CURRICULUM VITÆ

JACOPO STOPPA

1. General information

· Born on 4 June 1981. Nationality: Italian.
· Webpage: `http://www-dimat.unipv.it/stoppa/`

2. Current academic position

· Professore Ordinario di Geometria, SISSA Trieste, since April 2016.
· Principal Investigator for the European Research Council - ERC Starting Grant StG 307119 - StabAGDG "Stability and wall-crossing in algebraic and differential geometry". Starting date: 1 October 2012. Total duration: 60 months. Total funding: 511.936 euro. For more details see the webpage `http://www-dimat.unipv.it/stoppa/`.

3. Other current grants

· Membro aggregato - Adjunct Member, FIRB Futuro in Ricerca Project RBFR12DZRV "Spazi di moduli e applicazioni" (P.I.: Gilberto Bini, Milano Statale). Total duration: 60 months. Project webpage: `https://sites.google.com/site/binifirb2012/`.

4. Past positions

· Professore Associato di Geometria, Dipartimento di Matematica, Università di Pavia (April 2014 - April 2016).
· Ricercatore in Geometria, Dipartimento di Matematica, Università di Pavia (December 2010 - April 2014).
· Junior Research Fellow, Trinity College, Cambridge: October 2008 - June 2014.
· Group Leader, Research Group "BPS States", Junior Hausdorff Research Trimester "Mathematical Physics", Hausdorff Institute for Mathematics, Bonn (September - December 2012). Associated research grant: 15.000 euro.
· Member of the Department of Pure Mathematics and Mathematical Statistics (DPMMS), University of Cambridge, July 2009 - December 2010.
· Visiting Scientist, Max-Planck-Institut für Mathematik, Bonn, November 2008 - July 2009.

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5. Research interests

· Complex algebraic and differential geometry: canonical metrics in Kähler
geometry and algebro-geometric stability (MSC 2010: 53C25, 53C26).
· Donaldson-Thomas invariants and their wall-crossing: connections with differential geometry, integrable systems and mathematical physics (53C55,
51P05); connections with representation theory of quivers and plane tropical curves (14N35, 14T05, 16G20).

6. Publications and preprints

All the listed papers are available on the `arXiv` or, in their latest version, at
`http://www-dimat.unipv.it/stoppa/research/papers`.

(1) Scalise, J. and Stoppa, J., *Variations of BPS structure and a large rank
limit*, arXiv:1705.08820 [math.AG].

(2) Barbieri, A., Stoppa, J. and Sutherland, T., *A construction of Frobenius
manifolds from stability conditions*, arXiv:1612.06295 [math.AG].

(3) Codogni, G. and Stoppa, J., *Torus equivariant K-stability*, arXiv:1602.03451
[math.AG].

(4) Barbieri, A., Stoppa, J., *Frobenius type and CV-structures for Donaldson-
Thomas theory and a convergence property*, arXiv:1612.06295. To appear
in Communications in Analysis and Geometry.

(5) Filippini, S. A., Garcia-Fernandez, M., Stoppa, J., *Stability data, irregular
connections and tropical curves*, Selecta Mathematica **23**, no. 2, 1355–1418
(2017).

(6) Filippini, S. A., Stoppa, J., *TBA type equations and tropical curves*, International Journal of Mathematics **27**, no. 7, 1640005 (2016).

(7) Filippini, S. A., Stoppa, J., *Block-Göttsche invariants from wall-crossing*,
Compositio Mathematica **151**, no. 8, 1543-1567 (2015).

(8) Stoppa, J., *Joyce-Song wall-crossing as an asymptotic expansion*. Kyoto
Journal of Mathematics **54**, no.1, 103-156 (2014).

(9) Reineke, M., Stoppa, J., Weist, T., *MPS formula for quiver moduli and
refined GW/Kronecker correspondence*. Geometry & Topology **16**, no. 4,
2097-2134 (2012).

(10) Stoppa, J., *D0-D6 states counting and GW invariants*. Letters in Mathematical Physics **102**, no. 2, 149-180 (2012).

(11) Stoppa, J., *Universal covers and the GW/Kronecker correspondence*. Communications in Number Theory and Physics **5**, no. 2, 1-43 (2011).

(12) Stoppa, J., Székelyhidi, G., *Relative K-stability of extremal metrics.* Journal of the European Mathematical Society **13**, no. 4, 899-909 (2011).

