

Curriculum Vitae

Ljudmila Kamenova

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Stony Brook University
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Degrees

B.S. and M.S., Sofia University, Spring 2001
Ph.D., Massachusetts Institute of Technology, Spring 2006

Positions

Postdoctoral Member, I.A.S. Princeton, September 2006 - August 2007
J. H. Simons Instructor, SUNY Stony Brook, September 2007 - August 2011
Simons Lecturer, SUNY Stony Brook, September 2011 - August 2016
Research Assistant Professor, Stony Brook University, September 2016 -

Honors

Gold Medal in the 13th Balkan Mathematical Olympiad, 1996
Silver Medal in the 37th International Mathematical Olympiad, 1996
National Diploma for excellence in the fields of natural and mathematical sciences, 1996
Over 20 first prizes in national and regional mathematical competitions from 1990 to 1996
Second Prize in the National Mathematical Olympiad for University Students, 1997
First Prize in the 5th International Mathematics Competition for University Students, 1998
Norman Levinson award for MIT graduate student, September 2001 – May 2002
Mentor recognition award for the Siemens-Westinghouse Competition, 2003
Research Assistant Fellowships with Prof. Gang Tian, MIT 2003, 2005, 2006
Elected an honorary member in the Golden Key International Honour Society in 2014

Grants

NSF Grant DMS-0805594, “Classification of Abelian fibered hyper-Kähler fourfolds”, 2008-2011
AMS travel award for the 2017 Mathematical Congress of the Americas in Montreal, Canada
Simons Foundation Collaboration Grant 522730, “Hyperkähler manifolds and Lagrangian fibrations”, 2017-2022

Publications

1. Kamenova, L. K., *Twistor spaces of ruled surfaces*, Master thesis, Sofia University (2001)
2. Kamenova, L. K., *Complex structures on ruled surfaces*, Proc. of 30th Spring Conf. of UBM, Borovets, April 8–11, 2001, p. 163–168 (2001)
available <http://www.math.sunysb.edu/~kamenova/>

3. Kamenova, L., *Hyper-Kaehler Fibrations and Hilbert Schemes*, Ph.D. Thesis (2006)
available <http://www.math.sunysb.edu/~kamenova/>
and <http://dspace.mit.edu/handle/1721.1/34686/>
4. Kamenova, L., *Hyper-Kähler fourfolds fibered by elliptic products*, submitted, arXiv:1208.3778 [math.AG]
available <http://www.math.sunysb.edu/~kamenova/>
and <http://arxiv.org/abs/1208.3778/>
5. Kamenova, L., Verbitsky, M., *Families of Lagrangian fibrations on hyperkaehler manifolds*,
Adv. Math. 260 (2014) 401 - 413, arXiv:1208.4626 [math.AG]
available <http://arxiv.org/abs/1208.4626/>
6. Kamenova, L., Lu, S., Verbitsky, M., *Kobayashi pseudometric on hyperkahler manifolds*,
J. Lond. Math. Soc. 90 (2): (2014) 436 - 450, arXiv:1308.5667 [math.AG]
available <http://journals.oxfordjournals.org/content/90/2/436.full.pdf>
7. R. Donagi, M. R. Douglas, L. Kamenova, M. Roček (editors), *String-Math 2013*, Proceedings
of Symposia in Pure Mathematics, Vol. 88, AMS (2014)
8. Kamenova, L., *Finiteness of Lagrangian fibrations with fixed invariants*, C. R. Acad. Sci.
Paris 354, Ser. I, No. 7 (2016) 707 - 711, also arXiv:1509.01897 [math.AG]
available <http://arxiv.org/abs/1509.01897/>
9. Bogomolov, F., Kamenova, L., Lu, S., Verbitsky, M., *The Kobayashi pseudometric and
complex automorphisms*, “Geometry over nonclosed fields - Simons Symposium 2015”,
Springer-Verlag (2017) 1 - 17, also arXiv:1509.01897 [math.AG]
available <http://arxiv.org/abs/1601.04333/>
10. Kamenova, L., Verbitsky, M., *Algebraic non-hyperbolicity of hyperkähler manifolds with
Picard rank greater than one*, NYJM 23 (2017) 489-495, also arXiv:1604.02601 [math.AG],
available <http://arxiv.org/abs/1604.02601/>
11. Kamenova, L., *Survey of finiteness results for hyperkähler manifolds*, submitted, arXiv:1607.03215
[math.AG],
available <http://arxiv.org/abs/1607.03215/>
12. Kamenova, L., Verbitsky, M., *Pullbacks of hyperplane sections for Lagrangian fibrations
are primitive*, submitted, arXiv:1612.07378 [math.AG],
available <http://arxiv.org/abs/1612.07378/>

