

# Curriculum Vitae

Moscow Institute of Physics and Technology  
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(1) Name: Ilya Karzhemanov.

(2) Date of birth: 09 January 1984.

(3) Personal: married, 2 children (Valeriy and Fedor).

(4) University Education:

- University of Edinburgh, Edinburgh (UK), 2007 – 2010 (graduate student),
- Moscow State University, Moscow (Russia), 2006 – 2009 (graduate student),
- Moscow State University, Moscow (Russia), 2001 – 2006 (undergraduate student).

(5) Degrees awarded:

- Ph.D. in Mathematics, University of Edinburgh, Edinburgh (UK), 2010,
- Ph.D. in Mathematics, Moscow State University, Moscow (Russia), 2009,
- B.A. in Mathematics, Moscow State University, Moscow (Russia), 2006.

(6) Major research interests: Geometry, Number Theory.

(7) Research grants: RFFI grants № 05-01-00353-a, № 08-01-00395-a, President grant N. Sh.-9969.2006.1-i, grant N.Sh.-1987.2008.1., “Small project grant” from University of Edinburgh (2009), “The Dr Laura Wisewell Travel Scholarships” from University of Edinburgh (2010), grant from the “Edinburgh Mathematical Society research support fund” (2010), grant from the “The Glasgow mathematical journal learning and research support fund” (2010), participant of the Project TROPGEO of the European Research Council (2011), CRM fellowship (2012), World Premier International Research Initiative (WPI), MEXT, Japan, Grant-in-Aid for Scientific Research (26887009) from Japan Mathematical Society (Kakenhi) for 2 years (2014), participant of the Japanese-Russian research project (2015).

(8) Positions held:

- Moscow Institute of Physics and Technology (Russia), 2017 — present, Associate Professor,

- Kavli IPMU (WPI), University of Tokyo, Kashiwa (Japan), 2013 – 2017, project researcher,
- Centre de recherches mathématiques, Montreal (Canada), 2012 – 2013, postdoc,
- Courant Institute, New York (US), 2011 – 2012, instructor,
- University of Geneva, Geneva (Switzerland), 2010 – 2011, postdoc.

(9) Visits/appointments:

- Erwin Schrödinger International Institute for Physics and Mathematics, Vienna (Austria), 2 weeks in May 2017,
- HSE, Moscow (Russia), 2 weeks in September 2015,
- PUC, Santiago (Chile), 2 weeks in May 2015,
- University of Ottawa, Ottawa (Canada), 2 weeks in May 2015,
- MIT, Boston (US), 10 days in April 2015,
- IBS Center for Geometry and Physics, Pohang (South Korea), 1 week in February 2015,
- Courant Institute, New York (US), 1 week in November 2014,
- Centro Internazionale per la Ricerca Matematica (CIRM), Trento (Italy), 1 month (August), 2014 – research in pairs with Serezha Galkin and Zhenya Shinder,
- Imperial College, London (UK), postdoc – declined,
- Max Planck Institut für Mathematik (MPIM), Bonn (Germany), 5 months (April – September), 2013,
- Institut des Hautes Études Scientifiques (IHES), Bures-sur-Yvette (France), 2 months, 2010 – 2011.

(10) Teaching experience:

- Probability/Linear algebra tutorials at MFTI, Spring 2017,
- Math-263: Ordinary Differential Equations for Engineers, McGill University, Fall 2012,
- Number Theory: graduate course, NYU, Spring 2012 (URL: <http://cims.nyu.edu/~karzhema/nt12.html>),
- Calculus II, NYU, Fall 2011,
- Fonctions Spéciales, Université de Genève, Genève, 2010 – 2011,
- Mathematics for Electrical and Mechanical Engineering, University of Edinburgh, 2008,
- Mathematics for Informatics, University of Edinburgh, 2008 – 2009,
- Calculus, University of Edinburgh, 2008,
- Applicable Mathematics 1/ Mathematical methods 1, University of Edinburgh, 2007 – 2009,

- Algebra tutorials at the Moscow State University, 2006.

