

NICOLA TARASCA

DEPARTMENT OF MATHEMATICS
RUTGERS UNIVERSITY
tarasca.uga.edu

HILL CENTER - BUSCH CAMPUS
110 FRELINGHUYSEN ROAD, PISCATAWAY, NJ 08854-8019, USA
nicola.tarasca@icloud.com

POSITIONS

- Since Sep 2017 Hill Assistant Professor at RUTGERS UNIVERSITY, USA.
Jan-Jul 2017 Postdoctoral Research and Teaching Associate at the UNIVERSITY OF GEORGIA, USA.
Jul-Dec 2016 Fields Postdoctoral Fellow at the FIELDS INSTITUTE, Canada.
2013 – 2016 Research Assistant Professor Lecturer at the UNIVERSITY OF UTAH, USA.
2011 – 2013 Postdoctoral position at the LEIBNIZ UNIVERSITY HANNOVER, Germany.

EDUCATION

- 2008 – 2012 Ph.D. in Mathematics at the HUMBOLDT UNIVERSITY IN BERLIN and at the BERLIN MATHEMATICAL SCHOOL, Germany, under the supervision of Gavril Farkas.
Ph.D. thesis: *Geometric cycles in moduli spaces of curves*, defended in April 2012.
Honor: *magna cum laude*.
2006 – 2008 *Master en Mathématiques Fondamentales* at the UNIVERSITY PIERRE AND MARIE CURIE in Paris (Paris VI), France. I graduated with highest honor (*Trés Bien*) in June 2008.
Master thesis: *Seshadri constants of Abelian varieties*, under the supervision of Marc Hindry.
2003 – 2006 *Laurea Triennale* in Mathematics at the UNIVERSITY OF TOR VERGATA IN ROME, Italy.
I graduated with highest honor (110/110 *e Lode*) in July 2006.

RESEARCH INTERESTS

Algebraic Geometry: geometry and combinatorics of moduli spaces of curves, enumerative geometry, Hurwitz theory, spin structures, vector bundles and problems of Brill–Noether type, curves on surfaces.

PAPERS

10. Higher codimensional Weierstrass classes (*with* Renzo Cavalieri)
In preparation.
 9. K-classes of Brill–Noether loci and a determinantal formula (*with* Dave Anderson *and* Linda Chen)
Submitted, arXiv:1705.02992.
 8. Du Val curves and the pointed Brill–Noether Theorem (*with* Gavril Farkas)
SELECTA MATHEMATICA, 23:3 (2017), pp. 2243–2259.
 7. Extremality of loci of hyperelliptic curves with marked Weierstrass points (*with* Dawei Chen)
ALGEBRA & NUMBER THEORY, 10:9 (2016), pp. 1935–1948.
 6. Loci of curves with subcanonical points in low genus (*with* Dawei Chen)
MATHEMATISCHE ZEITSCHRIFT, 284:3 (2016), pp. 683–714.
 5. Divisors of secant planes to curves
JOURNAL OF ALGEBRA, 454 (2016), pp. 1–13.
 4. Pointed Castelnuovo numbers (*with* Gavril Farkas)
MATHEMATICAL RESEARCH LETTERS, 23:2 (2016), pp. 389–404.
 3. Double total ramifications for curves of genus 2
INTERNATIONAL MATHEMATICS RESEARCH NOTICES, 19 (2015), pp. 9569–9593.
 2. Brill–Noether loci in codimension two
COMPOSITIO MATHEMATICA, 149:09 (2013), pp. 1535–1568.
 1. Double points of plane models in $\overline{\mathcal{M}}_{6,1}$
JOURNAL OF PURE AND APPLIED ALGEBRA, 216:4 (2012), pp. 766–774.
- ◇ Geometric cycles in moduli spaces of curves, PH.D. THESIS, Humboldt University in Berlin.

