfaces in Seifert Fibered Spaces*, Georgia Topology Conference, Athens GA August 1984
- *Minimal Surfaces and Heegaard Splittings of the Three-Torus*, Southern California Topology Seminar, Los Angeles CA, March 1985
- *Minimal Surfaces and Heegaard Splittings of the Three-Torus*, Georgia Topology Conference, Athens GA, August 1985
- *Minimal Surfaces and Heegaard Splittings of the Three-Torus*, University of Buffalo Mathematics Colloquium, Buffalo NY, December 1985
- *An Algorithm for Computing Geometric Intersection Numbers on Surfaces*, Santa Barbara Topology Conference, Santa Barbara CA, July 1986
- *Minimal Surfaces and Heegaard Splittings of the Three-Torus*, Upstate New York Topology Seminar, Syracuse NY, October 1986
- *A Structure Theorem for Unstable Minimal Surfaces, The Topological Uniqueness of Genus Three Heegaard Splittings of the Three-Torus*, Indiana University Topology Seminar, Bloomington IN, November 1986
- *A Lefschetz Fixed Point Theorem for the Real Spectrum of an Affine Variety, R-trees and Hyperbolic Spaces over a Totally Ordered Field*, University of Maryland Geometry Seminar, College Park MD, March 1987
- *Generalized Casson's Invariants*, University of Toronto Topology Seminar, Toronto Canada, June 1987
- *Minimal Surfaces and Heegaard Splittings of the Three-Torus I-II-III*, UCLA Topology Seminar, Los Angeles CA, November 1987
- *The Topological Uniqueness of Triply Periodic Minimal Surfaces in \mathbf{R}^3* , Nonlinear Analysis Seminar, University of Southern California, Los Angeles CA, January 1988
- *Cohomology and Deformations of Geometric Structures I-II-II*, California Institute of Technology Topology Seminar, Pasadena Ca, January 1988
- *Real Algebraic Geometry and Representation Theory, Generalized Casson's Invariants*, Colloquia, University of Illinois, Chicago IL, February 1988
- *The Topological Uniqueness of Triply Periodic Minimal Surfaces in \mathbf{R}^3* Topology Seminar, University of California at Santa Barbara, Santa Barbara CA, March 1988
- *Holomorphic Bundles and Unitary Representations I,II* Algebraic Geometry Seminar, University of California at Los Angeles, April 1988
- *The Topological Uniqueness of Triply Periodic Minimal Surfaces in \mathbf{R}^3* Differential Geometry Seminar, University of California at Los Angeles, April 1988
- *Generalized Casson's Invariants* Differential Geometry Seminar, University of Utah, Salt Lake City UT, May 1988
- *Unitary Representations of Knot Groups* Santa Barbara Topology Conference, Santa Barbara CA, July 1988
- *Unitary Representations of Knot Groups*, Dartmouth Fall Foliage Conference, Hanover NH, September 1988
- *Unitary Representations of Knot Groups* Geometry Seminar, State University of New York at Stony Brook, Stony Brook NY, March 1989
- *Unitary Representations of Knot Groups* Topology Seminar, Indiana University, Bloomington IN, March 1989
- *New Techniques in the Representation Theory of Groups Mathematics*, Colloquium, Indiana University, Bloomington IN, March 1989
- *Unitary Representations of Knot Groups*, Topology Meeting, Michigan State University, East Lansing MI, April 1989

- *Unitary Representations of Knot Groups* Topology Fest, Cornell University, Ithaca NY, May 1989
- *Minimal Surfaces in \mathbf{R}^3* California Institute of Technology, Pasadena CA, May 1989
- *Unitary Representations of Knot Groups*, Topology Seminar, University of California at Los Angeles, May 1989
- *Generalized Casson's Invariants, I,II,III* California Institute of Technology, Pasadena CA, June 1989
- *Planar Representations of Knot Groups* Georgia Topology Conference, Athens GA August 1989
- *The Topology of Minimal Surfaces in \mathbf{R}^3* Rochester Geometry Seminar, Rochester NY, September 1989
- *The Topology of Minimal Surfaces in \mathbf{R}^3* University of Quebec at Montreal, Topology Seminar, Montreal Quebec, October 1989
- *The Topology of Minimal Surfaces in \mathbf{R}^3* McMaster University, Geometry Seminar, Hamilton Ontario, November 1989
- *Knot Invariants via Intersection Homology* Ohio State University, Topology Seminar, Columbus OH, February 1990
- *Heegaard Splittings of the Three-Ball*, Columbia University, Topology Seminar, New York NY, February 1990
- *The Topology of Minimal Surfaces in \mathbf{R}^3* University of Iowa, Mathematics Colloquium, Iowa City IA, February 1990
- *Knot Invariants via Intersection Homology* University of Maryland Geometry Seminar, College Park MD, April 1990
- *Heegaard Splittings of the Three-Ball*, University of California at Davis, Geometry Week, Davis CA, April 1990
- *Knot Invariants via Intersection Homology*, Four Manifolds Conference, McMaster University, Hamilton Ontario, July 1990
- *Topological Quantum Field Theories constructed from the Intersection Homology of Moduli Spaces of Semistable Holomorphic Bundles* American Mathematical Society conference, South Bend IN, March 1991