(11) Talks given:

- *Birational invariants and covariants*  
workshop “Advances in Birational geometry 3 (future directions)”, Vienna (Austria), 2017,
- *Ball quotients and vanishing of irregularity*  
Russian-Japanese workshop “Categorical and analytic invariants in Algebraic Geometry, IV”, Kashiwa (Japan), 2016,
- *Explicit Dolgachev surfaces, exceptional collections and phantoms*  
Russian-Japanese workshop “Categorical and analytic invariants in Algebraic Geometry, III”, Moscow (Russia), 2016,
- *Explicit Dolgachev surfaces, exceptional collections and phantoms*  
Algebraic Geometry in Mexico, Puerto Escondido (Mexico), 2015,
- *Explicit Dolgachev surfaces, exceptional collections and phantoms*  
Russian-Japanese workshop “Categorical and analytic invariants in Algebraic Geometry, II”, Kashiwa (Japan), 2015,
- *Explicit Dolgachev surfaces, exceptional collections and phantoms*  
F. Bogomolov’s seminar at CIMS, New York (US), 2015,
- *Uniformly rational varieties*  
Seminar “Variety of varieties” at Independent University, Moscow (Russia), 2015,
- *Explicit Dolgachev surfaces and exceptional collections*  
Russian-Japanese workshop “Categorical and analytic invariants in Algebraic Geometry, I”, Moscow (Russia), 2015,
- *Uniform birational invariants*  
Seminario de Geometría Biracional, PUC, Santiago (Chile), 2015,
- *What is birational geometry?*  
Seminario de Geometría Biracional, PUC, Santiago (Chile), 2015,
- *Endomorphisms of hypersurfaces*  
Algebra seminar, University of Ottawa, Ottawa (Canada), 2015,
- *Endomorphisms of hypersurfaces*  
Informal talk, MIT, Boston (US), 2015,
- *Cylinders on cubic hypersurfaces*  
GTG seminar, Kavli IPMU of University of Tokyo, Kashiwa (Japan), 2015,
- *Uniformly rational varieties*  
One day workshop at the University of Cambridge, Cambridge (UK), 2014,
- *On  $S_6$ -invariant rational quartic threefolds*  
Workshop “Edge days” at the University of Edinburgh, Edinburgh (UK), 2014,

- *On characterization of toric varieties*  
Weekly seminar of Laboratory of Algebraic Geometry, HSE, Moscow (Russia), 2013,
- *Some uses of entropy in birational geometry*  
GTG seminar, Kavli IPMU of University of Tokyo, Kashiwa (Japan), 2013,
- *On one stable birational invariant*  
Iskovskikh seminar, Steklov Institute, Moscow (Russia), 2013,
- *One exercise in (stable) birational geometry*  
LMS invited lectures, University of Edinburgh (UK), 2013,
- *On characterization of toric varieties*  
F. Bogomolov's seminar at CIMS, New York (US), 2013,
- *Birational invariants of algebraic varieties (Colloquium talk)*  
University of Kansas, Lawrence (US), 2013,
- *Infinitely transitive group action, unirationality and a question of J.-L. Colliot-Thélène*  
Algebra seminar, University of Ottawa, Ottawa (Canada), 2012,
- *Combinatorics of affine birational maps*  
Algebra and Geometry seminar, University of Toronto, Toronto (Canada), 2012,
- *Infinitely transitive groups, uniformization, and a question of J.-L. Colliot-Thélène*  
(short communication)  
Workshop “ The topology of algebraic varieties ”, University of Montreal, Montreal (Canada), 2012,
- *A source for K3 surfaces with many rational points*  
MIT Number Theory seminar, Boston (US), 2012,
- *A source for K3 surfaces with many rational points*  
Valley Geometry seminar at UMass, Amherst (US), 2012,
- *Gluing algebraic varieties: birational geometric perspective*  
F. Bogomolov's seminar at CIMS, New York (US), 2012,
- *Gluing algebraic varieties: birational geometric perspective*  
Algebraic geometry and Number theory seminar at Johns Hopkins University, Baltimore (US), 2012,
- *One construction of a K3 surface with a dense set of rational points*  
F. Bogomolov's seminar at CIMS, New York (US), 2011,
- *On one local invariant*  
EGA seminar at the University of Newcastle, Newcastle (UK), 2011,
- *On one local invariant*  
Seminari di Geometria, Università degli studi Roma Tre (Italy), 2011,
- *Singular Fano 3-folds: application to moduli and arithmetic of surfaces*  
Seminari di Geometria, Università degli studi Roma Tre (Italy), 2010,
- *Classical aspects of the geometry of Del Pezzo surfaces (mini-course)*  
Seminar on Tropical Geometry, Université de Genève (Switzerland), 2010,

