

Curriculum Vitae  
**DMITRY E. TAMARKIN**

**Address** Department of Mathematics  
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**Born:** October 1, 1970, Nizhny Novgorod, Russia

**Citizenship:** Russian

**Education**

- Penn State University, Department of Mathematics,  
PhD, May 1999 under the supervision of Prof. Boris L. Tsygan
- Graduate Studies, Moscow Institute of Physics and Technology (MIPT)  
1993-1995, advisor Prof. Boris V. Fedosov
- Moscow Institute of Physics and Technology (MIPT) 1987-1993,  
Department of Applied Mathematics and Management,  
Research Institute: Inst. for Applied Mathematics of Rus. Acad. of Sc.  
M. Sc., Cum Laude in Applied Mathematics, 1993  
B. S., Cum Laude in Applied Mathematics, 1991
- Secondary School, 1977-1987; High School Diploma, 1987

**Awards and Honors**

- Huskell Curry fellowship , Penn State, fall 1995 — spring 1996
- A. Sloan Doctoral Fellowship fall 1998 — spring 1999
- NSF Grants DMS 0070717, 2000-04;DMS-0401433; 2004-2007
- A. Sloan Research Fellowship 2005-06

**Research Interests**

Deformation quantization, index theorems.

## Employment

- Associate Professor, Department of Mathematics, Northwestern University, 2007-present
- Assistant Professor, Department of Mathematics, Northwestern University, 2002-2007
- Benjamin Pierce Assistant Professor in Mathematics Harvard University 1999-2002

## Teaching Experience

- Teaching Assistant, Pennsylvania State University, 1996 -1999  
Instructor of MATH courses: Business Calculus, One variable calculus and differential equations, Calculus II, Linear algebra, Ordinary Differential Equations and Boundary Problems
- Assistant Professor, Harvard University, 1999-2002  
Higher Algebra I,II  
Methods of Analysis (elements of complex analysis and PDE)  
Algebra I,II (for first year graduates)  
Deformation theory (special topic course)
- Assistant Professor, Northwestern University, 2002-  
Basic Notions of Abstract Mathematics

Review of Modern Mathematics

Undergraduate Number Theory

Undergraduate Algebra

Graduate Homological Algebra

Graduate Algebraic Geometry

Multivariable calculus

## Advising

I was a co-adviser (with P. Etingof) of Vassily Dolgushev who defended his thesis in Apr 2005 at MIT, as well as Alexander Getmanenko (with B. Tsygan) who defended his thesis in 2008.

I am now advising Eric Dolores and Sheng-Fu Chiu

## Papers

1. *Topological invariants of connections over symplectic manifolds*, *Funct. Anal. Appl.* vol. 29 (1995), No. 4, 45-56
2. (with Ph. Foth) *Generalized topological index*, *K-theory*, **12**: 61-169, 1997
3. *Fedosov Connections on Kähler Symmetric Manifolds and Trace Density Computation*, *J. of Diff. Geom.***25**: 1998
4. *Quantization of Poisson structures on  $\mathbf{R}^2$* , preprint, 1997. Announcement in *ERA Amer.Math. Soc.* **3** (1997), pp.119-120
5. *Another Proof of M. Kontsevich's Formality Conjecture*, Ph. D. Thesis, Pennstate University, 1999
6. (with B.Tsygan) *Differential Calculus, homotopy BV algebras, and Formality Conjectures*, *Methods of functional Analysis and Topology*, **6** (2000), no. 2
7. (with B. Tsygan) *Cyclic Formality and Index theorems*, *Letters in Mathematical Physics* **56** (2001), no.2 85-97
8. *Quantization of Lie bialgebras via formality of the operad of little disks*, Proceedings of the meeting between mathematicians and theoretical physicists, Institute de Recherche Mathématiques Avancée de Strasbourg, May 31-june 2,2001, pp 203-236, an improved version is published at *GAFA* 17(2007) no 2 537-604
9. (with B. Tsygan) *The ring of differential operators on forms in non-commutative calculus*, the DennisFest volume.
10. *Formality of the operad of little discs*, special issue of *Letters to the Journal of the Mathematical Physics* devoted to the Conference Moshe Flato 2000.
11. *Deformations of chiral algebras*, *Proc. of the International Congress of Mathematicians*, Beijing, 2002
12. *What do DG categories form?* *Compos. Math.* 143 (2007), no 5, 1335-1358
13. (with V. Dolgushev and B. Tsygan) *'The homotopy Gerstenhaber algebra of Hochschild cochains of a regular algebra is formal'* *JNCG* 1(2007) no 1, 1-25
14. *Microlocal condition for non-displaceability*, preprint
15. (with V. Dolgushev and B. Tsygan) *Formality theorems for Hochschild complexes and their applications*, *Lett. Math. Phys.* 90 (2009), no. 1-3, 103136

