# Yoshinori Hashimoto

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### Education

2013 - 2015 University College London, PhD student.

1st supervisor: Dr Jason Lotay, 2nd supervisor: Prof Michael Singer.
Thesis title: Some results on stability and canonical metrics in Kähler geometry.
Successfully defended on the 30th June 2015.
Examiners: Dr Joel Fine (Université Libre de Bruxelles) and Dr Julius Ross (University of Cambridge).

#### 2011 - 2012 University of Edinburgh, PhD student.

1st supervisor: Prof Michael Singer, 2nd supervisor: Prof Ivan Cheltsov. Transferred to the University College London due to the move of the supervisor.

2010 - 2011 St Edmund's College, University of Cambridge,

Part III Mathematical Tripos, MMath with distinction.

2008 - 2010 St Edmund's College, University of Cambridge, BA (Hons) in Mathematics (Class 1).

2004 - 2008 University of Tokyo, BA in Cognitive Behavioral Science.

### Publications

- Three papers that come out of the thesis:
  - Quantisation of extremal Kähler metrics, arXiv:1508.02643.
  - Scalar curvature and Futaki invariant of Kähler metrics with cone singularities along a divisor, arXiv:1508.02640.
  - Stability and canonical metrics on projective spaces blown up along a line, arXiv:1508.02637.
- Existence of twisted constant scalar curvature Kähler metrics with a large twist, arXiv:1508.00513.

## **Teaching Experience**

- 2015 Personally tutoring a second-year undergraduate mathematics student at the University College London, 2 hours in total.
- **2013-2014** University College London, Marker: Algebra 1 and 2, Analysis 1 and 2, Mathematical Methods 1 (first and second year undergraduate courses, roughly 200 students in each course). I also served as a tutor in problem classes for Algebra 2.
- **2011-2012** University of Edinburgh, Tutor: Calculus and its Applications, Introduction to Linear Algebra, Facets of Mathematics (first and second year undergraduate courses, tutoring groups of roughly 10 students). I also served as a tutor at Mathsbase, where undergraduate students can drop in and ask questions to tutors.

- **2011 Reach Cambridge Summer School Programme** (pre-university level teaching, classroom of roughly 40 students), Maths Teacher. Topics taught: Number Theory, Cryptography, Introduction to Groups, Flavour of Galois Theory.
- 2008 Personally tutoring a secondary school student in Japan for 6 months.

#### Scholarships and Awards

- 2013 2014 Departmental Studentship and Dean's Prize, University College London.
- 2011 2012 School of Mathematics Scholarship, University of Edinburgh.
- **2011** Lemaître Prize, awarded by St Edmund's College.
- 2010, 2011 St Edmund's College Tutorial Prize.
- 2008 2010 Heiwa Nakajima Foundation Scholarship.
- 2006 2008 Shin-Nihon Shogakukai Foundation Scholarship.
- 2004 2008 Tuition fees exemption (total amount), from University of Tokyo.

#### Talks Given

- June 2015 Geometric quantisation and stability in Kähler geometry, Junior Geometry Seminar, Imperial College London.
- March 2015 Teichmüller space from the Riemannian point of view, Junior Geometry Seminar, University College London.
- January 2015 Introduction to Kähler geometry, Junior Geometry Seminar, University College London.
- October 2014 Gromov-Hausdorff limit of smooth projective varieties, Junior Geometry Seminar, University of Cambridge.
- May 2014 Scalar curvature, Futaki invariant, and cone singularities of Kähler metrics, Junior Geometry Seminar, Imperial College London.
- May 2014 Approximately holomorphic sections in symplectic geometry, Junior Geometry Seminar, University College London.
- January 2014 Pragmatic introduction to Chern classes, Junior Geometry Seminar, University College London.
- **November 2013** Approximating constant scalar curvature Kähler metrics and Chow stability, Geometry Tea, University of Cambridge.
- March 2013 Kähler-Einstein metrics on algebraic manifolds, Postgraduate seminar, University College London.
- October 2012 Moment maps and algebro-geometric stability, Geometry Club, University of Edinburgh.
- March 2012 Seiberg-Witten equations, the moduli space and its invariant, Geometry Club, University of Edinburgh.

- February 2012 Introduction to Gauge Theory and Chern-Weil Theory, Quantum Seminar, University of Edinburgh.
- March 2011 Instantons on 4-manifolds, Part III Seminar Series, University of Cambridge.

December 2010 Topology and Curvature, Part III Seminar Series, University of Cambridge.

#### **Conferences** attended

October 2014 Brussels-London geometry seminar, University College London, UK.
September 2014 British Algebraic Geometry meeting, Warwick, UK.
July 2014 An Invitation to Geometry and Topology via G2, Imperial College London, UK.
June 2014 Mathematics of String Theory (MOST), King's College London, UK.
May 2014 Brussels-London geometry seminar, Université libre de Bruxelles, Belgium.
February 2014 Brussels-London geometry seminar, University College London, UK.
September 2013 Introductory School on Algebraic Geometry, Warwick, UK.
July 2013 Ricci curvature: limit spaces and Kahler geometry, Edinburgh, UK.
July 2013 Summer school for Ricci curvature: limit spaces and Kahler geometry, Edinburgh, UK.
July 2012 Summer School: Kaehler Geometry and Quantization, Cologne, Germany.
April 2012 Workshop on Kahler Geometry, Cambridge, UK.

### Other skills and activities

- IT skills: LATEX, Maple, Mathematica, experience of programming in C and SAS.
- Languages: Japanese (native), English (fluent), French (intermediate).
- Organiser of the UCL Junior Geometry Seminar, 2013-2014.
- Postgraduate student member of the Edinburgh Mathematical Society.