

Sasha Patotski

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Research interests

Geometric representation theory, (noncommutative) algebraic geometry.

Education

- 2014 — **Ph.D. candidate in Mathematics**, *Cornell University*.
present
- 2012 — 2014 **Masters degree in Mathematics**, *Cornell University*.
- 2007 — 2012 **Bachelor of Applied Mathematics (diploma cum laude)**, *Belarusian State University*.

Publications

- Sept 2016 **Character varieties as a tensor product**, *with M.Kassabov*, (submitted).
- May 2015 **Chern-Simons forms and Higher character maps of Lie representations**, *with Y.Berest, G.Felder, A.Ramadoss and Th.Willwacher*, arXiv:1505.05377, (accepted to IMRN).
- October 2014 **Representation homology, Lie algebras cohomology, and derived Harish-Chandra homomorphism**, *with Y.Berest, G.Felder, A.Ramadoss and Th.Willwacher*, arXiv:1410.0043, (accepted to JEMS).

Undergraduate publications

- May 2011 **Characteristic classes of codimension 1 foliations (in Russian)**, *Proceedings of the National Scientific Conference "NIRS-2011"*, Minsk, pp.142–146.

Talks

- Nov 2016 **Representation homology from the PROP of Hopf algebras**, *Geometric Methods in Representation Theory*, University of Missouri.
- Oct 2016 **Hochschild–Pirashvili homology and representations of $\text{Aut}(\mathbb{F}_n)$** , *BUGCAT conference*, Binghamton University.
- Oct 2016 **Students' understanding of proofs**, *Teaching seminar*, Cornell University.
- Sept 2016 **Derived Categories and Semi-orthogonal decompositions**, *Bernstein Seminar in Topology*, Cornell University.
- May 2016 **Mapping class groups of surfaces and quantization**, *Graduate Student Conference in Algebra, Geometry and Topology*, Temple University.
- May 2016 **Chen's Iterated integrals**, *Graduate students seminar "Olivetti Club"*, Cornell University.

- Apr 2016 **Representation homology and derived character maps**, *Maurice Auslander Distinguished Lectures and International Conference*, Woods Hole Oceanographic Institute, Quissett Campus.
- Apr 2016 **One study of faculty members time allocation**, *Teaching seminar*, Cornell University.
- Apr 2016 **Derived Harish-Chandra homomorphism and derived character maps**, *Representation Theory and related topics seminar*, Northeastern University.
- Mar 2016 **Derived Poisson structures and higher character maps**, *Gone Fishing*, University of Colorado at Boulder.
- Nov 2015 **Derived characters of representations and Chern-Simons forms**, *BUGCAT conference*, Binghamton University.
- Oct 2014 **Derived characters of finite-dimensional representations**, *Joint Symplectic Seminar*, Penn State.
- Oct 2013 **Mysterious (Dynkin) diagrams**, *Graduate students seminar "Olivetti Club"*, Cornell University.
- Nov 2012 **FI-modules and cohomology of configurational spaces**, *Bernstein Seminar in Topology*, Cornell University.
- May 2012 **Characterization of singularities for vector distributions of Goursat type**, *69th scientific conference for undergraduate and graduate students*, Belarusian State University.
- May 2011 **Characteristic classes of codimension 1 foliations**, *68th scientific conference for undergraduate and graduate students*, Belarusian State University.

Conferences attended

- Sep 2016 **Fall 2016 Midwest Topology Seminar**, *Purdue University*.
- May 2016 **Graduate Student Conference in Algebra, Geometry and Topology**, *Temple University*.
- Apr 2016 **Maurice Auslander Distinguished Lectures and International Conference**, *Woods Hole Oceanographic Institute*.
- Mar 2016 **Gone Fishing**, *University of Colorado*.
- Nov 2015 **BUGCAT conference**, *Binghamton University*.
- Oct 2015 **Cornell-PennState Joint symplectic seminar**, *Penn State*.
- May 2015 **Representation Theory and Geometry of Symplectic Resolutions**, *Northeastern University*.
- Oct 2014 **Cornell-PennState Joint symplectic seminar**, *PennState*.
- Aug 2014 **Higher structures in Philadelphia**, *Temple University*.

Awards

- 2014 Hutchinson Fellowship for Teaching excellence
- 2012 — 2013 Cornell University Entering Mathematics Graduate Student Fellowship
- 2010 3rd diploma on The National Student Olympiad in mathematics, Belarus
- 2009 3rd diploma on The National Student Olympiad in mathematics, Belarus
- 2007 — 2012 Belarusian State University student fellowship

Teaching experience

Cornell University

- Fall 2016 Instructor for MATH 1110: Calculus I
- Spring 2016 Grader for MATH 4130: Honors Introduction to Analysis I
- Fall 2015 TA for MATH 2940: Linear algebra for Engineers
- Summer 2015 Grader for MATH 1910: Calculus for Engineers
- Spring 2015 TA for MATH 2210: Linear algebra
- Spring 2015 TA for MATH 1600: Totally awesome mathematics
- Fall 2014 Grader for MATH 3210: Differentiable Manifolds
- Spring 2014 Grader for MATH 4500: Matrix groups
- Fall 2013 TA for MATH 2230: Theoretical Linear Algebra and Calculus

Belarusian State University

- Spring 2012 Instructor (with Sasha Minets) of an informal course "Introduction to Algebraic Topology"

Outreach

Ithaca High school

- Fall 2015 Instructor of a course "Group theory via examples"
- Fall 2014 Instructor of a course "Algebraic obstructions in topology"

Cornell University

- Nov 2016 Presenter at the John Hopkins Center for Talented Youth Family Academic Program
- Mar 2015 Presenter at the John Hopkins Center for Talented Youth Family Academic Program

Belle Sherman Elementary School

- Sep–Oct 2014 Teacher at Belle Sherman Elementary School Math Club

Organizational activities

- Spring 2015 Organizer of graduate students seminar in Algebraic Topology
- Spring 2014, Fall 2014, Fall 2015, Fall 2016 Co-organizer of graduate students seminar "Olivetti club"

Skills

- Languages Russian, English
- Programming C++, \LaTeX , Maple