

# Yury Ustinovskiy

## Curriculum Vitae

251 Mercer Street  
New York, N.Y. 10012-1185  
☎ +1 (609) 216 9820  
✉ [yu3@nyu.edu](mailto:yu3@nyu.edu)  
📁 [cims.nyu.edu/~yu3/](http://cims.nyu.edu/~yu3/)

### Education

- 2006-2012 **Independent University of Moscow**, *Master's degree in mathematics cum laude*.  
supervisor: Taras Panov
- 2006-2011 **Moscow State University**, *Master's degree in mathematics cum laude*, Department of Geometry and Topology.  
supervisor: Taras Panov
- 2014-2018 **Princeton University**, *PhD in mathematics*, Department of Mathematics.  
supervisor: Gang Tian

### Thesis

- PhD thesis **Hermitian curvature flow and curvature positivity conditions**  
supervisor: Gang Tian
- Master's thesis **Geometrical structures on moment-angle-manifolds**  
supervisor: Taras Panov

### Research Interests

Differential geometry, algebraic topology, complex geometry, machine learning

### Publications & Preprints

- 2019 **Classification of generalized Kähler-Ricci solitons on complex surfaces**, *J. Streets, Y. Ustinovskiy*, preprint.  
[arXiv:1907.03819](https://arxiv.org/abs/1907.03819)
- 2019 **On the Structure of Hermitian Manifolds with Semipositive Griffiths Curvature**, *Y. Ustinovskiy*, preprint.  
[arXiv:1904.06810](https://arxiv.org/abs/1904.06810)
- 2019 **Hermitian curvature flow on complex homogeneous manifolds**, *Y. Ustinovskiy*, *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (accepted).  
[arXiv:1706.07023](https://arxiv.org/abs/1706.07023)
- 2018 **On face numbers of flag simplicial complexes**, *Y. Ustinovskiy*, *Discrete Comput. Geom.*, 60:688.  
[arXiv:1610.03888](https://arxiv.org/abs/1610.03888)
- 2018 **The Hermitian curvature flow on manifolds with non-negative Griffiths curvature**, *Y. Ustinovskiy*, preprint, *American Journal of Mathematics* (accepted).  
[arXiv:1604.04813](https://arxiv.org/abs/1604.04813)
- 2018 **Hermitian Curvature Flow and Curvature Positivity Conditions**, *Y. Ustinovskiy*, PhD thesis.
- 2017 **Lie-Algebraic Curvature Conditions preserved by the Hermitian curvature flow**, *Y. Ustinovskiy*, preprint.  
[arXiv:1710.06035](https://arxiv.org/abs/1710.06035)
- 2016 **Projective toric polynomial generators in the unitary cobordism ring**, *G. Solomadin, Y. Ustinovskiy*, *Mat. Sbornik*, 207:11, pp. 127–152.  
[arXiv:1602.02448](https://arxiv.org/abs/1602.02448)
- 2016 **Complex geometry of moment-angle manifolds**, *T. Panov, Y. Ustinovsky, M. Verbitsky*, *Mathematische Zeitschrift*, 2016, 1-2:284, pp. 309–333.  
[arXiv:1308.2818](https://arxiv.org/abs/1308.2818)

- 2014 **Geometry of compact complex manifolds with maximal torus action**, *Y. Ustinovsky*, Tr. Mat. Inst. Steklova, 2014: 286, pp. 219–230.  
arXiv:1308.2818
- 2012 **On torus actions and Horrocks conjecture**, *Yu. M. Ustinovskii*, Far Eastern mathematical journal, 2012, 12:1, pp. 98–107.  
arXiv:1203.3685
- 2012 **Complex-analytic structures on moment-angle-manifolds**, *T. Panov, Y. Ustinovsky*, Moscow Mathematical Journal, 2012, 12:1.  
arXiv:1008.4764
- 2011 **Toral Rank Conjecture for Moment-Angle Complexes**, *Yu. M. Ustinovskii*, Math. Notes, 2011, 90:2, pp. 279–283.  
arXiv:0909.1053
- 2009 **Doubling operation for polytopes and torus actions**, *Yu. M. Ustinovskii*, Russian Mathematical Surveys, 2009, 64:5, pp. 952–954.  
arXiv:0909.1050

## Service

- 2014–2019 **Reviewer:**, Moscow Mathematical Journal, Mexican Mathematical Bulletin, Proceedings of the Steklov Institute of Mathematics, Journal of the Mathematical Society of Japan, International Mathematics Research Notices, Discrete and Computational Geometry, Advances in Mathematics.