Professional activities

Referee for the journals “Algebraic Geometry”, “International Mathematics Research Notices”, “Mathematical Research Letters”, GAFA.

Reviewer for Zentralblatt MATH and for MathSciNet

Editor for String-Math 2013 Conference Proceedings

Contributed problems for the doctoral comprehensive exams at SBU from 2008 until now.

In charge of the Putnam selection and preparation process at SBU in Fall 2014, in Fall 2015 and in Fall 2016.

Part of the doctoral comprehensive exam preparation at SBU in Fall 2015 and in Fall 2016.

Chaired the January 2016 doctoral comprehensive exam and participated in its grading and organizing.

Co-organizer of the Math Club on advanced problem solving for high school students on Long Island.

Mentor in the National Alliance for Doctoral Studies in the Mathematical Sciences.

Conferences organized

- AGNES, Stony Brook (October 2009)
<http://www.agneshome.org/fall109>
- FRG Workshop on Holomorphic symplectic varieties, Courant Institute, NYC (June 2011)
<http://www.math.nyu.edu/~tschinke/.nyu/FRG11.html>
- Hyper-Kähler Geometry Workshop, SCGP, Stony Brook (October 2012)
<http://scgp.stonybrook.edu/archives/3434>
- String-Math 2013, SCGP, Stony Brook (June 2013)
<http://scgp.stonybrook.edu/events/event-pages/string-math-2013>
- Quiver Varieties Program and Workshop, SCGP, Stony Brook (September - November, 2013)
<http://scgp.stonybrook.edu/archives/7134>
- 29th Annual Geometry Festival, Stony Brook University (April 11 - 13, 2014)
<http://www.math.stonybrook.edu/geomfest14/>
- Workshop on derived categories and Chow groups of hyperkähler and Calabi-Yau varieties, SCGP, Stony Brook (September 2016)
<http://scgp.stonybrook.edu/archives/18379/>

Talks

- “The mirror conjecture and special Lagrangian fibrations”
 Differential Geometry Graduate Student Seminar
 Massachusetts Institute of Technology, 2001
- “Desingularized moduli spaces of sheaves on a K3 surface”
 Differential Geometry Graduate Student Seminar
 Massachusetts Institute of Technology, 2002
- “Counting rational curves on K3 surfaces”
 Algebraic Geometry Graduate Student Seminar
 Massachusetts Institute of Technology, 2002
- “Finiteness results for hyperKähler manifolds”
 Differential Geometry Graduate Student Seminar
 Massachusetts Institute of Technology, 2002
- “Vector bundles on K3 surfaces”
 Pure Math Graduate Seminar
 Massachusetts Institute of Technology, 2003
- “Elliptic fibrations”
 Pure Math Graduate Seminar
 Massachusetts Institute of Technology, 2004
- “On hyper-Kähler manifolds”
 IAS Members seminar
 IAS, Princeton, 2006
- “A special class of hyper-Kähler manifolds”
 Geometry/Topology seminar
 SUNY Stony Brook, 2007
- “Hyper-Kähler Fibrations”
 University of Hong Kong, 2009 and Hong Kong University of Science and Technology, 2009

