

# C U R R I C U L U M   V I T A E

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- **Current Position:** Assistant Professor (tenure track) at the Department of Mathematics, UC Riverside.
- **Research interests:** Noncommutative geometry, homological algebra, category theory and mathematical physics.
- **Web page:** <http://www.math.ucr.edu/~vald/>
- **Previous Employment:**
  - September 2005 – August 2007: Boas Assistant Professor at Mathematics Department of Northwestern University.
  - August 2005: Liftoff Fellow of Clay Mathematics Institute.
- **Education:**
  - PhD in Mathematics, June 2005, *Massachusetts Institute of Technology*.  
Title of the thesis:  
**“A proof of Tsygan’s formality conjecture for an arbitrary smooth manifold.”**  
*Thesis advisors:* **Pavel Etingof and Dmitry Tamarkin**
  - PhD in Theoretical Physics, Dec. 2003, *Bogoliubov Laboratory of Theoretical Physics in Joint Institute for Nuclear Research* (Dubna, Russia).  
Title of the thesis:  
**“Classical and quantum reduction with applications to integrable systems and quantum algebras.”**  
*Thesis advisors:* **Alexei Isaev and Simon Lyakhovich**
  - MS, June 2001, *Physical Department, Tomsk State University*, Tomsk, Russia
  - BS, June 1999, *Physical Department, Tomsk State University*, Tomsk, Russia

- **Research Support:**

2009-12 **Principal investigator.** Higher algebraic structures, Deligne's conjectures and formality theorems. **NSF Division of Mathematical Sciences grant.** \$110,000.

2009-10 **Regent's Faculty Fellowship.** Deligne's conjectures, formality theorems and deformation quantization. **UC Riverside, Academic Senate.** \$9,500.

- **Courses taught:**

- Calculus of several variables (undergraduate)
- Deformation theory (graduate)
- Differential calculus of one variable functions (undergraduate)
- Differential equations (undergraduate)
- Differential geometry and topology (graduate)
- Integral calculus of one variable functions (undergraduate)
- Introduction to game theory (undergraduate)
- Introduction to rings, fields and Galois theory (undergraduate)
- Introduction to theory of groups (undergraduate)
- Introduction to topology (undergraduate)
- Linear algebra (undergraduate)
- Seminar on higher operads /jointly with J. Baez and J. Bergner/ (graduate)

- **Independent studies:**

Fall 2009 Christopher Rogers (graduate), Formality theorems and the Kashiwara-Vergne conjecture.

Fall 2009 Jeremy Westfahl (undergraduate), Methods of homological algebra.

August 2008 Sean Ewing (graduate), Homological algebra of operads (within the Alliance for Graduate Education and the Professoriate).

Spring 2005 PoNing Chen (undergraduate), Algebraic versus analytic index theorems (within the Undergraduate Research Opportunities Program).

July 2004 PoNing Chen (undergraduate), Algebraic index theorems (within the Summer Program for Undergraduate Research).

July 2004 Olga Stroilova (undergraduate), The transfer map for Hochschild homology of the twisted group algebra (within the Summer Program for Undergraduate Research).

July 2003 PoNing Chen (undergraduate), Differential graded Lie algebra of Drinfeld (within the Summer Program for Undergraduate Research).

July 2003 Teal Guidici (undergraduate), Traces of rational Cherednik algebras (within the Summer Program for Undergraduate Research).

- **Peer-review:** Referee for the following scholarly journals:
  - Advances in mathematics
  - Duke Mathematical Journal
  - Inventiones mathematicae
  - Letters in Mathematical Physics
  - Symmetry, Integrability and Geometry: Methods and Applications (SIGMA)
- **Memberships:** American Mathematical Society.
- **Activities:**
  - Organizing the special session on noncommutative geometry (jointly with Wee Liang Gan) within the AMS meeting in Riverside, Nov 2009.
  - Serving on the panel of the Yau High School Mathematics Awards, Fall 2009.
  - Training undergraduate students of UC Riverside for participation in the William Lowell Putnam Mathematical Competition, Fall 2009, Spring 2009.
  - Running a seminar “Topics in Noncommutative Geometry” together with B. Tsygan. Spring 2007.
  - Running a seminar “Topics in Mirror Symmetry” together with E. Getzler, C.-C. Liu, D. Tamarkin, and B. Tsygan. Fall 2005, Winter 2006.
  - Training undergraduate students of Northwestern University for participation in the William Lowell Putnam Mathematical Competition, Fall 2005.
  - Running a seminar on vertex algebras and algebraic curves together with R. Anno, R. Heluani, V. Kac, and A. Retakh at Department of Mathematics at M.I.T. Fall 2003, Spring 2004.
  - Teacher at Summer Physical Mathematical School of Tomsk State University, Tomsk, Russia, August, 2000
  - Training students of Tomsk Polytechnic University for participation in Regional Mathematical Competition, Tomsk, Russia, Spring, 2000 and Spring, 1999
  - Proof-reading the monograph “Methods of Mathematical Physics” by V.G. Bagrov, V.V. Belov, V.N. Zadorozhny and A. Yu. Trifonov, January-March, 2000