(13) Stoppa, J., Thomas, R. P., *Hilbert schemes and stable pairs: GIT and derived category wall crossings.* Bulletin de la Société Mathématique de France **139**, no. 3, 297-339 (2011).

(14) Stoppa, J., Tenni, E., *A simple limit for slope instability.* International Mathematics Research Notices 2010:1816-1830 (2010).

(15) Stoppa, J., *Unstable blowups.* Journal of Algebraic Geometry **19**, 1-17 (2010).

(16) Stoppa, J., *Twisted constant scalar curvature Kähler metrics and Kähler slope stability.* Journal of Differential Geometry **83**, no. 3, 663–691 (2009).

(17) Stoppa, J., *K-stability of constant scalar curvature Kähler manifolds.* Advances in Mathematics **221**, no. 4, 1397–1408 (2009).

Other texts:

(18) Stoppa, J., *A note on the definition of K-stability*, 1111.5826v1.
http://www-dimat.unipv.it/stoppa/research/papers

(19) Stoppa, J., *Some applications of K-stability and K-energy*, PhD thesis, Pavia (2009). Summary: Scientifica Acta **2**, no. 2, 101-104 (2008).
http://www-dimat.unipv.it/stoppa/research/slides.html

(20) Stoppa, J., *Notes on the extremal field of odd symplectic Grassmannians*,
http://www-dimat.unipv.it/stoppa/research/slides.html

7. Supervision of PhD students and postdocs

· Postdoc: J. Scalise (2017-18).
· Postdoc: R. Svaldi (2016-17).
· Postdoc: G. Codogni (2015). Giulio is currently a postdoc at EPFL Lausanne.
· Postdoc: S. A. Filippini (2013). Sara is currently a postdoc at DPMMS Cambridge.
· Postdoc (funded by ERC): A. Mandini (2013-15). Alessia is currently a Professor at PUC, Rio.
· Postdoc (funded by ERC): T. Sutherland (from 2014-16). Tom is currently a postdoc at Mainz.
· PhD student (funded by ERC): Anna Barbieri (2013-16). Anna is currently a postdoc at Sheffield.
· PhD students (funded by SISSA): Veronica Fantini, Carlo Scarpa (from September 2017).

8. Supervision of MSc students

· A. Giacchetto (SISSA 2017). Alessandro is currently a PhD student at MPIM Bonn.
· M. Roveda (Pavia 2016).
· A. Tirelli (Pavia 2015). Andrea is currently a PhD student at LSGNT and Imperial College, London.

9. Academic visits and short-term positions

· Visiting position, Hausdorff Center for Mathematics, Bonn, July 2011, invited by D. Huybrechts.
· Member of the Research Program "Moduli Spaces", Isaac Newton Institute for Mathematical Sciences, January-June 2011.
· Visiting position, RIMS Kyoto, March 2010, invited by H. Nakajima.
· Visiting position, BICMR, Beijing, October 2008, invited by G. Tian.
· Academic visits, Imperial College, London, in the periods May-June 2006, October 2006-March 2008 and June-October 2008, working with S. K. Donaldson and R. P. Thomas.

10. Organisation of seminars, conferences, thematic periods

· "Moduli of K-stable varieties", Rome, 10-14 July 2017 (ERC-INdAM).
· School and Workshop on Algebraic Geometry and Physics 2017, Trieste 19-23 June 2017 (ERC-SISSA).
· ERC Mini-workshop, Pavia, November 2015.
· Organiser of the ERC - FIRB workshop "Mirror Symmetry, enumerative geometry and related topics", Collegio Borromeo, Pavia, May 2014.
· Organiser of the ERC Research Meeting "New directions in Donaldson-Thomas theory, BPS states and related topics", Pavia, June 2013.
· Organiser of Richard Thomas' invited lectures "Counting curves in algebraic varieties", Pavia, March 2013.
· Group Leader and organiser of the Junior Research Trimester "Mathematical Physics", Group D "BPS states" (8 members), Hausdorff Institute for Mathematics, Bonn, September-December 2012.
· Organiser (with S. Meinhardt and N. Carqueville),Workshop on Algebra, geometry and Physics of BPS states, HIM Bonn, 12-14 November 2012.
· Organiser (with T. Bridgeland and R. P. Thomas), Workshop on Derived Categories, Cambridge, 11-15 April 2011.
· Organizer (with A. S. Kaloghiros), Geometry Postdoc Seminar, DPMMS Cambridge, September-December 2010.
· Organiser (with D. Huybrechts), SFB/TR 45 Seminar Bonn-Essen-Mainz "Motivic Donaldson-Thomas invariants", May-July 2009.
· Organiser (with F. Nironi), "Seminar on Behrend functions", Max-Planck-Institut für Mathematik, Bonn, April-May 2009.

