

Curriculum Vitæ

Poteaux Adrien

Born on June 21st, 1982 in Amiens (80), France

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Education

2008 PhD Thesis in Mathematics, University of Limoges, France

Title : *Computing Puiseux Expansions and Application to the Computation of the Monodromy Group of a Plane Algebraic Curve..*

Defended on October, 15th, 2008

Jury :

Referees

André Galligo, Professor, university of Nice (*President*).

Mark van Hoeij, Professor, university of Florida.

Grégoire Lecerf, CNRS Junior Researcher, university of Versailles.

Examineurs

Laureano Gonzalez-Vega, Professor, university of Cantabria.

Claude Quitté, Assistant professor, university of Poitiers.

Moulay Barkatou, Professor, university of Limoges (advisor)

Marc Rybowicz, Assistant professor, university of Limoges (advisor).

2004 Master of Cryptography, Code and Mathematics computations *cum laude*,
University of Limoges.

Internship with Manuel Bronstein (INRIA Sophia Antipolis).

about : Integration of Algebraic Functions, the logarithmic part

2002 Bachelor's degree in Mathematics, *summa cum laude*,
University of Limoges.

Work experience

Research

- 2010-2011 Post-doc position in the team project SALSA (UPMC/INRIA) in the computer science department of the university Paris 6 (LIP6) ; part of the ANR Exacta project.
- Publication : 1 paper in preparation.
- 2009-2010 Post-doc position at the Johannes Kepler University (department of Applied Geometry) from September 2009 to August 2010. Member of the european project SAGA.
- Publications : 1 extended abstract in an international conference proceedings, 1 book chapter, 1 article submitte in an international journal, 1 article in preparation.
- 2008-2009 Post-doc position at the University of Western Ontario (Symbolic Computation Lab) from April 2009 to July 2009.
- Publications : 1 poster in an international conference, 1 paper submitted to publication in a journal, 1 paper in preparation.
- Post-doc position at the University of Nice from September 2008 to March 2009. Member of the project Galaad of INRIA Sophia Antipolis.
- Publications : 1 paper in refereed international journal, 1 paper in refereed international conference proceedings.
- 2004-2008 PhD student (grant from the French Education and Research Ministry) at the university of Limoges. Part of the CANSO team, of the XLIM lab (UMR CNRS 6172)
- Publications : 2 papers in refereed international journal, 2 paper in refereed international conference proceedings, 1 poster in an international conference.

Teaching

- 2010-2011 Vacations at the university Pierre and Marie Curie.
36h of practical work in the computer science department.
- 2007-2008 ATER (temporary research and teaching position) at the university of Limoges.
96h in the departement of Mathematics.
- 2004-2007 *Moniteur* at the university of Limoges.
3*64h in the departement of Mathematics.

Publications

Award : Best student paper at ISSAC'08

Journal publications : :

- ▶ A. Poteaux & M. Rybowicz. *Good Reduction of Puiseux Series and Applications*. To appear in *Journal of Symbolic Computation*, 39 pages.
- ▶ A. Poteaux & A. Galligo. *Computing Monodromy via Continuation Methods on Random Riemann Surfaces*. To appear in *Theoretical Computer Science*, pages 1492-1507.
- ▶ A. Poteaux & M. Rybowicz. *Complexity Bounds for the rational Newton-Puiseux Algorithm over Finite Fields*. To appear in *AAECC : Applicable Algebra in Engineering, Communication and Computing*, 32 pages.

Refereed Publications in Conference Proceedings :

- ▶ A. Poteaux. *Computing Monodromy Groups defined by Plane Algebraic Curves*. In *Proceedings of the 2007 International Workshop on Symbolic-numeric Computation*, pages 36-45, ACM Press, 2007.
- ▶ A. Poteaux & M. Rybowicz. *On the good reduction of Puiseux series and the complexity of Newton-Puiseux algorithm over finite fields*. In *ISSAC'08 : Proceedings of the 2008 International Symposium on Symbolic and Algebraic Computation*, pages 239-246. ACM Press, 2008.
- ▶ A. Galligo & A. Poteaux. *Continuations and Monodromy on random Riemann Surfaces*. In *Proceedings of the 2009 International Workshop on Symbolic-Numeric Computation*, pages 115-124. ACM Press, 2009.
- ▶ X. Song, B. Jüttler & A. Poteaux. *Hierarchical Spline Approximation of the Signed Distance Function*. In *Proceedings of SMI'2010*, pages 241-245. IEEE Press, 2010.

Book chapter

- ▶ M. Aigner, B. Jüttler & A. Poteaux *Approximate implicitization of curves and surfaces*. To appear in *Symbolic and Numeric Computation, U. Langer and P. Paule (eds), Springer, Vienna*.

Posters

- ▶ A. Poteaux, *A numerical-modular Newton-Puiseux Algorithm to Compute Monodromy Groups*. Poster proceedings of the ISSAC '07 Conference.
- ▶ X. Dahan, M. Moreno Maza, A.Poteaux & É. Schost, *Almost-linear Time Algorithms for Operations with Triangular Sets*. Poster proceedings of the ISSAC '10 Conference.

Submitted to publication

- ▶ A. Poteaux & É. Schost. *Modular Composition modulo Triangular Sets and Applications*. Submitted in *Computational Complexity*, 38 pages.
- ▶ X. Song, B. Jüttler & A. Poteaux *Medial Axis Computation using a Hierarchical Spline Approximation of the Signed Distance Function*. Submitted in *Graphical Models*, 9 pages.

In progress

- ▶ B. Jüttler, A. Mantzaflaris & A. Poteaux. *Distance Computation via Quadratically Supported Curves Approximation*.
- ▶ A. Poteaux, M. Safey El Din & É. Schost. *Connectivity Queries for Algebraic Curves in \mathbb{R}^p* .
- ▶ A. Poteaux & É. Schost. *On the complexity of Computing with Zero-dimensional Triangular Sets*.