## Applied research publications

- 2018 **Finding Influential Training Samples for Gradient Boosted Decision Trees**, *B. Sharchilev, Y. Ustinovskiy, P. Serdyukov, M. de Rijke*, ICML, 2018, 4584–4592.
- 2016 **Meta-Gradient Boosted Decision Tree Model for Weight and Target Learning**, *Y. Ustinovskiy, V. Fedorova, G. Gusev, P. Serdyukov*, ICML, 2016, 2692–2701.
- 2016 **An Optimization Framework for Remapping and Reweighting Noisy Relevance Labels**, *Y. Ustinovskiy, V. Fedorova, G. Gusev, P. Serdyukov*, SIGIR, 2016, 105–114.
- 2015 **Adaptive Caching of Fresh Web Search Results**, *L. Ostroumova Prokhorenkova, Y. Ustinovskiy, E. Samosat, D. Lefortier, P. Serdyukov*, ECIR, 2015, 110–122.
- 2015 **An Optimization Framework for Weighting Implicit Relevance Labels for Personalized Web Search**, *Y. Ustinovskiy, G. Gusev, P. Serdyukov*, WWW, 2015, 1144–1154.
- 2013 **Predicting the impact of expansion terms using semantic and user interaction features**, *A. Bakhtin, Y. Ustinovsky, P. Serdyukov*, CIKM, 2013, 1825–1828.
- 2013 **Personalization of web-search using short-term browsing context**, *Y. Ustinovsky, P. Serdyukov*, CIKM, 2013, 1979–1988.
- 2013 **Intent-Based Browse Activity Segmentation**, *Y. Ustinovsky, A. Mazur, P. Serdyukov*, ECIR, 2013, 242–253.
- 2012 **Session-based query performance prediction**, *A. Kustarev, Y. Ustinovsky, A. Mazur, P. Serdyukov*, CIKM, 2012, 2563–2566.
- 2012 **Measuring usefulness of context for context-aware ranking**, *A. Kustarev, Y. Ustinovsky, P. Serdyukov*, WWW, 2012, 551–552.
- 2011 **Smoothing NDCG metrics using tied scores**, *A. Kustarev, Y. Ustinovsky, Y. Logachev, E. Grechnikov, I. Segalovich, P. Serdyukov*, CIKM, 2011, 2053–2056.

## Patent Grants & Applications

- 2017 **Method for training a ranker module using a training set having noisy labels**, *patent application*, US20170293859A1.
- 2017 **System and method for ranking search engine results**, *patent application*, US20170185602A1.
- 2016 **Search result ranker**, *patent*, US9501575B2.

- 2015 **Systems and methods for classification and segmentation of browsing logs based on user's search goals**, *patent*, US8938408B1.

## Awards, Honours & Grants

- 2013-2014 Dmitri Zimin's "Dynasty" foundation stipend for young scientists  
2012-2013 Dmitri Zimin's "Dynasty" foundation stipend for young scientists  
2012 Simons' foundation stipend for students  
2011 Dobrushin stipend for talented students  
2009 Dobrushin stipend for talented students

## Recent Conference Talks

- 06.2019 *Lehigh Geometry and Topology Conference*  
Bethlehem, Lehigh University  
06.2018 *Viktor Buchstaber's birthday conference*  
Moscow, Steklov Institute  
06.2017 *Encounter in Topology 'n Algebra*  
Catania, Scuola Superiore di Catania  
05.2017 *AMS Sectional Meeting*  
New York, Hunter College  
02.2017 *RTG day*  
Princeton University  
08.2016 *Glances@Manifolds II*  
Kraków, Jagiellonian University

## Recent Seminar Talks

- 10.2018 Geometric Flows in Hermitian Geometry & Uniformization Problems  
*Courant Instructor Day*, NYU  
08.2018 Hermitian Curvature Flow on complex homogeneous manifolds  
*Geometry seminar*, Università degli Studi di Firenze  
10.2017 Lie algebraic curvature conditions preserved by Hermitian curvature flow  
*Complex analysis and geometry seminar*, Rutgers University  
02.2017 Maximum principle for tensors and Ricci flow invariant curvature conditions  
*Graduate student seminar*, Princeton  
02.2017 Metric flows on Hermitian manifolds  
*Seminar of the laboratory of algebraic geometry and its applications*, Higher School of Economy, Moscow  
01.2017 Hermitian curvature flow and positivity  
*Differential geometry seminar*, UC Irvine  
12.2015 Toric polynomial generators in the unitary cobordism ring  
*Algebraic topology seminar*, Princeton  
04.2015 Cohomology of spaces with torus action and toral rank conjecture  
*Algebraic topology seminar*, Princeton  
09.2014 On complex geometry of some non-Kähler manifolds  
*Graduate student seminar*, Princeton

## Recent Conferences & Workshops attended

- 08.2018 *Nonlinear PDEs in real and complex geometry*  
American Institute of Mathematics, USA  
07.2018 *CIME school on non-Kähler geometry*  
Cetraro, Italy

- 01.2018 *SCGAS Winter School*  
Irvine, USA
- 01.2018 *25<sup>th</sup> SCGAS*  
Irvine, USA
- 06.2017 *Complex Analytic and Differential Geometry*  
Grenoble, France
- 05.2016 *Geometric Flows in Riemannian and Complex Geometry*  
MSRI, USA
- 03.2016 *Kähler Geometry, Einstein Metrics, and Generalizations*  
MSRI, USA

---

## Work Experience

- 2018–present **Assitant Professor (Courant Instructor)**, *CIMS, New York University*.
- 2015–2018 **Assistant in teaching / Assistant in research**, *Princeton Univsersity*.
- 2012–2017 **Mathematics teacher**, *High School no.57, Moscow*, Mathematical summer camp for gifted students.
- 2011–2014 **Assistant teacher**, *Moscow Institute of Physics and Technology, Moscow*, Seminars on differential geometry and topology for undergraduate students.
- 2009–2014 **Researcher-developer**, *Yandex, Moscow*, Department of theoretical and applied research.
- 2006–2014 **Mathematics teacher**, *High School no.57, Moscow*, Mathematics for gifted students.