- **Short term visits:**

- Northwestern University and the University of Chicago, Chicago, IL, USA, June-August, 2009.
- Northwestern University, Evanston, IL, USA, December, 2008.
- Northwestern University, Evanston, IL, USA, July, 2008.
- Northwestern University, Evanston, IL, USA, March, 2008.
- Forschungsinstitut für Mathematik at ETH Zürich, Switzerland, Sept.-Dec., 2006.
- Northwestern University, Evanston, IL, USA, June, 2005.
- Institut des Hautes Etudes Scientifiques, Bures-sur-Yvette, France, May 2005.
- Northwestern University, Evanston, IL, USA, January, 2005.
- IRMA, Strasbourg, France, May-June, 2004.
- Northwestern University, Evanston, IL, USA, March, 2003.
- Bogoliubov Laboratory of Theoretical Physics in Joint Institute for Nuclear Research, Dubna, Moscow region, Russia, January - May 2001.
- Tamm Theory Division of Lebedev Physical Institute of Russian Academy of Sciences, Moscow, Russia, September - December 2000.

- **Academic achievements:**

- I was among 9 finalists for the AIM fellowship in 2005.
- The Rogers family award prize to a mentor of the first-place team of the 2004 Summer Program in Undergraduate Research of the Department of Mathematics, M.I.T., July 2004.
- The Rogers family award prize to a mentor of the first-place team of the 2003 Summer Program in Undergraduate Research of the Department of Mathematics, M.I.T., July 2003.
- Charles W. and Jennifer C. Johnson prize for outstanding research paper among graduate students of the Department of Mathematics, M.I.T., May 2003.
- Honors Master diploma in Physics, June 5, 2001.
- Russian President Scholar, Fall 2000 and Spring 2001.
- Russian Government Scholar, Spring 2000.
- Honors Bachelor diploma in Physics, June 29, 1999.
- The third in Russian Student Mathematical Competition, (about 100 students from all over Russia) February 3, 1999.

- Honorary Diploma for substantial contribution to development of Tomsk State University in connection with the 120-th anniversary of Tomsk State University, September 9, 1998.
- Soros Student in 1998.
- The first in Regional Student Mathematical Competition, Spring, 1998.
- The first in Regional Student Competition in Physics, Spring, 1998.
- The first in Regional Student Competition in Physics, April 23, 1997.
- The second in Regional Student Mathematical Competition, April 6, 1997.
- The first in Regional Student Competition in Physics, April 13, 1996.

• **Workshops, Meetings, Conferences:**

- Higher Structures 2009, Zürich, Switzerland, November 16-20, 2009 (invited speaker).
- Algebraic Analysis and Deformation Quantization, Scalea, Italy, June 22-26, 2009 (invited speaker).
- "FRG CUNY Workshop" at CUNY. New York, NY, September 10-14, 2008.
- Poisson 2008, Lausanne, Switzerland, July 7-11, 2008 (invited speaker).
- Trends in Noncommutative Geometry, Evanston IL, May 18-25, 2007.
- Meeting of American Mathematical Society, Oxford, OH, March 16-17, 2007.
- Meeting of American Mathematical Society, Eugene, OR, November 11-13, 2005.
- Meeting of American Mathematical Society, Bowling Green, KY, March 18-19, 2005.
- An International Conference on "The Unity of Mathematics" In honor of the ninetieth birthday of I.M. Gelfand, Cambridge, Massachusetts August 31 - September 4, 2003
- "Quantum Fields and Strings", Dombai, Russia, August 2-9, 2003
- "Quantization in Algebra and Geometry", Zürich, Switzerland, January 6-9, 2003
- "Quantum Groups and Integrable Systems, 11", Prague, Czech Republic, June 20-22, 2002.
- Workshop On Conformal Field Theory and Supersymmetry, Berkeley, California, April 15-26, 2002.
- "Gravity, Gauge Theory and Strings", Les Houches, France, July 31 - August 31, 2001

- XXXVII Winter School on Theoretical Physics “New Developments in Fundamental Interactions Theories”, Karpacz, Poland, February 6-15, 2001
- International conference “Supersymmetry and Quantum Field Theory” dedicated to the memory of Professor D.V. Volkov, Kharkov, Ukraine, July 25-29, 2000
- The XII Petrov School, Kazan, Russia, June 22 - July 2, 2000
- International conference “Quantization, Gauge Theory, and Strings” dedicated to the memory of Professor E.S. Fradkin, Moscow, Russia, June 5-10, 2000
- XIV International Workshop on High Energy Physics and Quantum Field Theory, Moscow, Russia, May 27 - June 2, 1999

• **Languages:**

- Russian: native,
- English: fluent,
- French: basics.