

TOMMASO de FERNEX

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PERSONAL

Citizenship Italian.
Current status U.S. permanent resident.

EDUCATION

July 2002 Ph.D. in Mathematics, University of Illinois at Chicago.
February 2001 Dottorato di Ricerca in Matematica, Università di Genova.
February 1996 Laurea in Matematica (summa cum laude), Università di Milano.

APPOINTMENTS

07/05–present Assistant Professor (Tenure-Track), University of Utah.
09/05–04/06 Member, Institute for Advanced Study.
08/02–07/05 T. H. Hildebrandt Research Assistant Professor, University of Michigan.
09/99–12/99 Visiting Research Assistant, University of Hong Kong.

VISITING POSITIONS

04/09–07/09 Institut de Mathématiques de Jussieu. (Expected.)
01/09–04/09 Research Member, MSRI, Jumbo Program in Algebraic Geometry. (Expected.)
09/99–12/99 Visiting Research Assistant, University of Hong Kong.

HONORS AND AWARDS

2005–2011 John E. and Marva M. Warnock Presidential Endowed Chair for Faculty Development (co-holder with Jared Tanner), University of Utah.
2005–2008 NSF Grant DMS-0548325.
2005–2006 NSF Grant DMS-0111298.
2002–2005 Rackham Research Grant, University of Michigan.
Summer 2002 Rackham Faculty Summer Fellowship, University of Michigan.
2002–2005 T. H. Hildebrandt Research Assistant Professorship, University of Michigan.
2000–2001 University Fellowship, University of Illinois at Chicago.

PUBLICATIONS

1. T. de Fernex and L. Ein, A vanishing theorem for log canonical pairs. Submitted for publication. Available online as [arXiv:0805.3863](https://arxiv.org/abs/0805.3863).
2. T. de Fernex and C. Hacon, Singularities on normal varieties. Submitted for publication. Available online as [arXiv:0805.1767](https://arxiv.org/abs/0805.1767).
3. T. de Fernex and M. Mustața, Limits of log canonical thresholds. Submitted for publication. Available online as [arXiv:0710.4978](https://arxiv.org/abs/0710.4978).
4. M. C. Beltrametti, T. de Fernex and A. Lanteri, Ample subvarieties and rationally connected fibrations. *Math. Ann.* **341** (2008), 897–926.
5. T. de Fernex, L. Ein and S. Ishii, Divisorial valuations via arcs. *Publ. RIMS* **44** (2008), 425–448. Special issue dedicated to Professor Heisuke Hironaka on the occasion of his “Kiju”, that is, his 77th birthday.
6. T. de Fernex, A. Küronya and R. Lazarsfeld, Higher cohomology of divisors on a projective variety. *Math. Ann.* **337** (2007), 443–455.
7. T. de Fernex, E. Lupercio, T. Nevins and B. Uribe, Stringy Chern classes of singular varieties. *Adv. Math.* **208** (2007), 597–621.
8. T. de Fernex, E. Lupercio, T. Nevins and B. Uribe, A localization principle for orbifold theories. In “Recent Developments in Algebraic Topology,” A. Adem et al. eds., Proceedings for the Conference in honor of the 70th birthday of S. Gitler, 113–133, *Contemp. Math.* **407**, Amer. Math. Soc., Providence, RI, 2006.
9. T. de Fernex, Length, multiplicity, and multiplier ideals. *Trans. Amer. Math. Soc.* **358** (2006), 3717–3731.
10. T. de Fernex and A. Lanteri, Bad loci of free linear systems. *Adv. Geom.* **6** (2006), 93–107.
11. T. de Fernex, Negative curves on very general blow-ups of \mathbb{P}^2 . *Projective Varieties with Unexpected Properties*, A Volume in Memory of Giuseppe Veronese, 199–207, de Gruyter, Berlin, 2005.
12. T. de Fernex, L. Ein and M. Mustața, Multiplicities and log canonical threshold. *J. Algebraic Geom.* **13** (2004), 603–615.
13. T. de Fernex, On planar Cremona maps of prime order, *Nagoya Math. J.* **174** (2004), 1–28.
14. T. de Fernex, L. Ein and M. Mustața, Bounds on log canonical thresholds with application to birational rigidity. *Math. Res. Lett.* **10** (2003), 219–236.
15. T. de Fernex and L. Ein, Resolution of indeterminacy of pairs. *Algebraic Geometry*, a Volume in Memory of Paolo Francia, 165–177, de Gruyter, Berlin, 2002.