SCHOLARSHIPS, GRANTS, AND AWARDS

- 2016 – 2018 *AMS-Simons Travel Grant*.
- 2016 *Outstanding Postdoc Award* from the Department of Mathematics at the University of Utah.
- 2012 *Oberwolfach Leibniz Graduate Students* travel grant from the Oberwolfach Research Institute for Mathematics.
- 2008 – 2011 *Ph.D. scholarship* from the DFG Graduiertenkolleg 870 Berlin–Zürich and from the Berlin Mathematical School.
- 2004 – 2006 *Merit scholarship* from the Science Department of the University of Tor Vergata in Rome. Classified *first* in order of *merit* in 2006.

TALKS

Talks at conferences:

- Dec 2016 *Moduli and Birational Geometry* in Jeju island, South Korea.
- Dec 2016 *CMS Special Session on Combinatorial Algebraic Geometry* in Niagara Falls, Canada.
- Aug 2016 *Positivity of cycles* at AIM, San Jose, USA.
- May 2016 *Asymptotic invariants attached to linear series* at Pedagogical University in Cracow, Poland.
- Apr 2016 *AMS Special Session on Algebraic Geometry* at University of Utah, USA.
- Jan 2016 *JMM: AMS Special Session on Moduli Spaces in Algebraic Geometry* in Seattle, USA.
- Nov 2015 *AMS Special Session on Modern Schubert Calculus* at Rutgers University, New Brunswick, USA.
- Jul 2015 *AMS Summer Institute in Algebraic Geometry* at University of Utah, USA.
- Jun 2015 *AMS–EMS–SPM International Meeting* in Porto, Portugal.
- Feb 2014 *Workshop on birational geometry and stability of moduli stacks and spaces of curves* at VIASM in Hanoi, Vietnam.
- Feb 2013 *Moduli Spaces in Algebraic Geometry* in Oberwolfach, Germany.
- Sep 2012 *Deutschen Mathematiker–Vereinigung: Jahrestagung* in Saarbrücken, Germany.
- May 2012 *Giornate di Geometria Algebrica e Argomenti Correlati* in Pisa, Italy.
- Nov 2011 *North German Algebraic Geometry Seminar* in Hannover, Germany.
- Jun 2010 *Géométrie Algébrique en Liberté XVIII* in Coimbra, Portugal.

Talks at seminars:

SWITZERLAND: ETH Zurich (May 2017).

USA: Colorado State University (Apr 2017, May 2014), University of Georgia (Feb 2017), New York University (Nov 2016), University of Illinois at Chicago (Oct 2015), Northeastern University (Oct 2015), University of South Carolina (Sep 2015), University of Utah (Jan 2015, Sep 2013), University of California, San Diego (Jun 2014), University of California, Berkeley (Apr 2014), Boston College (Mar 2014).

CANADA: Fields Institute (Sep 2016).

GERMANY: Humboldt University in Berlin (Jun 2015, Feb 2011), Leibniz University Hannover (Jun 2013), Freie University in Berlin (Jan 2012).

ITALY: University of Rome 3 (Oct 2011).

SERVICE

- ◇ Referee for ADVANCES IN GEOMETRY, ARCHIV DER MATHEMATIK, CONTEMPORARY MATHEMATICS OF THE AMS, INTERNATIONAL MATHEMATICS RESEARCH NOTICES, JOURNAL OF ALGEBRAIC GEOMETRY, JOURNAL OF PURE AND APPLIED ALGEBRA, MATHEMATISCHE ZEITSCHRIFT, MICHIGAN MATHEMATICAL JOURNAL, PROCEEDINGS OF THE AMS, SELECTA MATHEMATICA.
- ◇ Co-organizer of the conferences: *Georgia Summer Workshop in Algebraic Geometry* at the University of Georgia, USA, in 2016; *Géométrie Algébrique en Liberté (GAeL) XX* in Grenoble, France, in 2012; *GAeL XIX* in Berlin, Germany, in 2011.
- ◇ Co-organizer of the *Algebraic Geometry Research Seminar* at the University of Utah, 2014 – 2016.
- ◇ Trainer at the *Teaching Assistants Training Workshop* at the University of Utah in summer 2015.
- ◇ Co-organizer of the reading seminar on *Fundamental Algebraic Geometry* at the Humboldt University in Berlin in winter 2010.
- ◇ Student representative at the board of the Berlin Mathematical School, 2008 – 2009. Participation in the work of the *Admissions Committee*, and the *Committee on Mentoring, Gender, and Diversity*.

