Dmitry Tonkonog

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Appointments

2017- **University of California, Berkeley**, Simons Visiting Assistant Professor within the *Simons Collaboration on Homological Mirror Symmetry*; PI: Denis Auroux.

2016-2017 **Uppsala University**, Postdoctoral Researcher within the *Geometry and Physics* project grant from the Knut and Alice Wallenberg foundation; PI: Tobias Ekholm.

Fall 2015 **Mittag-Leffler Institute**, Visiting Researcher.

Education

2012-2016 **University of Cambridge**, PhD in Pure Mathematics. Supervisor: Ivan Smith.

2007-2012 **Lomonosov Moscow State University**, Diploma (BA and MA). GPA: 5.0 out of 5.0.

Publications & Preprints

11. *Refined disk potentials for immersed Lagrangian surfaces* (with G. Dimitroglou Rizell and T. Ekholm), Preprint, arXiv:1806.03722.
10. *Geometry of symplectic flux and Lagrangian torus fibrations* (with E. Shelukhin and R. Vianna), Preprint, arXiv:1804.02044.
9. *String topology with gravitational descendants, and periods of Landau-Ginzburg potentials*, Preprint, arXiv:1801.06921.
8. *From symplectic cohomology to Lagrangian enumerative geometry*, Preprint, arXiv:1711.03292.
7. *The wall-crossing formula and Lagrangian mutations* (with J. Pascaleff), Preprint, arXiv:1711.03209.
6. *Low-area Floer theory and non-displaceability* (with R. Vianna), **J. Symp. Geom.**, accepted, arXiv:1511.00891.
5. *The closed-open string map for S^1-invariant Lagrangians,* **Algebr. Geom. Topol.**, 18(1):15-68 (2018).
4. *Commuting symplectomorphisms and Dehn twists in divisors,* **Geom. Topol.**, 19(6):3345-3403 (2015).
3. *Nerves of good covers are algorithmically unrecognizable* (with M. Tancer), **SIAM J. Comput.**, 42(4):1697-1719 (2013).

2. *A simple proof of the geometric fractional monodromy theorem,* **Moscow Univ. Math. Bull.**, 68(2):118-121 (2013).
1. *Embedding 3-manifolds with boundary into closed 3-manifolds,* **Topol. Appl.**, 158(9):1157-1162 (2011).

Talks

upcoming Geometry seminar, **Rutgers**. *Title tbc.*
- Matrix Factorizations and Mirror Symmetry, **KIAS**. *Quantum Lefschetz formula for Landau-Ginzburg potentials.*
- Joint Symplectic Seminar in Rio, **IMPA**. *String topology via symplectic geometry.*

2018 Lutsinofest 2018, **Lutsino**. *Staring at the strings.*
- Algebra, Algebraic Geometry and Number Theory Conference, **Steklov Institute**. *Lagrangian tori in Fano varieties.*
- Mathematical Physics Seminar, **Harvard** CMSA. *Geometry of symplectic flux.*
- Geometry Seminar, **Boston University**. *Refined Floer theory for immersed Lagrangian surfaces.*
- Algebraic Geometry Seminar, **UGA**. *Lagrangian tori in Fano varieties.*
- Workshop on Immersed Lagrangian Cobordisms, **Ottawa**. *Refined Floer theory for immersed Lagrangians.*
- Symplectic Geometry Seminar, **Montreal**. *Fano periods and Landau-Ginzburg potentials.*
- Conference on Mirror Symmetry and Enumerative Geometry, **UC Berkeley**. *Quantum periods theorem for Landau-Ginzburg potentials.*
- EGN Symplectic Geometry and Mirror Symmetry Seminar, **MSRI**. *Wall-crossing formulae for LG potentials* and *Refined curve counts for immersed Lagrangian surfaces*.
- Princeton/IAS Symplectic Geometry Seminar, **Princeton**. *Quantum periods theorem for Landau-Ginzburg potentials.*
- KCL/UCL Geometry Seminar, **UCL**. *Landau-Ginzburg + Gromov-Witten.*

2017 Contemporary Math 2017 (Arnold's 80th birthday conference), **HSE Moscow**. *On mirror symmetry and Lagrangian enumerative geometry.*
- QMAP Seminar, **UC Davis.** *Lagrangian mutations and enumerative geometry.*
- Northern California Symplectic Geometry Seminar, **UC Berkeley**. *Symplectic cohomology and Lagrangian enumerative geometry.*
- Geometry and Topology Seminar, **USC**. *Lagrangian mutations and enumerative geometry.*
- Symplectic Geometry, Gauge Theory, and Categorification Seminar, **Columbia**. *Lagrangian mutations and enumerative geometry.*
- Berkeley-Tokyo Summer School on Geometry, Representation Theory, and Mathematical Physics, **UC Berkeley**. *Mutations of Lagrangian tori.*
- Pacific Rim Complex-Symplectic conference, **IBS Pohang**. *The wall-crossing formula for Lagrangian mutations.*
- Symplectic Cut Seminar, **UCL**. *Wall-crossing, Lagrangian mutations, and everything in the neighbourhood.*
- MAGIC Seminar, **Imperial**. *The wall-crossing formula for Lagrangian mutations.*
- Geometry and Topology Seminar, **Uppsala**. *Refined curve counts for immersed Lagrangians, and stories in the neighbourhood.*
- ULB Geometry Seminar, **Brussels**. *Refined curve counts for immersed Lagrangians.*