- *Three Lectures on Heegaard Splittings and Minimal surfaces* Topology Seminar UC San Diego, La Jolla CA, April 1991
- *The Topology of Minimal Surfaces in \mathbf{R}^3* Topology Seminar Cal Tech, Pasadena CA, May 1991
- *Heegaard Splittings and Minimal Surfaces* Topology Seminar, UC Santa Barbara, Santa Barbara CA, May 1991
- *The Topology of Minimal Surfaces in \mathbf{R}^3* 8th Annual Geometric Topology Workshop, Milwaukee WI, June 1991
- *An Infinite Family of Knot Polynomials Derived from Intersection Homology Knot Theory conference*, University of Tennessee, Knoxville TN, October 1991
- *Invariants of Knots Derived from Intersection Homology* Canadian Mathematical Society Meeting Victoria , British Columbia, December 1991
- *Obstructions to embedding a three-manifold in the three-sphere from TQFT*, Joint meeting of the American Math Society and the Mexican Math Society Merida, Mexico, December 1993
- *Measurement in Topology* Colloquium Boise State University Boise ID, November 1994

- *SO(3)-Topological Quantum Field Theory* 13th Cascade Topology Seminar Vancouver BC, December 1994
- *Quantizing the $SL_2\mathbf{C}$ -characters of a Surface Group* Special Semester on Low Dimensional Topology, Banach Mathematical Center, Warsaw, Poland August 1995
- *Topological Quantum Field Theory with Corners*, Meeting of the American Mathematical Society Boston MA, October 1995
- *Quantization and the Topology of 3-manifolds* Topology Seminar, Indiana University, Bloomington IN, November 1995
- *Quantization in the Topology of 3-manifolds* Quantization, American Mathematical Society-IMS-SIAM Joint Summer Research Conference, Mount Holyoke College, July 1996
- *Quantizing the Flat $SL_2\mathbf{C}$ on a Surface*, Geometry Seminar, University of Maryland, Oct. 1996
- *Quantization in the Topology of 3-manifolds* Meeting of the American Mathematical Society, Columbia, MO, Nov. 1996
- *Invariant Theory-From Classical to Quantum* Colloquium, Boise State University, Nov. 1996
- *3 Lectures on Lattice Gauge Field Theory and Skein Modules* Quantum Topology Seminar, Mathematical Sciences Research Institute, Berkeley, CA, Feb. 1997
- *The Yang Mills Measure in the Kauffman Bracket Skein Module* American Mathematical Society Meeting, College Park, Maryland, April 1997
- *From Classical to Quantum Invariant Theory* Colloquium, Portland State University, April 1997
- *The Yang Mills Measure in the Kauffman Bracket Skein Module* Topology Seminar, Portland State University, April 1997
- *The Yang Mills Measure in the Kauffman Bracket Skein Module* Topology and Quantum Gravity, A meeting at the Banach Center in Warsaw Poland May 1997
- *The Yang Mills Measure in the Kauffman Bracket Skein Module* Topology Seminar, The Free University of Berlin May 1997
- *The Yang Mills Measure in the Kauffman Bracket Skein Module* Quantum Topology Seminar, Mathematical Sciences Research Institute, Berkeley, CA June 1997
- *The Yang Mills Measure in the Kauffman Bracket Skein Module* Topology Seminar, University of California, Davis June 1997
- *From Classical to Quantum Invariant Theory* Colloquium, University of Massachusetts, October 1997
- *Integral Formulas for Quantum Invariants* Geometry Seminar, University of Maryland, November 1997
- *The Yang Mills Measure in the Kauffman Bracket Skein Module* Special Session on Knot Theory, meeting of the American Mathematical Society, Baltimore Maryland, January 1998
- *Lattice Gauge Field Theory and Quantization* Special Session on Topology and Quantum Gravity, meeting of the American Mathematical Society, Baltimore, Maryland, March 1998
- *Heegaard splittings from the quantum viewpoint* Special Session on Topology, meeting of the American Mathematical Society, Louisville, Kentucky, March 1998
- *Lattice Gauge Field Theory and Quantization* Special Session on Quantization, meeting of the American Mathematical Society, Manhattan, Kansas, March 1998

- *The Yang Mills Measure in the Kauffman Bracket Skein Module* Special Session on Quantum Topology, American Mathematical Society meeting, Manhattan, Kansas, March 1998
- *Lectures on Lattice Gauge Field Theory* University of Adelaide, Adelaide, South Australia, September 1998
- *The A-polynomial from the Noncommutative Viewpoint* Cascade Topology Seminar, November 1998
- *The A-polynomial from the Noncommutative Viewpoint* Colloquium, The Department of Mathematics Wayne State University, Detroit, Michigan, February 1999
- *Understanding the Kauffman Bracket Skein Module* Topology Seminar, The Department of Mathematics Wayne State University, Detroit, Michigan, February 1999
- *The A-polynomial from the Noncommutative Viewpoint* American Mathematical Society Meeting, Urbana, Illinois, March 1999
- *The A-polynomial from the Noncommutative Viewpoint* American Mathematical Society Meeting, Buffalo, New York, April 1999
- *The Lie Algebra Homology of a Heegaard Splitting*, American Mathematical Society Meeting, Washington DC, January 2000.