TEACHING

At the University of Georgia:

Spring 2017 Lecturer for *Calculus II for Science and Engineering*.

At the University of Utah:

Spring 2016 Lecturer for *Engineering Calculus II*. Jumbo class with more than 50 students.
Lab sessions coordinated with two teaching assistants.

Fall 2015 Lecturer for *Engineering Calculus I*. Jumbo class with more than 80 students.
Lab sessions coordinated with two teaching assistants.

Spring 2015 Lecturer for *Calculus II*. Jumbo class with more than 70 students.
Lab sessions coordinated with one teaching assistant.

Fall 2014 Lecturer for *Calculus I*. Jumbo class with more than 100 students.
Lab sessions coordinated with one teaching assistant.

Spring 2014 Lecturer for *Introduction to Differential Equations*.
Lab sessions coordinated with one teaching assistant.

Fall 2013 Lecturer for *Accelerated Engineering Calculus 2*.
Lab sessions coordinated with one teaching assistant.

At the Leibniz University Hannover:

Spring 2013 Teaching assistant for *Calculus 2 for Engineers*.

Winter 2013 Teaching assistant for *Calculus 1 for Engineers*.

Spring 2012 Teaching assistant for *Calculus 2 for Engineers*.

Winter 2012 Teaching assistant for *Calculus 1 for Engineers*.

At the Humboldt University in Berlin and the Berlin Mathematical School:

Winter 2010 Teaching assistant for *Algebraic Geometry I*.

Spring 2009 Tutor of the Berlin Mathematical School Team for the International Mathematics Competition. Participation in the work of the Jury at the IMC 2009, Budapest, Hungary.

LANGUAGES

Italian as mother tongue. Fluent in English and French. Intermediate level in German and Polish.

