

Curriculum Vitae

Momchil Konstantinov

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Education

- 2014 – 2019 | **PhD in Mathematics**
London School of Geometry and Number Theory, UCL
Thesis: “Symplectic topology of projective space: Lagrangians, local systems and twistors”
defended on 18/03/2019 without corrections.
Supervisor: Dr. Jonathan David Evans.
- 2010 – 2014 | **Master of Mathematics (MMath)**
University of Oxford, Jesus College
First Class Honours. Ranked 3rd in Part C.
- 2005 – 2010 | **High School Diploma**
Sofia High School of Mathematics, Sofia, Bulgaria
Final grade 6.00 out of 6.00.

Experience

- 01 – 04/2019 | **Mathematics Consultant**
ASOS
Advised the Machine Learning team on methods from Riemannian geometry for learning embeddings in curved spaces.
- 2016 – 2019 | **Graduate Teaching Assistant**
UCL and King’s College
Taught problem classes on probability, statistics, algebra, calculus and analysis.
- 29 – 31/01/2018 | **Participant in Integrative Think Tank**
University of Bath
Joined a team to develop a clustering algorithm for time-series using path signatures. Explored applications to river flow data in the UK.
- 06 – 08/2014 | **Research intern**
Institute of Science and Technology, Austria
Worked with the cryptography group on improving security proofs of constrained pseudorandom functions.

Papers and Preprints

- 2019 | *Remarks on monotone Lagrangians in $\mathbb{C}P^3$* , in preparation.
- 2018 | *Monotone Lagrangians in $\mathbb{C}P^n$ of minimal Maslov number $n+1$* (joint with J. Smith), preprint.
- 2017 | *Higher rank local systems in Lagrangian Floer Theory*, preprint.
- 2014 | *Adaptive Security for Constrained PRFs* (joint with G. Fuchsbauer, K. Pietrzak, V. Rao),
Advances in Cryptology, ASIACRYPT 2014.

Awards and Honours

2015 and 2019	Mayer de Rothschild scholarship, UCL Merit-based scholarship for graduate students in mathematics.
2015	Davenport Prize, UCL For outstanding work by a first year graduate student in Pure Mathematics.
2014	Junior Mathematical Prize, University of Oxford For graduating third in the year in Part C.
2005 – 2010	Numerous prizes from national mathematics competitions in Bulgaria. Represented Bulgaria at the 2007 European Union Contest for Young Scientists (Valencia, Spain) and the 2008 Expo-Sciences Europe (Budapest, Hungary).

Talks

2017 - 2018	<i>Higher rank local systems for monotone Lagrangians</i> , KCL/UCL Geometry Seminar, Geometry and Topology Seminar, Uppsala Universitet, Nantes-Orsay Seminar on Symplectic and Contact Topology. <i>Fukaya's work on Lagrangian embeddings</i> , Symplectic Cut seminar, UCL. <i>A quick glimpse of symplectic topology</i> , a talk aimed at UCL undergraduates.
2016	<i>A cotangent fibre generates</i> , Symplectic Cut seminar, KCL. <i>Moduli spaces in symplectic geometry</i> , Junior Geometry Seminar, Imperial College.
2015	<i>Differential forms and currents</i> , Junior Geometry Seminar, Imperial College. <i>Negatively stabilised contact manifolds are not symplectically fillable</i> , Symplectic working group, UCL.

Skills

Programming Languages	Python, Mathematica, L ^A T _E X Bulgarian (native), English (fluent), French (conversational)
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References:

- (PhD supervisor) Dr. Jonathan David Evans, Department of Mathematics, UCL; j.d.evans@ucl.ac.uk.
- Dr. Ben Chamberlain, Head of Machine Learning, ASOS; ben.chamberlain@asos.com.
- Prof. Krzysztof Pietrzak, Institute of Science and Technology Austria; pietrzak@ist.ac.at.