

GABRIELE DI CERBO

PERSONAL DATA

ADDRESS: Princeton University
Department of Mathematics
Princeton NJ USA
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POSITIONS

Current | Assistant Professor, Princeton University
SEP 2017 | *Princeton NJ*

JUL 2017 | Ritt Assistant Professor, Columbia University
SEP 2013 | *New York NY*

EDUCATION

JULY 2013 | PhD Degree in MATHEMATICS,
SEP 2009 | Princeton University, Princeton NJ
Thesis: "Effective boundedness results in algebraic and analytic geometry"
Advisor: Prof. János Kollár

JULY 2009 | Master of Science in MATHEMATICS, University of Rome "La Sapienza", Rome

JULY 2008 | Undergraduate Degree in MATHEMATICS,
SEP 2005 | 110/110 *summa cum laude*, University of Rome "La Sapienza", Rome
Thesis: "Characteristic classes"
Advisor: Prof. Kieran G. O'Grady

PAPERS

1. *Birational boundedness of rationally connected klt Calabi-Yau 3-folds*, with W. Chen, J. Han, C. Jiang and R. Svaldi, in preparation.
2. *Rational curves on Calabi-Yau threefolds in positive characteristic*, with Roberto Svaldi, in preparation.
3. *Birational boundedness of low dimensional elliptic Calabi-Yau varieties with a section*, with Roberto Svaldi, arXiv:1608.02997 [math.AG].
4. *On Seshadri constants of varieties with large fundamental group*, with Luca F. Di Cerbo, arXiv:1411.1033 [math.CV], to appear in Annali Sc. Norm. Super. Pisa Cl. Sci.
5. *On Fujita's spectrum conjecture*, Adv. Math. 311 (2017), 238-248.
6. *On the canonical divisor of smooth toroidal compactifications*, with Luca F. Di Cerbo, Math. Research Letters (2017), no.4, 1005-1022.
7. *On Fujita's log spectrum conjecture*, Math. Ann. 366 (2016), no. 1-2, 447-457.

8. *Effective Matsusaka's theorem for surfaces in characteristic p* , with Andrea Fanelli, Algebra Number Theory 9 (2015), no. 6, 1453-1475.
9. *A sharp cusp count for complex hyperbolic surfaces and related results*, with Luca F. Di Cerbo, Arch. Math. (Basel) 103 (2014), no. 1, 75-84.
10. *Effective results for complex hyperbolic manifolds*, with Luca F. Di Cerbo, J. Lond. Math. Soc. (2) 91 (2015), no. 1, 89-104.
11. *Positivity in Kähler-Einstein theory*, with Luca F. Di Cerbo, Math. Proc. Cambridge Philos. Soc. 159 (2015), no. 2, 321-338.
12. *Uniform bounds for the Iitaka fibration*, Ann. Sc. Norm. Super. Pisa Cl. Sci. (5) 13 (2014), no. 4, 1133-1143.
13. *A cohomological interpretation of Bogomolov instability*, Proc. Amer. Math. Soc. 141 (2013), 3049-3053.
14. *Remarkable identities related to the Riemann zeta function*, Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei (9) Mat. Appl. 18 (2007), 343-349.

HONORS, AWARDS, & FELLOWSHIPS

- NSF grant DMS-1817309, 2017-2020.
- AMS-Simons travel grant, 2016-2018.
- Princeton University, Centennial Fellowship, 2009-2013.
- University of Rome "La Sapienza", Tuition Scholarship, 2008-2009.
- University of Rome "La Sapienza", Adisu prize for distinguished students, 2008.
- University of Perugia, Scholarship, summer 2008.
- University of Rome "La Sapienza", Tuition Scholarship, 2005-2008.

SEMINARS AND CONFERENCE PRESENTATIONS

1. *Are there finitely many families of elliptic Calabi-Yau manifolds in fixed dimension?*, Conference "Geometry and Physics of F-theory", BIRS, Banff, January 22, 2018.
2. *On boundedness of some algebraic fiber spaces*, Algebraic Geometry seminar, Princeton University, October 3, 2017.
3. *Log birational boundedness of Calabi-Yau pairs*, Algebraic Geometry seminar, SISSA, August 2, 2017.
4. *On Seshadri constants of varieties with large fundamental group*, AMS Sectional Meeting, Hunter College, May 6, 2017.
5. *Log birational boundedness of Calabi-Yau pairs*, Cambridge-Tokyo Algebraic Geometry Workshop, University of Cambridge, March 17, 2017.
6. *Log birational boundedness of Calabi-Yau pairs*, Algebraic Geometry seminar, Imperial College, March 15, 2017.
7. *Log birational boundedness of Calabi-Yau pairs*, Algebraic Geometry seminar, Columbia University, March 3, 2017.
8. *Log birational boundedness of Calabi-Yau pairs*, Algebraic Geometry seminar, University of Washington, February 21, 2017.
9. *Log birational boundedness of Calabi-Yau pairs*, Algebraic Geometry seminar, Yale University, February 16, 2017.

