Benoît BERTRAND

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Positions - Teaching Experience

- **Max Planck Institut für Mathematik** (Aug. 2006 - Sept. 2006) **invited**
- **Université de Genève** (Oct. 2005 - Sept. 2007) **assistant docteur**
- **Max Planck Institut für Mathematik** (July 2005 - Sept. 2005) **postdoc**
- **Universidad Complutense de Madrid** (Oct. 2004 - June 2005)
  postdoc (Real Algebraic and Analytic Geometry European Network)
- **Mathematical Sciences Research Institute, Berkeley, CA, USA**
  postdoc, (Jan. 2004 - May 2004)
- **Università di Pisa, Italy**
  RAAG postdoc, (Sept. 2003 - Dec. 2003 and June, July 2004)
- **Birzeit University, Birzeit, Palestine** (Sept. 2002 - June 2003)
  lecturer : calculus I, linear algebra, Euclidean and non-Euclidean geometry (all lectures in English)
- **University of Rennes 1, France**
  ATER (lecturer-researcher), (Sept. 2001 - August 2002)
  Maple programming, mathematics for primary school teachers.
- **IUT Rennes 1 (Institute of technology)**
  Mathematics Lecturer (Sept. 1999 - June 2001)
  Linear Algebra, Calculus, differential equations ...

Publications

[Ber06a] Benoît Bertrand. Asymptotically maximal families of hypersurfaces in toric varieties. *Geom. Dedicata*, 118 :49–70, 2006.

[BB06] Benoît Bertrand and Erwan Brugallé. A Viro Theorem without convexity hypothesis for trigonal curves. *IMRN*, 2006 :Article ID 87604, 2006.

[BBS06] Benoît Bertrand, Frédéric Bihan, and Frank Sottile. Polynomial systems with few real zeroes. *Math. Z.*, 253(2) :361–385, 2006.

[Ber06b] Benoît Bertrand. Euler characteristic of primitive T-hypersurfaces and maximal surfaces.
arXiv :math.AG/0602534, 2006. submitted.

[BB07b] Benoît Bertrand and Erwan Brugallé. A nonalgebraic Patchwork. *arXiv :math.AG/0701246*, 2007. submitted.

[BB07a] Benoît Bertrand and Frédéric Bihan. Euler characteristic of real non degenerate tropical complete intersections. *preprint* (cf. web page), 2007.

[BB07c] Benoît Bertrand and Erwan Brugallé. On the number of connected componants of parabolic curves. *in preparation*, 2007.

[Ber07] Benoît Bertrand. Real Zeuten numbers for two lines. *in preparation*, 2007.

Education

- **University of Rennes 1, France**
  Ph.D. in mathematics and applications (defence Dec. 2002)
  Dissertation : Maximal hypersurfaces and complete intersections in toric varieties
  Adviser : Ilia Itenberg
- **University of Rennes 1, France**
  Master (D.E.A.) in mathematics and applications (1998)
- **University of Rennes 1, France**
  Magistère in mathematics and computer science (mathématiques et modélisation informatique) (1998)
- **University of Rennes 1, France**
  Bachelor (Maîtrise) in mathematics (1997)

Conference talks

- **Tropical meeting**, *Madrid, March 2007.*
  Organizer : M.-J. de La Puente.
- **Real algebraic geometry**, *Oberwolfach, March 2007.*
  Organizers : M. Coste, C. Scheiderer and N. Schwartz.
- **Small dimensional topology and real algebraic curves**, *La LLagone, January 2007.*
  Organizer : T. Fiedler.
- **Journées de géométrie**, *Strasbourg, Septembre 2006.*
  Organizers : I. Itenberg and V. Kharlamov.
- **Tropical geometry summer school**, *Paris, July 2006* (2 exposés).
  Organizers : J.-J Risler and B. Teissier.
- **RAAG 2005**, *Passau, Septembre 2005.*
  Organizers : T. Kaiser, M. Tressl, M. Knebusch and N. Schwartz.
- **MEGA 2005**, *Alghero, Sardinia, May 2005.*
  Organizers : C. Traverso, A. Dickenstein, A. Galligo, P. Gianni, M. Giusti, T. Mora, T. Recio and J. Schicho.
- **annuel congress of the RAAG Network**, *Salamanca, June 2004.*
  Organizers : A. Diaz Cano, M.-E. Alonso, C. Andradas, J.M. Ruiz, T. Recio and N. Schwartz.
- **MSRI workshop on applications of real algebraic geometry**, *April 2004.*
  Organizers : L. Gonzalez-Vega, V. Powers, and F. Sottile.

Mini-courses

I often gave series of talks or lectures for mathematicians on tropical geometry.

Tropical geometry

- Mini course, Rencontres mathématiques de Glanon, July 2007
  Introduction to tropical geometry and correspondence theorems.
- Mini course : tropical enumerative Geometry, Genève 2005-2006.
- Lectures : Introduction to tropical geometry, (12 talks). Complutense Seminar, Madrid 2004-2005.
- Series of talks in postdoc seminar, **MSRI**, semester on topological aspects of real algebraic geometry, January-May 2004.
- Series of talks on tropical geometry, Università di Pisa, October-December 2003.

Other mini-courses

- Viro Method, Genève 2006.
- Mini course on toric varieties young researchers in geometries Rennes 2001
- Orevkov Braid method young researchers in geometries Rennes 2002.

Other presentations

Talks in Universities and Institutes' seminars

- Toulouse, Chambery, Madrid, Geneva, Marseille, Paris ...
- MPIM, oberseminar Topologie.
- MSRI, postdoc seminar.

Other talks on my results

- **Rennes 1 University seminar** , June 2002
- Several presentations in the low dimensional topology seminar at **Rennes 1 University**.
- Several talks in PhD students' conferences (**La Baule** 2001, **Dinard** 2002)

Combinatorial patchworking (combinatorial Viro method)

- BirZeit University, November 2002.
- Winter school of **Toulouse University**, La LLagone 2000.
- PhD students seminar, Rennes.

Rennes 1 seminar on low dimensional topology

- Smith Theory (2 talks)
- Complex orientations of real algebraic surfaces (following O. Viro, 2 talks)
- hypersurfaces in projective space (following O. Viro, 3 talks)
- Amoebas and M-curves in maximal position (following Mikhalkin, 1 talk).

Other talks

Conferences and schools attended

- Tropical meeting, Madrid, March 2007.

- Real algebraic geometry, Oberwolfach, March 2007.
- Small dimensional topology and real algebraic curves, La LLagone, January 2007
- Journée de Géométrie, Strasbourg, September 2006.
- Tropical geometry summer school, Paris, July 2006.
- Extreme forms of real algebraic varieties, AIM, Palo Alto, California, April 2006.
- Topology of Real Algebraic Varieties ; Semi-algebraic, Subanalytic and o-minimal Geometries, IHP, Paris, December 2005.
- RAAG annual meeting, Passau, September 2005.
- Mega 2005, Alghero, May 2005.
- RAAG annual meeting, Salamanca, June 2004.
- MSRI 2004, 3 workshops on topological aspects of real algebraic varieties and applications.
- Tropical geometry, American Institute of Mathematics, October 2003.
- Grenoble July 2000 - summer school on toric varieties.
- RAAG summer school in Trento, June 2000.
- La Llagone, Febuary 2000.