16. T. de Fernex, Ample vector bundles and intrinsic quadric fibrations over irrational curves. *Matematiche (Catania)*, **55** (2000), 205–222.
17. T. de Fernex and A. Lanteri, Ample vector bundles and del Pezzo manifolds. *Kodai Math. J.* **22** (1999), 85–100.
18. T. de Fernex, Ample vector bundles with sections vanishing along conic fibrations over curves. *Collect. Math.* **49** (1998), 67–79.

CONFERENCE TALKS

1. ICMS Workshop on “Higher Dimensional Algebraic Geometry: Classification, Minimal Models, Fano Varieties and Stacks”, Edimburgh, Scotland, September 2008. (Expected.)
2. IAS/Park City Mathematics Institute (PCMI) Summer Session, “Analytic and Algebraic Geometry: Common Problems Different Methods”, Park City, Utah, July 2008. (Expected.)
3. American Mathematical Society/Sociedade Brasileira de Matematica, First Joint Meeting, IMPA, Rio de Janeiro, Brazil, June 2008.
4. “Algebraic Geometry and Commutative Algebra”, A conference to celebrate Robin Hartshorne’s 70th birthday, University of Illinois at Chicago, April 2008.
5. Special session on “Birational algebraic geometry”, Spring Central Section Meeting, Indiana University, April 2008.
6. Workshop “Seminario di Natale”, Università di Milano, December 2007.
7. Workshop on “Higher Dimensional Algebraic Geometry”, National Taiwan University, Taiwan, March 2007.
8. WAGS, University of Utah, November 2006.
9. Special Session on “Birational geometry”, AMS Central Sectional Meeting, University of Cincinnati, October 2006.
10. “Eighth Meeting on Commutative Algebra and Algebraic Geometry”, IMPA, Rio de Janeiro, Brazil, July 2006.
11. Genova-Nice Meeting, Università di Genova, May 2006.
12. BIRS Workshop, “Recent trends in higher dimensional geometry”, Banff, Canada, April 2006.
13. JAMI Conference/Workshop 2006 on “Recent Developments in Higher Dimensional Algebraic Geometry”, Johns Hopkins University, March 2006.
14. Conference on “Singularity theory and commutative ring theory”, Hamana-ko, Japan, September 2005.
15. AGaFe 2005, Conference on “Geometry of algebraic varieties”, Università di Ferrara, June 2005.
16. VIGRE Mini-Course on “Jet schemes and motivic integration” (5 lectures), University of Utah, May 2005.

17. “Projective varieties with unexpected properties”, Conference for the 150th anniversary of the birth of Giuseppe Veronese, Università di Siena, June 2004.
18. The UM/OSU Algebraic Geometry Workshop, Ohio State University, March 2004.
19. Arithmetic and Algebraic Geometry Conference, University of Tokyo, January 2004.
20. “Minimal Model Activity”, Special Year in Algebraic Geometry and Topology, Australian National University, Canberra, August 2003.
21. Conference in Algebraic Geometry in memory of Paolo Francia, Università di Genova, September 2001.
22. AGaFe 2001, School on “Birational and projective geometry of algebraic varieties”, University of Ferrara, September 2001.
23. Convegno di Geometria Algebrica ed Argomenti Correlati, Gargnano (Italy), May 2000.
24. Pragmatic 1998, School on “Linear systems and vanishing theorems”, Università di Catania, June 1998.