- “On hyper-Kähler Fibrations”
Geometry Seminar
Sofia University, 2009
- “Hyper-Kähler Fibrations”
Algebraic Geometry Seminar
UC San Diego, 2009
- “Abelian Fibrations on Hyper-Kähler Varieties”
Geometry/Topology seminar
SUNY Stony Brook, 2010
- “Finiteness for hyper-Kähler Abelian fibrations”
Geometry and Mathematical Physics seminar
Sofia University, 2010
- “Finiteness for hyper-Kähler manifolds”
Geometry/Topology seminar
SUNY Stony Brook, 2011
- “Four-dimensional hyper-Kähler Abelian fibrations”
FRG Workshop on holomorphic symplectic varieties
Courant Institute, 2011
- “Recent developments in hyper-Kähler geometry”
Geometric Structures in Mathematical Physics
Golden Sands, Bulgaria, 2011
- “Introduction to hyper-Kähler geometry”
Learning seminar on the Hitchin system
Stony Brook University, 2011
- “Hyper-Kähler manifolds and Abelian fibrations”
Weekly Seminar of Laboratory of Algebraic Geometry and its Applications
HSE, Moscow 2012
- “Largangian fibrations on hyperkähler manifolds and non-hyperbolicity”
Valley Geometry Seminar
University of Massachusetts, Amherst, 2013
- “Hyperkähler fibrations and Kobayashi non-hyperbolicity”
Geometry Meeting
Sofia Technical University, 2013
- “Kobayashi’s conjecture for hyperkähler manifolds”
Colloquium
Rutgers-Newark, 2013
- “Kobayashi’s conjecture for K3 surfaces and hyperkähler manifolds”
Geometry/Topology seminar
SUNY Stony Brook, 2013
- “Kobayashi’s conjecture for K3 surfaces and for hyperkähler manifolds”
Geometry and Topology Seminar
University of Waterloo, Canada, 2014
- “Kobayashi’s conjecture for K3 surfaces and hyperkähler manifolds”
Lille, France, 2014
- “Kobayashi non-hyperbolicity and hyperkähler manifolds”
University of Bonn
Bonn, Germany, 2014

- “Kobayashi pseudometric and non-hyperbolicity of hyperkähler manifolds”
Seminar ”Komplexe Geometrie”
RUHR-Universität Bochum, Germany, 2014
- “Hyperkähler manifolds and Kobayashi’s conjecture”
Institut de Mathématiques de Jussieu
Paris, France, 2014
- “Kobayashi’s conjecture for K3 surfaces and for hyperkähler manifolds”
International Conference ”Mathematics Days in Sofia”
Sofia, Bulgaria, 2014
- “On Matsushita’s conjecture”
Complex manifolds, dynamics and birational geometry
HSE, Moscow, 2014
- “On the Kobayashi conjecture for hyperkähler manifolds”
Hyperbolicity in algebraic geometry
Ilhabela, Sao Paulo, Brazil, 2015
- “On Kobayashi’s conjecture for K3 surfaces and hyperkähler manifolds”
Workshop on Hyperkähler Geometry
KIAS, Seoul, South Korea, 2015
- “Kobayashi’s pseudometric on hyperkähler manifolds and Kobayashi’s conjecture”
Distribution of Rational and Holomorphic Curves in Algebraic Varieties
BIRS, Banff, Canada, 2015
- “Vanishing of the Kobayashi Pseudometric on K3 Surfaces and Hyperkähler Manifolds”
Simons Symposium “Geometry Over Non-closed Fields”
Rio Grande, Puerto Rico, 2015
- “On a conjecture of Matsushita”
Hyperkähler Saturday
HSE, Moscow, 2015
- “On Kobayashi’s conjecture for K3 surfaces and hyperkähler manifolds”
II ELGA, June 2015
Cabo Frio, RJ, Brazil
- “On Kobayashi’s conjecture for K3 surfaces and hyperkähler manifolds”
Newton Institute, August 2015
Cambridge, UK
- “On Kobayashi’s pseudometric of compact complex manifolds”
Université libre de Bruxelles, December 2015
Brussels, Belgium
- “On Kobayashi’s conjecture for K3 surfaces and hyperkähler manifolds”
UCLA colloquium, January 2016
Los Angeles, CA
- “Complex automorphisms and the Kobayashi pseudometric on compact complex manifolds”
Geometry/Topology Seminar, March 2016
Stony Brook University, Stony Brook, NY
- “Finiteness results for deformation types of hyperkähler manifolds”
Conference: Varieties with trivial canonical bundles, June 2016
Będlewo, Poland
- “On Kobayashi’s conjecture for K3 surfaces and hyperkaehler manifolds”
CCNY colloquium, November 2016
New York, NY