11. Invited talks at international conferences

· Invited series of talks at the forthcoming meeting on "D-modules, Quantum Geometry and related topics", RIMS Kyoto, 3–7 December 2018.

- Invited talk, Conference on Teichmüller Theory in Higher Dimension and Mirror Symmetry, Angers, April 2017.
- Invited talk, Workshop on Hall Algebras, Enumerative Invariants and Gauge Theories, Toronto, November 2016.
- Invited talk, Algebraic Geometry: Old and New, Clay Mathematics Institute, Oxford, October 2016.
- Invited talk, Workshop on Moduli Spaces, Mirror Symmetry and Enumerative Geometry, ICTP, Trieste, August 2016.
- Invited talk, Mini-symposium on K-stability, 7th ECM, Berlin, July 2016.
- "On some deformations of Bridgeland-Toledano Laredo connections", Geometry from stability conditions, Warwick, February 2015.
- Invited lecture, "Maxim Kontsevich Masterclass", Tsinghua Sanya International Mathematics Forum, Hainan, PRC, December 2014.
- Invited talk, "Workshop on the geometry and physics of moduli spaces", Miraflores de la Sierra, Madrid, 16 - 20 June 2014.
- Invited talk, "Geometry at Bicocca II" Conference, Milan, 13-14 February 2014.
- Invited talk, FNRS Meeting "Differential Geometry", Brussels, 2-3 September 2013.
- Invited talk, 9th ISAAC Conference, Krakow, 5-9 August 2013 (session 22, "Analytic methods in complex geometry").
- "A degeneration formula for quiver moduli and its Gromov-Witten equivalent", Vector Bundles on Algebraic Curves (VBAC) Conference 2012, CRM Barcelona, 18-22 June 2012.
- Invited talk, Conference on Mirror Symmetry and Tropical Geometry, Cetraro, July 2011.
- Invited talk, Pacific Rim Conference on Symplectic Geometry, Nagoya, July 2010.
- "D0-D6 states counting and Gromov-Witten invariants", Conference on Wall-Crossings in Mathematics and Physics, Urbana-Champaign, May 2010.
- "A simple limit for slope instability", International Conference on Kahler and related geometries, Laboratoire de Mathematiques Jean Leray, Nantes, October 2009.
- "Twisted cscK metrics and Kähler slope stability", Perspectives in Geometric Analysis, International Centre for Mathematical Research, Beijing, 27-31 October 2008.
- "K-stability of constant scalar curvature Kähler manifolds", ICTP Conference on Differential Geometry, Trieste, 16-20 June 2008.
- "K-stability of constant scalar curvature Kähler manifolds", GAeL Conference, Madrid, 20-26 April 2008.
- "K-stability of constant scalar curvature Kähler manifolds", Intensive period on Extremal Kähler metrics and the Kähler-Ricci flow, CRM, Pisa, March 2008.
- "Energy functionals and algebraic geometry", GAeL Conference, Istanbul, 18-22 June 2007.

12. Invited mini-courses

· "Topics in complex geometry" (15 hours), Scuola Galileiana Padova, forth-coming first semester 2017-18.
· "Stability data, irregular connections and tropical curves" (3 lectures), Spring School on Irregular Hodge Structures and Stability Conditions, Mainz, March 2016.
· "K-stability of projective varieties" (5 hours), University of Coimbra, April 2014.
· "Hyperkähler metrics and wall-crossing" (4 lectures), Hausdorff Center, Bonn, July 2011.
· "Recent results in Donaldson-Thomas theory" (3 lectures), RIMS Kyoto, March 2010.
· "Algebro-geometric stability and special metrics" (3 lectures), BICMR, Beijing, October 2008.