ATTENDED CONFERENCES AND SCHOOLS

- ◇ *Higgs Bundles, K3 Surfaces and Moduli*, HU Berlin, Germany.
- ◇ *Geometric Invariant Theory and Enumerative Geometry*, Thunersee, Switzerland.
- ◇ *Georgia Algebraic Geometry Symposium (GAGS)*, University of Georgia, USA, Mar 2017.
- ◇ *Thematic Program on Combinatorial Algebraic Geometry*, Fields Institute, Canada, Jul–Dec 2016.
- ◇ *Georgia Summer Workshop in Algebraic Geometry*, University of Georgia, USA, Aug 2016.
- ◇ *Positivity of Cycles*, AIM, San Jose, USA, Aug 2016.
- ◇ *Asymptotic invariants attached to linear series*, Pedagogical University in Cracow, Poland, May 2016.
- ◇ *AMS Special Session in Algebraic Geometry*, University of Utah, USA, Apr 2016.
- ◇ *Higher Codimension Cycles on Algebraic Varieties*, University of Illinois at Chicago, USA, Mar 2016.
- ◇ *Moduli Spaces of Holomorphic Differentials*, HU Berlin, Germany, Feb 2016.
- ◇ *JMM 2016: Special Session on Moduli Spaces in Algebraic Geometry*, Seattle, USA, Jan 2016.
- ◇ *AMS Special Session on Modern Schubert Calculus*, Rutgers University, New Brunswick, USA, Nov 2015.
- ◇ *Western Algebraic Geometry Seminar (WAGS)*, University of Washington (Oct 2015), UC Davis (Feb 2015), University of Idaho (Oct 2014), University of Colorado at Boulder (Apr 2014), UCSD (Nov 2013).
- ◇ *Algebraic Geometry Northeastern Series (AGNES)*, Brown University (Oct 2015), Boston College (Mar 2015).
- ◇ *AMS Summer Institute in Algebraic Geometry*, University of Utah, USA, Jul 2015.
- ◇ *AMS–EMS–SPM International Meeting*, Porto, Portugal, Jun 2015.
- ◇ *Summer School in Gromov–Witten Theory*, Pingree Park (CO), USA, Jun 2014.
- ◇ *Workshop on Birational Geometry and Stability of Moduli Stacks and Spaces of Curves*, VIASM, Hanoi, Vietnam, Feb 2014.
- ◇ *Szyzygies in Berlin*, Berlin, Germany, May 2013.
- ◇ *North German Algebraic Geometry Seminar (NoGAGS)*, Hannover (May 2013, Nov 2011, Jun 2010), FU Berlin (Dec 2012, Nov 2009), Hamburg (May 2012, Apr 2009), HU Berlin (May 2011), Oldenburg (Nov 2010), Göttingen (Oct 2008).
- ◇ *Moduli Spaces in Algebraic Geometry*, Oberwolfach, Germany (Feb 2013, Jan 2010).
- ◇ *Log Minimal Model Program for Moduli Spaces*, AIM, Palo Alto, USA, Dec 2012.
- ◇ *Geometry and Topology of Moduli*, HU Berlin, Germany, Oct 2012.
- ◇ *Annual Meeting of the German Mathematical Society*, Saarbrücken, Germany, Sep 2012.
- ◇ *Algebraic and Complex Geometry*, Hannover, Germany, Sep 2012.
- ◇ *School on Algebraic Geometry and Theoretical Physics*, Warwick, UK, Jul 2012.
- ◇ *Géométrie Algébrique en Liberté (GAeL)*, Grenoble, France (Jun 2012), Berlin, Germany (Jul 2011), Coimbra, Portugal (Jun 2010), Leiden, Holland (Jun 2009).
- ◇ *Giornate di Geometria Algebrica e Argomenti Correlati*, Pisa, Italy, May 2012.
- ◇ *Intersection Theory on the Moduli Space of Curves*, KTH Stockholm, Sweden (Apr 2012), HU Berlin, Germany (Oct 2010).
- ◇ *Summer School in Algorithmic Mathematics*, Berlin, Germany, Oct 2011.
- ◇ *Singularities and Monodromy*, Hannover, Germany, Oct 2011.
- ◇ *A Celebration of Algebraic Geometry*, Harvard University, USA, Aug 2011.
- ◇ *Moduli of Curves and Gromov–Witten Theory*, Grenoble, France, Jun 2011.
- ◇ *School on Moduli Spaces*, Cambridge, UK, Jan 2011.
- ◇ *Young Researchers in Arithmetic and Algebraic Geometry*, Mainz, Germany, Oct 2010.
- ◇ *Workshop on Elliptic Fibrations and K3 Surfaces*, HU Berlin, Germany, Jul 2010.
- ◇ *IMPANGA Summer School on Algebraic geometry*, Będlewo, Poland, Jul 2010.
- ◇ *Complex Algebraic Geometry*, HU Berlin, Germany, Oct 2009.
- ◇ *Algebraic Torus Actions*, Łukęcin, Poland, Sep 2009.
- ◇ *Hodge Theory and Algebraic Geometry*, Trento, Italy, Sep 2009.
- ◇ *Moduli*, HU Berlin, Germany, Aug 2009.
- ◇ *Vector Bundles on Algebraic Curves (VBAC)*, FU Berlin, Germany, Jun 2009.
- ◇ *Leopoldina–Symposium in Algebraic and Arithmetic Algebraic Geometry*, Ascona, Switzerland, May 2009.
- ◇ *International Summer School in Mathematics*, Perugia, Italy, Aug 2006.