16. (with A. Getmanenko) Microlocal properties of sheaves and complex WKB, accepted to *Astérisque*
17. (with V. Dolgushev and B. Tsygan) *Proof of Swiss Cheese version of Deligne's conjecture*, IMRN **2011**, no. 20, 4666-4746
18. (with V. Dolgushev and B. Tsygan) *Formality of the Homotopy Calculus algebra of Hochschild (co)chains*, submitted to JNCG
19. (with V. Dolgushev and B. Tsygan) *Non-commutative Calculus and the Gauss-Manin connection*, 139158, Progr. Math., 287, Birkhuser/Springer, New York, 2011, 19D55 (18G55)
20. *A formalism for the Renormalization procedure*, Confluentes Math. 4 (2012)
21. *Action of the Grothendieck-Teichmueller group on the chain operad of little disks*, preprint q-alg

#### Invited talks

- Workshop on Mathematical Physics, PennState, April 1997
- Penn State Geometry Seminar, March 1996
- University of Chicago Topology Seminar, October 1998
- The Northwestern University Algebra Seminar , October 1998
- AMS Meeting at PennState, October 1998
- V. Guillemin seminar at MIT, April 1999
- Conference at the Northeastern University, Boston, 1999
- Conférence Moshé Flato, l'Université de Bourgogne, Septembre 2000
- Algebra seminar at the Boston University, October 2001
- Mathematical Physics seminar at the Physics department, Harvard University, March 2001
- Conference " Rencontres entré mathématiciens et physiciens", Strasbourg, May, 2001
- Minicourse in deformation theory, ETH, Zürich, January 2002
- Mathematical Physics seminar at the Boston University, March 2002

- International Congress of Mathematicians, Beijing, Aug 2002
- Topology Seminar at the Northwestern University, Oct 2002
- V. Guillemin seminar at MIT, April 2004
- AMS meeting at Rider University, April 2004
- Semester in Non-commutative Geometry, Inst. H. Poincaré, Paris, June 2004
- Geometric Langlands Seminar, University of Chicago, Oct 2005
- Workshop on non-commutative geometry, University of Copenhagen, Nov 2005
- Workshop on non-commutative geometry, Banff Centre, April 2006
- Geometry Seminar, Hebrew University, Jerusalem, May 2006
- Conference 'Chiral algebras in geometry and physics', Bonn, June 2008
- Conference 'Higher categories', Barcelona, July 2008
- Conference 'Higher structures, Lausanne, October 2008
- Semester on deformation quantization and Index theorems, University of Tokyo, December 2009
- Conference on Symplectic geometry, Berkeley March 2010
- Geometry Seminar at the University Wisconsin-Madison, April 2010
- Hayashibara forum, Berkeley, May 2010
- Conference 'Sheaf theoretical methods in Symplectic Geometry' IAS May 2011
- Conference 'Loop spaces', Luminy May 2010
- Pacific Rim Conference, Pohang, South Korea
- Seminar at the Department of Mathematics, University of Geneva, October 2011
- Conference on Symplectic Geometry, Technion, Haifa, June 2012
- Conference on Mirror symmetry University Wisconsin-Madison, November 2012
- Conference on Microlocal Analysis, University of Padua, February 2013.