13. Invited seminars and colloquia

· "A construction of Frobenius manifolds from stability conditions", Algebraic Geometry Seminar, DPMMS Cambridge, March 2017.
· "Stability data, irregular connections and tropical curves", Oberseminar, Universität Zürich, September 2014.
· "Stability data, irregular connections and tropical curves", Algebraic Geometry Seminar, DPMMS Cambridge, May 2014.
· Invited talk, Firenze, February 2014.
· Invited talk, FIRB Research Meeting, Trento, February 2014.
· Invited talk, Erwin Schrödinger Institute for Mathematical Physics, Vienna, 27 September 2013.
· "Refined curve counting, quivers, and wall-crossing I & II", Geometry Seminar, EPFL Lausanne, March 2013.
· "Tropical vertex group and applications I & II", Bologna, February 2013.
· "Extremal metrics and filtrations", IST Differential Geometry Seminar, Lisbon, February 2013.
· "Refined curve counting, quivers, and wall-crossing" , Geometry in Lisbon Seminar, IST, Lisbon, February 2013.
· "Some applications of the tropical vertex group", SISSA-ISAS, Trieste, December 2012.
· "Two wall-crossing formulae from asymptotic expansions in hyperkähler geometry", Oberseminar Differentialgeometrie, Leibniz Universität Hannover, November 2012.
· "Some geometry of wall-crossing formulae", Hausdorff Institute for Mathematics, Bonn, October 2012.
· "Some applications of the tropical vertex group", Max-Planck-Institut für Mathematik, Bonn, October 2012.
· "Una formula di degenerazione per quiver e l'equivalente in teoria di Gromov-Witten", Seminari di Geometria, Politecnico di Milano, April 2012.
· "Metriche Ricci-piatte e invarianti di Donaldson-Thomas", Giornate di Geometria III, Pavia, March 2012.
· "Jyoce-Song wall-crossing as an asymptotic expansion", Homological Mirror Symmetry Research Seminar, Oxford, March 2012.

· "A degeneration formula for quiver moduli and its Gromov-Witten equivalent", Algebraic Geometry and Moduli Seminar, ETH Zurich, March 2012.
· "Universal covers and the GW/Kronecker correspondence", Mathematics Department, Wüppertal University, June 2011.
· Invited talk, Mathematics Department, University of Edimburgh, April 2011.
· Colloquium, ZMP Hamburg, October 2010.
· "Hyperkahler metrics and wall-crossing", Columbia University, New York, May 2010.
· "On the work of Gaiotto, Moore and Nietzke", Imperial College, London, April 2010.
· "D0-D6 states counting and GW invariants", Tokyo (IPMU), March 2010.
· "Relative K-stability of extremal metrics", Differential Geometry Seminar, RIMS Kyoto, March 2010.
· "D0-D6 states counting and GW invariants", Algebraic Geometry Seminar, RIMS Kyoto, March 2010.
· "Una corrispondenza D0-D6/GW", Dipartimento di Matematica "F. Enriques", Milano, December 2009.
· "The topological DT/PT wall-crossing formula" I & II, Max-Planck-Institut fur Mathematik, Bonn, April 2009.
· Invited talk, Max-Planck-Institut fur Mathematik, Bonn, June 2008.
· Invited talk, Giornate di Geometria Algebrica e argomenti correlati IX, Levico Terme, 27-31 May 2008.
· "Twisted cscK metrics and Kahler slope stability", Departamento de Matematicas, Consejo Superior de Investigaciones Cientificas, Madrid, April 2008.
· "Unstable blowups", Cambridge Geometry Seminar, Cambridge, May 2007.
· "K-stabilità e scoppiamenti", Giornate di Geometria I, Pavia, February 2007.

14. Teaching (non-Italian Institutions)

· Supervisor, Riemann Surfaces (Prof. P. M. H. Wilson), Michaelmas Term 2010, DPMMS Cambridge. Supervising 5-6 groups of Trinity students.
· Supervisor, Geometry IB (Prof. B. Totaro), Lent Term 2010, DPMMS Cambridge. Supervising 5-6 groups of Trinity students.
· Supervisor, Riemann Surfaces (Prof. P. M. H. Wilson), Michaelmas Term 2009, DPMMS Cambridge. Supervising 3-4 groups of Trinity students.

15. Teaching (Italian Institutions)

· Graduate course "Differential Geometry" (Geometria Differenziale 1), SISSA and Università di Trieste, first semester 2017-18.
· Graduate course "Algebro-geometric stability" (SISSA, second semester 2016-17).
· Graduate course "Kähler geometry" (SISSA, first semester 2016-17).
· Graduate course "Kähler geometry" (Pavia, second semester 2014-15).
· Geometry for Engeneering, Pavia, 2013-14 and 2014-15.
· Geometry II, Pavia, 2012-2013 and 2014-15.
· Analysis II for Engineering, Pavia, 2012-13 (joint).
· Complements of Analysis for Engineering, Pavia, 2012-2013 (joint).