“Finiteness results for deformation types of hyperkähler manifolds”

CIRGET seminar, January 2017

UQAM, Montréal, Canada

“Hyperbolicity in hyperkähler geometry”

ESI Program: Advances in Birational Geometry, May 2017

Vienna, Austria

“Hyperbolicity in hyperkähler geometry”

Mathematical Congress of the Americas, July 2017

Montréal, Canada

Conferences attended

30th Spring Conference of the Union of Bulgarian Mathematicians

Borovets, Bulgaria

April 2001

Introductory Workshop on Algebraic Stacks, Intersection Theory, and Non-Abelian Hodge Theory

MSRI, Berkeley, CA

January 2002

Learning Stacks and Computational Methods Through Problem-Solving

UIUC, Champaign-Urbana, IL

June 2002

Moduli, Lie Theory and Interactions with Physics

Rome, Italy

April 2003

Algebraic Geometry and Categories

Nice, France

June 2005

Mathematical Foundations of Homological Mirror Symmetry

IAS, Princeton

January 2007

Applications of Homological Mirror Symmetry

IAS, Princeton

March 2007

XX Escola de Algebra

Rio de Janeiro, Brazil

August 2008

24th Annual Geometry Festival

Stony Brook

April 2009

Clay Research Conference

Harvard Science Center

May 2009

Spaces of curves and their interaction with diophantine problems
Columbia University
June 2009

Co-organizer of Algebraic Geometry Northeastern Series Workshop
Stony Brook University
October 2009

AGNES Workshop
UMass Amherst
April 2010

Clay Math Conference 2010
IHP, Paris
June 2010

2010 Summer School: Arithmetic aspects of rational curves
Institut Fourier, Grenoble
June 2010

Complex Algebraic Geometry
IHP, Paris
June - July 2010

Simons Center for Geometry and Physics Inauguration Conference
Stony Brook
November 2010

Workshop on Extremal Kähler Metrics
SCGP, Stony Brook
March 2011

AGNES Workshop
MIT
April 2011

JDG Conference on Geometry and Topology
Harvard
April 2011

Moduli spaces and moduli stacks
Columbia University
May 2011

Geometric and Algebraic Structures in Mathematics
Stony Brook University
May-June 2011

Co-organizer of FRG Workshop on Holomorphic symplectic varieties
Courant Institute
June 2011

Summer School on Algebraic Geometry
RIMS, Kyoto
June 2011

MMP and extremal rays
RIMS, Kyoto
June 2011

A celebration of algebraic geometry
Harvard
August 2011

Geometric Structures in Mathematical Physics
Golden Sands, Bulgaria
September 2011

Moduli spaces and automorphic forms
Luminy, France
October 2011

AGNES Workshop
Stony Brook University
October 2011

AGNES Workshop
University of Massachusetts, Amherst
March 2012

String Theory for Mathematicians
SCGP, Stony Brook
May 2012

Algebra and Geometry
HSE and Independent University of Moscow
June 2012

2012 Summer Simons Workshop in Mathematics and Physics
SCGP, Stony Brook
August 2012

2012 Cycles Conference
Stony Brook University
October 2012

AGNES Fall 2012 Workshop
Brown University, Providence, RI
October 2012

Co-organizer of Hyper-Kahler Geometry Workshop
SCGP, Stony Brook
October - November 2012

