

# **FEIGIN EVGENY // CURRICULUM VITAE**

## **Address.**

Lebedev Physics Institute,  
Russia, 119991, Moscow, Leninsky prospect, 53.  
E-mail: evgfeig@gmail.com.

## **Personal data.**

Born July 1980, Moscow. Married, 2 children. Citizenship: Russia.

## **Mathematical interests.**

Representation theory, mathematical physics, algebraic geometry.

## **Education.**

Ph.D. Moscow State University, Nov. 05.  
M.Sc. Independent University of Moscow, June 02 and Moscow State University, June 02.  
PhD, Moscow State University, 2005. Title: Demazure modules for affine Kac-Moody Lie algebra  $\widehat{\mathfrak{sl}_2}$ .  
Advisors: B. Feigin and I. Chubarov.

**Employment.** Senior research fellow, Tamm Theory Division, Lebedev Physics Institute, since Nov. 05,  
Alexander von Humboldt fellow, Universities Cologne, Bonn, Mar. 08-Dec.08,  
Lecturer, Independent University of Moscow, Feb. 05- Dec.07,  
Teacher of mathematics at Moscow State 57-th School, Sep. 98-Aug.05.

Visiting researcher:  
Kyoto, Japan, July 08, June 07, Aug.06, July 05, July 04, Feb. 04;  
Max Planck Institute for Mathematics in Bonn, Dec.06-Jan.07,  
ETH Zuerich, May 07.

## **Grants, fellowships, awards.**

Russian Foundation for Basic Research Grants 2003, 2006, 2007, 2008, 2009.  
Grants for Leading Scientific Schools 2005, 2007, 2008.  
Euler Foundation Award, 2007.  
P.Deligne Fellowship based on his 2004 Balzan prize in mathematics, 2007.  
Alexander von Humboldt Fellowship, 2008.

## **Professional services.**

Referee for the journals:  
Communications in Algebra, Journal of Algebra, Journal of Physics A: Mathematical and Theoretical.

**Conferences.**

Algebraic Lie structures with origin in physics, Cambridge, England, March 2009.

Enveloping algebras and geometric representation theory, Oberwolvach, Germany, March 2009.

Representations and cohomology, Cologne, Germany, March 2009;

Contemporary Russian mathematics, Russia, Moscow, January 2009:

Geometry and Integrability in Mathematical Physics, Marseille, France, September 15 - 19th, 2008;

The Geometric Langlands Program, Leiden, Holland, 7 Jul 2008 - 11 Jul 2008;

Noncommutative Geometry Conference, Bonn, Germany, July 28 - August 1, 2008;

Exploration of New Structures and Natural Constructions in Mathematical Physics. Nagoya, March 5-8, 2007;

Moduli Spaces and Physics, Zurich, December 5-7, 2007;

Transformation groups, Moscow, Decemebr 17-22, 2007,

Affine Hecke Algebras, Langlands Programm, Conformal Field Theory and Matrix Models, Marseille, June-July 2006.

**Teaching.**

2005-2006: "Basic representation theory", Math in Moscow program.

2005-2007: "Algebra", "Combinatorics", "Kac-Moody algebras", "Infinite-dimensional Lie algebras", "Theta functions", Independent University of Moscow.

2007, 2009: "Basic algebra", "Basic representation theory", program of the Foundation for Fundamental Physics Support, Lebedev Physics Institute.

**Publications.**

1. B. Feigin, E. Feigin,  *$Q$ -characters of the tensor products in  $sl_2$ -case*, Mosc. Math. J. 2 (2002), no. 3, 567–588.
2. B. Feigin, E. Feigin, *Integrable  $\widehat{sl}_2$ -modules as infinite tensor products*, in: Fundamental mathematics today, O. Sheinman, S. Lando eds., 304–334, Independent University of Moscow, 2003 (in Russian).
3. B. Feigin, E. Feigin, *Schubert varieties and the fusion products*, Publ. Res. Inst. Math. Sci. 40 (2004), no. 3, 625–668.
4. E. Feigin, *Schubert varieties and the fusion products: the general case*, Int. Math. Res. Not. 2004, no. 59, 3153–3175.
5. B. Feigin, E. Feigin, *Homological realization of restricted Kostka polynomials*, Int. Math. Res. Not. 2005, no. 33, 1997–2029.
6. B. Feigin, E. Feigin, *Principal subspace for the bosonic vertex operator  $\phi_{\sqrt{2m}}(z)$  and Jack polynomials*, Advances in Mathematics, Volume 206 (2006), Issue 2, pp. 307-328.

7. B. Feigin, E. Feigin, M. Jimbo, T. Miwa, Y. Takeyama, *A  $\phi_{1,3}$ -filtration on the Virasoro minimal series  $M(p, p')$  with  $1 < p'/p < 2$* , Publ. Res. Inst. Math. Sci. 44 (2008), no. 2, 213–257.
8. E. Feigin, *Bosonic formulas for affine branching functions*, Funktsional. Anal. i Prilozhen. 42 (2008), no. 1, 63–77, 96.
9. B. Feigin, E. Feigin, *Two dimensional current algebras and affine fusion product*, J. Algebra 313 (2007), no. 1, 176–198.
10. E. Feigin, *Infinite fusion products and  $\widehat{\mathfrak{sl}}_2$  cosets*, Journal of Lie Theory, vol. 17 (2007), pp. 145–161.
11. E. Feigin, *The PBW filtration*, MPIM 2007-14, Represent. Theory 13 (2009), 165–181.
12. B. Feigin, E. Feigin, I. Tipunin, *Fermionic formulas for  $(1,p)$  logarithmic model characters in  $\Phi_{2,1}$  quasiparticle realization*, <http://arxiv.org/abs/0704.2464>, to appear in Advances in Pure Mathematics.
13. B. Feigin, E. Feigin, M. Jimbo, T. Miwa, E. Mukhin, *Principal  $\widehat{\mathfrak{sl}}(3)$  subspaces and quantum Toda Hamiltonian*, Advances in Pure Mathematics 54, Algebraic Analysis and Around, pp. 109–166, 2009.
14. E. Feigin,  *$N = 1$  formal genus 0 Gromov-Witten theories and Givental's formalism*, arXiv:0803.3554, to appear in Geometry and Physics.
15. E. Feigin, *The PBW Filtration, Demazure Modules and Toroidal Current Algebras*, SIGMA 4 (2008), 070, 21 pages, <http://www.emis.de/journals/SIGMA/2008/070/>
16. B. Feigin, E. Feigin, M. Jimbo, T. Miwa, E. Mukhin, *Fermionic formulas for eigenfunctions of the difference Toda Hamiltonian*, arXiv:0812.2306, to appear in Letters in Mathematical Physics.
17. E. Feigin, J. van de Leur, S. Shadrin, *Givental symmetries of Frobenius manifolds and multi-component KP tau-functions*, arXiv:0905.0795.