Artem Kotelskiy

Curriculum Vitae

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Employment

- **Stony Brook University**, Stony Brook, USA. 2021 – present
  Simons Instructor.
- **Indiana University**, Bloomington, USA. 2018 – 2021
  Zorn postdoctoral fellow.

Education

- **Princeton University**, Princeton, USA. 2013 – 2018
  Ph.D. in Mathematics. Advisor: Zoltán Szabó.
- **Lomonosov Moscow State University**, Moscow, Russia. 2008 – 2013
  B.S. and M.S. in Mathematics. Advisor: Taras Panov.

Awards and honors

- **AMS-Simons travel grant.** 2019-2022
- **Graduate student teaching award**, Princeton University. 2017
- **32nd Russian national mathematical Olympiad**, 3rd prize. 2008
- **Moscow Mathematical Olympiad**, 1st and 2nd prizes. 2006, 2008
- **President prize from the government of Russia.** 2006, 2008

Publications

- **Khovanov homology and strong inversions.** 2021
  Joint with L. Watson and C. Zibrowius. arXiv:2010.04320 (15 pages)
  To appear in *The Open Book Series*.
- **Bordered theory for pillowcase homology.** 2019
  Mathematical Research Letters **26**(5). arXiv:1707.07481 (35 pages)
- **Comparing homological invariants for mapping classes of surfaces.** 2017
  Michigan Mathematical Journal **30**(3). arXiv:1702.04071 (52 pages)
- **Minimal and Hamiltonian-minimal submanifolds in toric geometry.** 2013
  Journal of Symplectic Geometry **14**(2). arXiv:1307.8140 (13 pages)

Preprints

- **Thin links and Conway spheres.** 2021
  Joint with L. Watson and C. Zibrowius. arXiv:2105.06308 (82 pages)
- **The correspondence induced on the pillowcase by the earring tangle.** 2020
  Joint with G. Cazassus, C. Herald and P. Kirk. arXiv:2010.04320 (57 pages)
- **A mnemonic for the Lipshitz-Ozsváth-Thurston correspondence.** 2020
  Joint with L. Watson and C. Zibrowius. arXiv:2005.02792 (13 pages)
- **Khovanov invariants via Fukaya categories: the tangle invariants agree.** 2020
  Joint with L. Watson and C. Zibrowius. arXiv:2004.01619 (14 pages)
- **Immersed curves in Khovanov homology.** 2019
  Joint with L. Watson and C. Zibrowius. arXiv:1910.14584 (95 pages)

Conference and Workshop talks

- **Perspectives on quantum link homology theories.** August 2021
  University of Regensburg, Germany, virtual.
- **Gauge Theory, Geometry, and Low-Dimensional Topology.** March 2021
  AMS special session, virtual.
- **Topology and Geometry of 3- and 4-manifolds.** March 2021
  AMS special session, virtual.
- **Topology and geometry of group actions.** November 2020
  HSE, Moscow, Russia, virtual.
- **Interactions of gauge theory with contact and symplectic topology in dimensions 3 and 4.** June 2020
  BIRS workshop, virtual.
- **CRM's 50th anniversary workshop "Low-dimensional topology".** September 2019
  CIRGET, Montréal, Canada.
- **Tehran Topology 2018.** June 2018
  School of Mathematics, IPM, Tehran, Iran.
- **International Seminar on Toric Topology and Homotopy Theory.** June 2018
  Steklov Mathematical Institute, Moscow, Russia.
- **Perspectives on bordered Heegaard Floer theory.** May 2018
  CIRGET, Montréal, Canada.

Service

- **Co-organizer of Topology Seminar**, Indiana University. 2018-2020
- **Co-organizer of the math department Colloquium**, Indiana University. 2019-2020
- **Co-organizer of graduate student Seminar in Symplectic Geometry**, Indiana University. 2018-2019
- **Referee for mathematical journals.** 2018-present
  Journal of Topology, *Algebraic and Geometric Topology*,
  Proceedings of the London Mathematical Society,
  Proceedings of the Royal Society of Edinburgh,
  Indiana University Mathematics Journal,
  The Open Book Series.

Seminar talks

- **Caltech**, Pasadena, USA. May 2021
  Geometry and Topology Seminar, virtual.
- **UC San Diego**, San Diego, USA. April 2021
  Topology Seminar, virtual.
- **UC Berkeley**, Berkeley, USA. April 2021
  Topology Seminar, virtual.
- **Virtual Seminar on Gauge Theory** March 2021
- **Princeton University**, Princeton, USA. November 2020
  Topology Seminar, virtual.
- **Indiana University**, Bloomington, USA. November 2020
  Colloquium, virtual.
- **Western Hemisphere Virtual Symplectic Seminar** October 2020
- **Trends in Low-Dimensional Topology**, virtual. May 2020
- **University of British Columbia**, Vancouver, Canada. May 2020
  Topology Seminar, virtual.
- **Caltech**, Pasadena, USA. April 2020
  Joint LA Topology Seminar, virtual.
- **Columbia University**, New York, USA. December 2019
  Topology Seminar.
- **Princeton University**, Princeton, USA. December 2019
  Topology Seminar.
- **Dartmouth College**, Hanover, USA. March 2019
  Topology Seminar.
- **Michigan State University**, Lansing, USA. October 2018
  Topology Seminar.
- **University of British Columbia**, Vancouver, Canada. September 2018
  Topology Seminar.
- **University of Georgia**, Athens, USA. August 2018
  Topology Seminar.
- **Indiana University**, Bloomington, USA. January 2018
  Topology Seminar.
- **Caltech**, Pasadena, USA. November 2017
  Geometry and Topology Seminar.
- **Rutgers University**, New Brunswick, USA. November 2017
  Geometry and Topology Seminar.
- **Columbia University**, New York, USA. November 2017
  Symplectic Geometry, Gauge Theory, and Categorification Seminar.
- **MIT**, Cambridge, USA. October 2017
  Geometry and Topology Seminar.
- **Stony Brook University**, Stony Brook, USA. September 2017
  Topology and Symplectic Geometry / Math of Gauge Fields seminar.

Teaching and Work experience

- **Logic, Language and Proof**, Stony Brook University. Fall 2021
  One 15 students section.
- **Modern techniques in knot theory**, Indiana University. Spring 2021
  Graduate course, fully online.
- **Calculus I**, Indiana University. Fall 2020
  Two 60 students sections, fully online.
- **Linear Algebra and Applications**, Indiana University. Spring 2020
  One 50 students section.
- **Calculus I**, Indiana University. Fall 2019
  Two 60 students sections.
- **Brief Survey of Calculus**, Indiana University. Spring 2019
  One 75 students section.
- **Brief Survey of Calculus**, Indiana University. Fall 2018
  Two 75 students sections.
- **Linear Algebra with Applications**, Princeton University. Fall 2015
  One 25 students section.
- **Review sessions for Linear Algebra and Calculus**, Princeton University. 2016 – 2017
- **Online math-education platform Evarist,** side project. 2015 – present
  www.evarist.org/course/mathan/
  We teach there analysis with proofs exclusively through problem solving.

Miscellaneous

- **Languages:** English, Russian, Armenian.
- **Programming skills:** web and python.
  - Built an online platform for learning math; source code.
  - Implemented a python package to work with type DA bimodules.
- **Interests:** blockchain, Ethereum, game go (2dan), chess, volleyball, table tennis.