Facets of Integrability
SCGP, Stony Brook
January 2013

A conference to describe the published scientific work of Jim Simons on the occasion of his
75th birthday
CUNY Graduate Center, NYC
May 2013

Moduli Spaces and their Invariants in Mathematical Physics
CRM, Montreal
June 2013

Thematic Program on Rational Points, Rational Curves and Entire Holomorphic Curves on
Algebraic Varieties
CRM, Montreal
June 2013

Co-organizer of String-Math 2013 Conference
SCGP, Stony Brook
June 2013

Geometry Meeting
Sofia, Bulgaria
July 2013

Foliation theory in algebraic geometry
Simons Foundation, NYC
September 2013

Euler Institute Program “Cohomology in Mathematics and Physics”
St. Petersburg, Russia
September 2013

Co-organizer of Quiver Varieties Fall 2013 Program
SCGP, Stony Brook
September - November 2013

Co-organizer of Quiver Varieties Workshop
SCGP, Stony Brook
October 2013

AGNES Workshop
Boston College
October 2013

Moduli spaces of irreducible symplectic varieties, cubics and Enriques surfaces
Lille, France
March 2014

29th Annual Geometry Festival
Stony Brook University
April 2014

AGNES Workshop
Stony Brook University
April 2014

A workshop on the Chow group of holomorphically symplectic manifolds
HSE, Moscow
May 2014

International Conference "Mathematics Days in Sofia"
Sofia, Bulgaria
July 2014

2014 Simons Summer Workshop in Math and Physics
SCGP, Stony Brook
July - August 2014

G2 Manifolds Program
SCGP, Stony Brook
August - October 2014

G2 Manifolds Workshop
SCGP, Stony Brook
September 2014

AGNES Workshop
University of Pennsylvania, Philadelphia
October 2014

Complex manifolds, dynamics and birational geometry
HSE, Moscow
November 2014

Wall Crossing, Quantum Integrable Systems, and TQFT
SCGP, Stony Brook
November 2014

Hyperbolicity in algebraic geometry
Ilhabela, Sao Paulo, Brazil
January 2015

Workshop on Hyperkähler Geometry
KIAS, Seoul, South Korea
March 2015

Distribution of Rational and Holomorphic Curves in Algebraic Varieties
BIRS, Banff, Canada
March 2015

Simons Symposium "Geometry Over Non-closed Fields"
Rio Grande, Puerto Rico
March 2015

Workshop on rationally connected varieties
HSE, Moscow
May 2015

II Latin American School of Algebraic Geometry and applications
Cabo Frio, RJ, Brazil
June 2015

Metric and Analytic Aspects of Moduli Spaces
Newton Institute, Cambridge, UK
July - August 2015

Collapsing Calabi-Yau manifolds
SCGP, Stony Brook
September 2015

Program on complex, p-adic, and logarithmic Hodge theory and their applications
SCGP, Stony Brook
March - April 2016

Varieties with trivial canonical bundles
Będlewo, Poland
June 2016

Conference on Differential Geometry
UQAM, Montreal
July 2016

Simons Summer Workshop
SCGP, Stony Brook
July 2016

Geometry at the ANU
Canberra, Australia
August 2016

Arithmetic Algebraic Geometry
Courant, NYU, New York
August - September 2016

Co-organizer of Derived categories and Chow groups of hyperkähler and Calabi-Yau varieties
SCGP, Stony Brook
September 2016

Hyper-Kähler Manifolds, Hodge Theory and Chow Groups
Sanya, China
December 2016

Advances in Birational Geometry Program
ESI, Vienna, Austria
May 2017

Homological mirror symmetry and higher genus invariants
SCGP, Stony Brook
May 2017

