

# Kostiantyn Tolmachov

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## Biographical

**Born:** November 5, 1991, Kyiv, Ukraine.

**Citizenship:** Ukraine.

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## Address

Perimeter Institute for Theoretical Physics.

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## Research interests

Geometric methods in representation theory.

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## Publications

2018                Towards a functor between affine and finite Hecke categories in type A, Ph.D. thesis.

2011                Variance of Linear Statistic for Plancherel Young Diagrams, arXiv:1202.1806, 2011.

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## Education

2018                Massachusetts Institute of Technology, Ph.D., expected. Thesis advisor: Roman Bezrukavnikov.

2013                National Research University Higher School of Economics, Department of Mathematics, B.Sc.

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## Employment

2018 - present    Coxeter Postdoctoral Fellow, Perimeter Institute and University of Toronto.

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## Teaching

Spring 2017        18.703, Modern Algebra, MIT, TA.

Spring 2017        18.702, Algebra II, MIT, TA.

Fall 2016           18.022, Calculus, MIT, Recitation instructor.

Spring 2016        18.100B/1002, Real Analysis, MIT, TA.

Fall 2015           18.705, Commutative Algebra, MIT, TA.

Spring 2015      18.901, Introduction to Topology, MIT, TA.  
Fall 2014        18.715, Introduction to Representation Theory, MIT, TA.  
Fall 2013        Course “Introduction to dynamical systems”, HSE, lecturer.

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### Student mentoring

Summer 2016    UROP+, student: Yuzhou Gu, project: “Nilpotent Orbits: Geometry And Combinatorics”.  
Fall 2015        undergraduate project, student: Jack Gurev, project: “Representation theory of symmetric groups, after Okounkov and Vershik”.  
Summer 2015    UROP+, student: Arkadiy Frasinich, project: “The Image of Weyl Group Translations in Hecke Algebras”.  
Summer 2015    UROP+, student: Semon Rezhnikov, project: “Singularity theory”.

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### Research talks at conferences and seminars

Summer 2018    Derived Categories and Matrix Problems Seminar, NASU Institute of Mathematics, Kyiv, Ukraine  
Summer 2018    Mathematical Advances of The Last Decade, Anniversary Conference, HSE, Moscow  
Spring 2018     Group Representation Theory and Applications Seminar, MSRI  
Spring 2018     Algebra and Discrete Mathematics Seminar, UC Davis  
Spring 2018     Geometry, Physics, and Representation Theory Seminar, Northeastern University  
Fall 2017        Representation Theory Seminar, University of Massachusetts, Amherst.  
Spring 2013     Arnold’s scholarship recipient’s lecture, HSE, Moscow.  
Summer 2012    ICTP-ESF School and Conference in Dynamical Systems, ICTP, Trieste.  
Spring 2011     Texas Ergodic Theory Workshop, University of Houston.

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### Organized activities

2012-2015      Student seminar in various mathematical topics, HSE.  
Fall 2015        Graduate student Geometric Representation Theory seminar, MIT.

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### Grants and awards

2013            Arnold’s scholarship, National Research University Higher School of Economics.  
2011            1st place, 15th All-Russian Möbius Contest, nomination “Undergraduates”.  
2008            Second diploma, All-Ukrainian Mathematical Olympiad.

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### Language knowledge

Ukrainian (native), Russian (native), English (fluent), Attic/Medieval Greek (reading)