· CAST 2017, **Nantes**. *Wall-crossing, Lagrangian mutations, and symplectic cohomology.*

2016 Symplectic & Poisson Geometry Seminar, **UI Urbana-Champaign**. *Wall-crossing for mutations of Lagrangian tori, and symplectic cohomology.*

· Berlin-Hamburg Symplectic Seminar, **Hamburg**. *Wall-crossing for mutations of Lagrangian tori, and symplectic cohomology.*

· Geometry and Topology Seminar, **Uppsala**. *Laurent phenomenon and symplectic cohomology.*

· Conference on Mirror Symmetry and Wall-Crossing, **UC Berkeley**. *The wall-crossing formula for mutations of Lagrangian tori.*

· Topology and Geometry Seminar, **Hebrew University of Jerusalem**. *Monotone Lagrangian tori and cluster mutations.*

· Geometry Tea graduate seminar, **Cambridge**. *Laurent phenomenon and symplectic cohomology.*

2015 Talks in Theoretical Sciences 2015, **ITS-ETH, Zürich**. *The elliptic relation for Floer cohomology.*

· Symplectic Geometry Seminar, **ETH Zürich**. *Circle actions and the Fukaya category.*

· Symplectic and Contact Topology Program Seminar, **Mittag-Leffler Institute**. *Circle actions and the Fukaya category.*

· Geometry and Topology Seminar, **MIT**. *Low-area Floer theory and non-displaceability.*

· Symplectic Geometry Seminar, **Princeton**. *Low-area Floer theory and non-displaceability.*

· Symplectic Geometry, Gauge Theory, and Categorification Seminar, **Columbia**. *Circle actions and the Fukaya category.*

· Workshop on Symplectic Geometry and Topology, **Uppsala**. *Low-area Floer theory and non-displaceability.*

· Junior Geometry Seminar, **UCL**. *Elliptic relation for Floer cohomology.*

· Algebraic and Symplectic Geometry Seminar, **Oxford**. *The closed-open string map for S^1-invariant Lagrangians.*

2014 Symplectic Working Group Seminar, **Cambridge**. *The closed-open map and Hamiltonian loops.*

· Geometry Seminar, **Nantes**. *Elliptic relation for Floer homology.*

· Geometric Structures on Manifolds Seminar, **HSE Moscow**. *Volumes of representation varieties.*

· Workshop on Rigidity and Flexibility in Symplectic Topology and Dynamics, **Lorentz Center Leiden**. *Elliptic relation for Floer homology.*

· Mathematics of String Theory 2015, **Kings College London**. *Elliptic relation for Floer homology.*

· Differential Geometry and Topology Seminar, **Cambridge**. *Commuting symplectomorphisms and Dehn twists in divisors.*

· Geometric Structures on Manifolds Seminar, **HSE Moscow**. *Affine varieties versus cotangent bundles from a symplectic viewpoint.*

· Warwick-Seoul Symplectic Geometry Workshop, **Warwick**. *Commuting symplectomorphisms and Dehn twists in divisors.*

· Geometry Tea graduate seminar, **Cambridge**. *Affine varieties versus cotangent bundles from a symplectic viewpoint.*

2013 British Topology Meeting 2013, **Aberdeen**. *Symplectic Dehn twists in projective hypersurfaces.*

· Young Researchers in Mathematics 2013, **Edinburgh**. *Knotted Lagrangian spheres.*

2012 Herbert Edelsbrunner's workshop on Discrete and Computational Geometry, **IST Austria**. *Nerves of good covers are algorithmically unrecognizable*.

2011 Dynamical Systems and Classical Mechanics, **Edinburgh**. *Singularities of integrable Hamiltonian systems: a criterion for non-degeneracy, with an application to the Manakov top.*

Grants & Awards

2018-2020 American Institute of Mathematics, SQuaRE project: *Lifting Lagrangians from Donaldson divisors.* With Luis Diogo, Renato Vianna and Weiwei Wu.

2014 Smith-Knight & Rayleigh-Knight Prize, Faculty of Mathematics, University of Cambridge.

2012 Cambridge International Scholarship from the Cambridge Commonwealth, Overseas and International Trust.

· Clarendon Fund Scholarship from the University of Oxford; Connaught Scholarhip from the University of Toronto *(I declined these PhD scholarships)*.

2011 Finalist Diploma at the 15th All-Russian Moebius Contest in nomination *Undergraduates*.

· Dobrushin Scholarship of the Independent University of Moscow.

2010 Finalist Diploma at the 14th All-Russian Moebius Contest in nomination *Undergraduates*.

2009 DAAD (German Academic Exchange Service) Euler Program Scholarship.

Teaching

2018 Math 143 *Elementary Algebraic Geometry*, UC Berkeley.

2017 Math 185 *Introduction to Complex Analysis*, UC Berkeley.

· 1MA259 *Differential Topology*, Uppsala.

2016 Supervisions in *Part IB Geometry*, Cambridge.

2014 Example classes for *Part III Symplectic Topology*, Cambridge.

2013 Supervisions in *Part II Algebraic Topology*, Cambridge.

SHORTER TEACHING EXPERIENCES

2015 *Minicourse on Hyperbolic Groups*, summer school *Contemporary Mathematics*, Dubna, Russia; with Ksenia Fedosova.

2014 Group leader for *Part III seminar series*.

· Sutton Trust summer school supervisor.

· Enrichment workshops for 14-15 year old students.

2013 Sutton Trust summer school supervisor.

Updated: 29 July 2018