COLLOQUIA AND SEMINAR TALKS

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| 2008 | IMPA–Rio de Janeiro, University of Arizona (colloquium), University of Utah, University of Illinois at Chicago, University of Utah. |
| 2007 | University of Utah, Notre Dame University, University of Illinois at Chicago, University of Utah, University of Chicago, Purdue University. |
| 2006 | Università di Roma Due–Tor Vergata, Università di Roma Tre, Università di Milano, Università di Genova, Università di Ferrara, University of Michigan. |
| 2005 | Queen’s University, Harvard University, Columbia University, Institute for Advanced Study (member seminar), Princeton University, CIMAT–Guanajuato, CINVESTAV (colloquium), Università di Milano, SUNY–Stony Brook, Ohio State University (colloquium), Texas A&M University (colloquium), University of Utah, University of Utah (colloquium), University of California–Santa Barbara (colloquium), Johns Hopkins University, University of Pittsburgh (colloquium), University of Kansas (colloquium), University of Illinois at Urbana–Champaign (colloquium), University of Notre Dame (colloquium). |
| 2004 | University of Illinois at Urbana–Champaign, University of Michigan, Northwestern University, University of Wisconsin–Madison, University of Tokyo, Kyoto University. |
| 2003 | Johns Hopkins University, Università di Genova, University of Michigan. |
| 2002 | University of Michigan, Università di Genova, Johns Hopkins University, University of Michigan. |
| 1999 | Hong Kong University |
| 1998 | Università di Milano, Università di Pavia. |

TEACHING EXPERIENCE

- 2006–present Instructor, University of Utah.
- Foundations of Analysis I (Math 3210), Fall 2008.
 - Introduction to Algebraic Geometry I (Math 6130), Fall 2008.
 - Foundations of Analysis I (Math 3210), Spring 2008.
 - Introduction to Modern Algebra (Math 5310), Fall 2007.
 - Introduction to Algebraic Geometry II (Math 6140), Spring 2007.
 - Topics in Algebraic Geometry (Math 7800), Fall 2006.
- 2002–2005 Instructor, University of Michigan.
- Introduction to Topology (Math 490), Winter 2005.
 - Introduction to Topology (Math 590), Fall 2004.
 - Linear Algebra (Math 217), Fall 2003.
 - Introduction to Modern Algebra (Math 412), Winter 2003.
 - Calculus I (Math 115), Fall 2002.
- 2000–2002 Teaching Assistant, University of Illinois at Chicago.
- Calculus I (Math 180), 2001-2002.
 - Calculus II (Math 181), 2000-2001.
- 1996–1998 Teaching Assistant, Università dell’Insubria.
- Geometria IV, Spring 1998.
 - Geometria III, Fall 1997.
 - Geometria II, Spring 1996.

SERVICE

Ph.D. adviser of Davide Fusi.

Committee service: Colloquium chair, University of Utah, 2006–2008; Instructor Hiring Committee, University of Utah, 2008–2009.

Organizer for the Baby Algebraic Geometry Seminar (group reading course for graduate students), University of Utah, Fall 2007.

Co-organizer for the conference Western Algebraic Geometry Seminar (WAGS), University of Utah, November 2006.

Organizer and co-lecturer for the Special Topics in Algebraic Geometry Seminar, University of Michigan, Fall 2003, Winter 2004 and Fall 2004.

Doctoral committee member: Ph.D. dissertation of Nguyễn Quang Minh, University of Michigan, December 2004; Ph.D. dissertation of Nero Budur, University of Illinois at Chicago, April 2003.

Referee for American Journal of Mathematics, Annals of Mathematics, Bulletin de la Société Mathématique de France, Commentarii Mathematici Helvetici, Communications in Algebra, Compositio Mathematica, Geometriae Dedicata, Indiana University Mathematical Journal, Journal fuer die reine und angewandte Mathematik, Journal of Pure and Applied Algebra, Mathematische Annalen, Proceedings of the American Mathematical Society, Transaction of the American Mathematical Society, and conference proceedings.

External reviewer for the National Security Agency and the U.S. Civilian Research & Development Foundation.

Reviewer for Mathematical Reviews and Zentralblatt MATH.

PROFESSIONAL ASSOCIATIONS

- American Mathematical Society.
- Istituto Nazionale di Alta Matematica, Gruppo G.N.S.A.G.A.
- Mathematical Association of America.