- *Hyperbolic Volume and Quantum Invariants of Knots* International meeting on Knot theory, Banach Center, Warsaw, Poland, March 2000
- *The Yang-Mills Measure in the Kauffman Bracket Skein Module*, American Mathematical Society Meeting, Lafayette, Louisiana, April 2000
- *The Yang-Mills Measure in the Kauffman Bracket Skein Module*, American Mathematical Society Meeting, San Francisco, CA October 2000
- *The Yang-Mills Measure in the Kauffman Bracket Skein Module*, American Mathematical Society Meeting, New York, NY November 2000
- *How Big is the Kauffman Bracket*, Plenary Talk, Knots in Washington, Washington, DC, December 2000
- *Asymptotics of the Turaev-Viro Invariant* American Mathematical Society Meeting, Columbus Ohio, October 2001
- *Hochschild Homology of a Heegaard Splitting* American Mathematical Society Meeting, Irvine California, November 2001
- *Asymptotics of the Turaev-Viro Invariant* Texas Geometry and Topology Meeting, Austin Texas, March 2002
- *Quantum Invariants away from Roots of Unity* Knots in Montreal, Montreal CA, March 2002
- *Quantum Invariants away from Roots of Unity* American Mathematical Society Meeting, Portland Oregon, April 2002
- *Quantum Invariants away from Roots of Unity* Knot theory meeting, China, August 2002
- *Skeins and Characters* Colloquium, Wayne State University, October 2002
- *Quantum Invariants away from Roots of Unity* American Mathematical Society Meeting, Orlando Florida, November 2002
- *Quantum Invariants away from Roots of Unity* American Mathematical Society Meeting, Washington DC, January 2003
- *Reidemeister Torsion, Symplectic Volume, and the Yang-Mills Measure* Joint American and Japanese Mathematics Meeting, Johns Hopkins University, Baltimore MD, March 2003

- *Quantum Invariants and normal surfaces* American Mathematical Society Meeting, Baton Rouge, LA March 2003
- *Quantum Invariants and Geometry* American Mathematical Society Meeting, Bloomington, IN April 2003
- *Quantum Invariants and Geometry* American Mathematical Society Meeting, New York, NY April 2003
- *Quantum invariants away from roots of unity* International knot theory meeting, Warsaw, Poland, July 2003
- *Skeins and Characters* Quantum Topology in Dimension Three, Oberwolfach, Germany, October 2003
- *Does the Jones Polynomial Determine the A-polynomial?* Topology Seminar, University of Illinois, Chicago, November 2003
- *Integrating on character varieties* Topology Seminar, Louisiana State University, Baton Rouge, Louisiana
- *Skeins and characters* Large N-limits, CRM, Quebec, Canada, January 2004
- *The Turaev-Viro invariant at level infinity*, Topology Seminar, University of California, Davis, February 2004.
- *Computing Rozansky-Khovanov Homology* AMS meeting Pittsburgh, PA, November 2004
- *Computing Rozansky-Khovanov Homology* AMS meeting Atlanta, GA January 2005
- *The Yang-Mills Measure in the $SU(3)$ -skein module* AMS meeting Atlanta, GA January 2005
- *Khovanov homology and the Alexander Polynomial* AMS meeting, Lubbock Texas, April 2005
- *The Bar-Natan Skein Module*, Topology Seminar, Boise State University, Boise Idaho, October 2005.
- *Skeins and Characters* Colloquium, SUNY at Buffalo, Buffalo, New York, April 2006