10. *Log birational boundedness of Calabi-Yau pairs*, Algebraic Geometry seminar, Harvard/MIT, December 6, 2016.
11. *Log birational boundedness of Calabi-Yau pairs*, Algebraic Geometry seminar, University of Georgia, November 16, 2016.
12. *Log birational boundedness of Calabi-Yau pairs*, Algebraic Geometry seminar, NYU, October 18, 2016.
13. *Log birational boundedness of Calabi-Yau pairs*, Math-Physics Joint Seminar, University of Pennsylvania, October 13, 2016.
14. *Birational geometry of complex hyperbolic manifolds*, Algebraic Geometry Seminar, Boston College, October 6, 2016.
15. *Log birational boundedness of Calabi-Yau pairs*, Algebraic Geometry Seminar, University of Rome 3, June 13, 2016.
16. *Log birational boundedness of Calabi-Yau pairs*, Tokyo-Princeton algebraic geometry conference, Princeton University, May 8, 2016.
17. *Birational geometry of complex hyperbolic manifolds*, Algebraic Geometry Seminar, Brown University, November 20, 2015.
18. *Effective Matsusaka's theorem for surfaces in characteristic p* , Algebraic Geometry Seminar, Princeton University, November 10, 2015.
19. *Birational geometry of complex hyperbolic manifolds*, Algebraic Geometry Seminar, Columbia University, November 6, 2015.
20. *Birational geometry of complex hyperbolic manifolds*, Algebraic Geometry Seminar, University of Rome "La Sapienza", September 11, 2015.
21. *Birational geometry of complex hyperbolic manifolds*, INdAM Italian-Korean Meeting on Algebraic Geometry, Cortona, June 30, 2015.
22. *Birational geometry of complex hyperbolic manifolds*, Topology of Algebraic Varieties, Institute of Advanced Study, Princeton, November 19, 2014.
23. *On the boundary of the cone of effective divisors*, Algebraic Geometry Seminar, University of Rome 3, July 10, 2014.
24. *On the boundary of the cone of effective divisors*, Conference in Algebraic Geometry "Giornate di Geometria Algebrica ed Argomenti Correlati XII", Turin, June 4-7, 2014.
25. *On Fujita's log spectrum conjecture*, Algebraic Geometry Seminar, University of California, San Diego, February 21, 2014.
26. *Effective results for complex hyperbolic manifolds*, Joint Mathematics Meetings, Baltimore, January 15, 2014.
27. *Effective results for complex hyperbolic manifolds*, MAGIC, Imperial College, December 9, 2013.
28. *On Fujita's log spectrum conjecture*, Algebraic Geometry Seminar, University of Michigan, October 23, 2013.
29. *On Fujita's log spectrum conjecture*, Algebraic Geometry Seminar, Columbia University, September 27, 2013.
30. *On Fujita's log spectrum conjecture*, Algebraic Geometry Seminar, University of Trento, July 10, 2013.

31. *Open problems in birational geometry*, “Algebraic geometry in the capital”, University of Rome III, July 4, 2013.
32. *Effective boundedness results in algebraic and analytic geometry*, Algebraic Geometry Preprint Seminar, Princeton University, April 15, 2013.
33. *On Fujita’s log spectrum conjecture*, Algebraic Geometry Seminar, University of Kyoto RIMS, January 25, 2013.
34. *On Fujita’s log spectrum conjecture*, “Workshop on birational geometry”, University of Tokyo, January 15, 2013.
35. *Positivity questions in Kähler-Einstein theory*, Geometry Seminar, Stanford University, December 5, 2012.
36. *Effective results for toroidal compactifications*, poster presented at WAGS, October 20-21, 2012.
37. *Positivity questions in Kähler-Einstein theory*, Algebraic Geometry Preprint Seminar, University of Utah, September 25, 2012.
38. *Effective Iitaka fibration*, Algebraic Geometry Seminar, University of Rome 3, July 13, 2012.
39. *Effective Iitaka fibration*, Junior Talk, Gael XX Grenoble, June 21, 2012.
40. *Bogomolov instability and vanishing theorems*, Algebraic Geometry Seminar, Duke University, January 25, 2012.
41. *Bogomolov instability and vanishing theorems*, Geometry and representation theory workshop, University of Rome “La Sapienza”, December 20, 2011.

TEACHING EXPERIENCE

- Assistant Professor, Department of Mathematics, Princeton University, NJ.
 - SPRING 2018 Topics in Algebraic Geometry (Multiplier and test ideals)
 - FALL 2017 MAT 203 Calculus 3
- Ritt Assistant Professor, Department of Mathematics, Columbia University, NY.
 - FALL 2016 MAT UN1101 Calculus 1
 - SUMMER 2016 MAT S4062 Intro to Modern Analysis II
 - SPRING 2016 MAT V2010 Linear Algebra
 - FALL 2015 MAT W4045 Algebraic Curves
 - SUMMER 2015 MAT S2010 Linear Algebra
 - SPRING 2015 MAT G4176 Complex analysis and Riemann surfaces
 - MAT V2010 Linear Algebra
 - FALL 2014 MAT G4263 Topics in algebraic geometry (Toric varieties)
 - SPRING 2014 MAT G4263 Topics in algebraic geometry (Positivity in algebraic geometry)
 - FALL 2013 MAT G6293 Algebraic Surfaces
- Teaching Assistant, Department of Mathematics, Princeton University, NJ.
 - SPRING 2013 MAT 457 Algebraic Geometry (Grader)
 - SPRING 2012 MAT 202 Linear Algebra with Applications (Instructor)
 - FALL 2011 MAT 201 Multi-variable Calculus (Grader)
 - SPRING 2011 MAT 217 Honors in Linear Algebra (Grader)
 - FALL 2010 MAT 416 Introduction to Algebraic Geometry (Grader)

OTHER PROFESSIONAL ACTIVITIES

Co-organizer of the Algebraic Geometry Seminar, Princeton University, 2017-present.

Co-organizer of the Departmental Colloquium, Princeton University, 2017-present.

Organizer of the Algebraic Geometry Preprint Seminar at Columbia University, Spring 2014.

Co-rganizer of the conference “Algebraic geometry in the capital” at the University of Rome III.

Reviewed papers for Zentralblatt Math 2012-present. Reviewed papers for MathSciNet 2013-present.

Refereed papers for Crelle, Duke Mathematical Journal, JMSUT, International Mathematics Research Notices, Geometry and Topology, Compositio and Michigan Math. Journal.

Last updated: March 28, 2018