· Additional lecturer for the graduate course "Geometric quantization" (Prof. R. Paoletti), Milano Bicocca, 2012.
· Linear Algebra for Engineering, Pavia, 2011-12.
· Assistant lecturer, Geometry I for Mathematics students (Prof. M. P. Bernardi), Università di Pavia, 2004-05.
· Supervisor, Geometry I for Mathematics students (Prof. M. P. Bernardi), Università di Pavia, 2003-04.
· Assistant lecturer, Calculus for Mathematics students (Prof. G. Gilardi), Università di Pavia, 2002-03.
· Supervisor, Mathematics for Pharmacy (Prof. A. Torre), Università di Pavia, 2002-03, 2003-04, 2004-05.

16. Administrative tasks

· MSc in Mathematics Admissions, SISSA, 2017-18 (joint appointment).
· Colloquia Committee, SISSA.
· MSc in Mathematics Committee, SISSA.
· PhD Committee, SISSA and Pavia.
· Supervisor of the Mathematics lectures schedule, Pavia (joint appointment), 2013-14, 2014-15.

17. Past studies

· Dottore di ricerca in Matematica (Phd), 16 January 2009, Università degli Studi di Pavia. Thesis: "Some applications of K-stability and K-energy". Supervisor: Prof. Richard P. W. Thomas, Imperial College, London.
· Diploma di Licenza, 3 July 2006, Scuola Universitaria Superiore - IUSS Pavia `http://www.iusspavia.it`.
· Laurea Specialistica in Matematica, 22 September 2005, Università degli Studi di Pavia, final mark 110/110 cum laude. Dissertation: "Invarianti di Futaki di sezioni iperpiane di Grassmanniane" (Italian). Supervisors: Prof. Gian Pietro Pirola, Università di Pavia; Dr Alessandro Ghigi, Università di Milano Bicocca.
· Laurea Triennale in Matematica, 16 October 2003, Università degli Studi di Pavia, final mark 110/110 cum laude. Dissertation: "Fibrati vettoriali e varietà di Grassmann" (Italian). Supervisor: Dr Paola Frediani, Università di Pavia.

18. Study grants and awards

· EPSRC Grant to visit Prof. S. K. Donaldson, Imperial College, London, June-October 2008.
· Phd Grant, Dottorato di Ricerca in Matematica e Statistica, Università degli Studi di Pavia, XXI ciclo.
· "Cinquini-Cibrario" Award for the best thesis in Pure Mathematics, Università degli Studi di Pavia, 2006-07.
· IUSS Award for members of the Scuola Universitaria Superiore, Pavia, 2001-02, 2002-03, 2003-04, 2004-05.
· INdAM Grant for Maths undergraduates, 2001-02, 2002-03.
· A finalist in the XVIth Italian Mathematics Olympiad, May 2000.

19. Pro Bono

· Referee for Duke, Adv. in Mathematics, Comm. Number Theory and Physics, IMRN, Math. Annalen, Pacific J. of Math., J. of Algebraic Combinatorics, J. Diff. Geometry, J. Symp. Geometry., Compositio, Asian Journal of Math., J. Geom. Phys.
· Reviewer for Mathematical Reviews.

20. Outreach

· Magazine feature: Platinum / Sole 24 Ore, July 2017 issue.
· ERC DAY: Celebrating 10 years of excellence in research, SISSA March 2017 `http://www.sissa.it/news/beyond-excellence`.
· Interview, Il Piccolo, 7 Marzo 2017.
· Public lecture on the project ERC StG 307119, La Notte dei Ricercatori, Pavia, September 2015.
· Public lecture "Geometrie di Gauss e di Riemann", Lezioni Einstein 2015, Pavia, March 2015.
· Outreach activity with HIM, Bonn, December 2012. Podcast available at `http://www.him.uni-bonn.de/en/about-him/podcast/`.
· Collaboration with the Italian "Piano Lauree Scientifiche" outreach program for secondary school students, Pavia node,
  `http://www-dimat.unipv.it/vitali/segue`
  Public lecture: "From Geometry to Physics: the notion of curvature", June 2013, `http://www-dimat.unipv.it/stagescuole/2013`

SISSA, via Bonomea, 265 - 34136 Trieste ITALY
`jstoppa@sissa.it`