- *Fano threefolds and moduli of  $K3$  surfaces*  
Workshop “Moduli and Birational Geometry”, University of Pohang, Pohang (Korea), 2010,
- *Fano threefolds and moduli of  $K3$  surfaces*  
Workshop “Quotient singularities”, University of Edinburgh, Edinburgh (UK), 2010,
- *Halphen pencils on quartic threefolds*  
Workshop “Subgroups of Cremona groups” (14.05.2010 – 15.05.2010), University of Edinburgh, Edinburgh (UK), 2010,
- *Smooth three-dimensional canonical thresholds* (on behalf of D. Stepanov)  
Workshop “Subgroups of Cremona groups” (29.03.2010 – 30.03.2010), University of Edinburgh, Edinburgh (UK), 2010,
- *Fano threefolds*  
EGA seminar at the Loughborough University, Loughborough (UK), 2010,
- *Halphen pencils on quartic threefolds*  
Mathematical physics seminar, Loughborough University, Loughborough (UK), 2010,
- *On singular Fano 3-folds*  
Algebra and Geometry Seminar, University of Bristol, Bristol (UK), 2010,
- *Halphen pencils on smooth quartic threefolds*  
Geometry and Topology Seminar, University of Glasgow, Glasgow (UK), 2010,
- *Halphen pencils on smooth quartic threefolds*  
Seminar on Algebra, University of Liverpool, Liverpool (UK), 2009,
- *Halphen pencils on smooth quartic threefolds*  
Seminar on Algebra, University of Nottingham, Nottingham (UK), 2009,
- *Kähler–Einstein metric on toric Fano orbifolds*  
Seminar on Algebraic Geometry, KIAS, Seoul (Korea), 2009,
- *Kähler–Einstein metric on toric Fano orbifolds*  
Conference “Workshop for birationalists”, University of Pohang, Pohang (Korea), 2009,
- *Fano 3-folds with canonical Gorenstein singularities*  
Conference on Algebraic Geometry, Yaroslavl (Russia), 2008,
- *Halphen pencils on smooth quartic threefolds*  
Kurosh memorial conference on Algebra, Moscow State University, Moscow (Russia), 2008,
- *Halphen pencils on smooth quartic threefolds*  
Seminar on Algebraic Geometry, Steklov Institute, Moscow (Russia), 2008,
- *Fano 3-folds with canonical Gorenstein singularities*  
Conference “Workshop for birationalists”, University of Pohang, Pohang (Korea), 2008,
- *Arnold multiplicity and birational automorphisms* (on behalf of I. Cheltsov)  
International conference “Analysis and singularities” dedicated to 70th anniversary of Vladimir Igorevich Arnold, Steklov Institute, Moscow (Russia), 2007,

- *Degree of Fano 3-folds with canonical Gorenstein singularities*  
Seminar “Geometry of algebraic varieties”, Moscow State University, Moscow (Russia), 2006,
- *Semiampleness theorem for weak log-Fano 3-folds*  
Seminar “Geometry of algebraic varieties”, Moscow State University, Moscow (Russia), 2005.

(12) Workshops and seminars organized:

- *GTM Seminar at Kavli IPMU*  
Fall 2014 – 2016, Kavli IPMU, Kashiwa (Japan),  
co-organizer: Tirasan Khandhawit,
- *Quotient singularities (workshop)*  
21.06.2010 – 22.06.2010, University of Edinburgh, Edinburgh (UK), 2010,  
co-organizers: I. Cheltsov, A. Craw.

(13) References:

Caucher Birkar (C.Birkar@dpmms.cam.ac.uk)

Fedor Bogomolov (bogomolo@cims.nyu.edu)

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<sup>1</sup>teaching reference