Mathematical Congress of the Americas
Montreal, Canada
July 2017

Komplexe Analysis
Oberwolfach, Germany
August 2017

Teaching experience

Recitation Instructor, “Linear Algebra and Analytic Geometry”, “Advanced Algebra”, and
“Methods of Analysis”
Sofia University, 1999, 2000, 2001

Mentor, Research Science Institute,
Massachusetts Institute of Technology, Summer 2002

Recitation Instructor and Course Administrator, “Multivariable calculus” Math 18.02
Massachusetts Institute of Technology, Spring 2004

Lecturer, “Linear Algebra” MAT 211
SUNY Stony Brook, Fall 2007

Lecturer, “Functions” MAT 130
SUNY Stony Brook, Spring 2008

Lecturer, “Mathematical Problems and Games” MAT 160
SUNY Stony Brook, Spring 2008

Lecturer, “Calculus B” MAT 126
SUNY Stony Brook, Fall 2008

Lecturer, “Algebra I” MAT 534
SUNY Stony Brook, Fall 2008

Lecturer, “Algebra II” MAT 535
SUNY Stony Brook, Spring 2009

Lecturer, “Algebra III: Algebraic Geometry” MAT 536
SUNY Stony Brook, Fall 2009

Lecturer, “Introduction to Calculus” MAT 123
SUNY Stony Brook, Spring 2010

Lecturer, “Differential Geometry of Surfaces” MAT 362
SUNY Stony Brook, Spring 2010

Lecturer, “Topics in Complex Analysis: K3 surfaces and hyper-Kähler manifolds” MAT 626
SUNY Stony Brook, Fall 2010

Lecturer, “Introduction to Calculus” MAT 123
SUNY Stony Brook, Spring 2011

Lecturer, “Algebra II” MAT 535
SUNY Stony Brook, Spring 2011

Lecturer, “Algebra I” MAT 534
SUNY Stony Brook, Fall 2011

- Lecturer, “Algebra II” MAT 535
SUNY Stony Brook, Spring 2012
- Lecturer, “Geometric Structures” MAT 360
SUNY Stony Brook, Spring 2012
- Lecturer, “Complex Geometry” MAT 545
SUNY Stony Brook, Fall 2012
- Lecturer, “Number Theory” MAT 311
SUNY Stony Brook, Spring 2013
- Lecturer, “Differential Geometry of Surfaces” MAT 362
SUNY Stony Brook, Spring 2013
- Lecturer, “Complex Analysis II: Riemann Surfaces” MAT 543
SUNY Stony Brook, Fall 2013
- Lecturer, “Number Theory” MAT 311
SUNY Stony Brook, Spring 2014
- Lecturer, “Algebra II” MAT 535
SUNY Stony Brook, Spring 2014
- Lecturer, “Problem Solving” MAT 260
SUNY Stony Brook, Fall 2014
- Course coordinator and Lecturer, “Introduction to Calculus” MAT 123
SUNY Stony Brook, Fall 2014
- Lecturer, “Introduction to Lie groups and Lie algebras” MAT 552
SUNY Stony Brook, Spring 2015
- Lecturer, “Problem Solving” MAT 260
SUNY Stony Brook, Fall 2015
- Lecturer, “Problem Seminar” MAT 590
SUNY Stony Brook, Fall 2015
- Lecturer, “Advanced Topics in Complex Analysis: K3 surfaces, hyperkähler manifolds and moduli spaces” MAT 670
SUNY Stony Brook, Spring 2016
- Lecturer, “Problem Solving” MAT 260
SUNY Stony Brook, Fall 2016
- Lecturer, “Problem Seminar” MAT 590
SUNY Stony Brook, Fall 2016
- Lecturer, “Algebra II” MAT 535
SUNY Stony Brook, Spring 2017
- Lecturer, “Problem Seminar” MAT 590
SUNY Stony Brook, Fall 2017