Thibaut Verron

Birth date (age) 21 march 1991 (26)

Nationality French

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Current position

Status Post-doctoral researcher

Dates October 2016 – September 2017

Location APO team, IRIT, INP-ENSEEIHT (Toulouse, France)

Supervisors Joseph Gergaud, Olivier Cots

Keywords optimal control; second order conditions; direct methods; indirect methods; numerical integration

Ph.D. thesis

Dates September 2012 – September 2016

Location PolSys team, LIP6, Université Pierre et Marie Curie (Paris, France)

Supervisors Jean-Charles Faugère, Mohab Safey El Din

Title Regularization of Gröbner basis computations for weighted and determinantal systems, and an application to medical imagery

Defended on 26 september 2016

Keywords polynomial systems; Gröbner bases; structured systems; weighted-homogeneous systems; determinantal systems; real algebraic geometry

Jury

Director	Jean-Charles Faugère	Research director, Inria
Advisor	Mohab Safey El Din	Professor, UPMC
Reviewer	Laurent Busé	Researcher, Inria, HdR
Reviewer	Bruno Salvy	Research director, Inria
Examiner	Bernard Bonnard	Professor, Université de Bourgogne
Examiner	Stef Graillat	Professor, UPMC

Education

2012 – 2016	University Pierre et Marie Curie (Paris, France) Ph.D. thesis
2011 – 2012	University Paris-Sud 11 (Orsay, France) Master degree, Pure and Applied Mathematics, specialty Algebra, Analysis and Geometry
2009 – 2013	École Normale Supérieure de Paris (France) Diploma of the ENS, Major in Mathematics, minor in Computer Science
2007 – 2009	Preparatory classes MPSI, MP*, Lycée Hoche (Versailles, France)
2007	A levels

Publications and communications

Conference papers

- Bernard Bonnard, Jean-Charles Faugère, Alain Jacquemard, Mohab Safey El Din, and Thibaut Verron. "Determinantal set, singularities and application to optimal control in medical imagery". In: *Proceedings of the 2016 International Symposium on Symbolic and Algebraic Computation*. ISSAC '16. Waterloo, Canada, 2016, pp. 103–110. URL: https://hal.archives-ouvertes.fr/hal-01307073v2

- Jean-Charles Faugère, Mohab Safey El Din, and Thibaut Verron. "On the complexity of computing Gröbner bases for quasi-homogeneous systems". In: *Proceedings of the 2013 International Symposium on Symbolic and Algebraic Computation*. ISSAC '13. Boston, USA: ACM, 2013, pp. 189–196. URL: https://hal.archives-ouvertes.fr/hal-00780388v2

Journal paper

- Jean-Charles Faugère, Mohab Safey El Din, and Thibaut Verron. "On the complexity of computing Gröbner bases for weighted homogeneous systems". In: *Journal of Symbolic Computation* 76 (2016), pp. 107–141. ISSN: 0747-7171. DOI: http://dx.doi.org/10.1016/j.jsc.2015.12.001. URL: https://hal.archives-ouvertes.fr/hal-01097316v2

Conference talks

- "Méthodes algébriques pour le contrôle optimal en Imagerie à Résonance Magnétique". 8^{e} Biennale Française des Mathématiques Appliquées et Industrielles (SMAI 2017), Mini-symposium "Contrôle et applications". La Tremblade, France, 2017
- "Determinantal set, singularities and application to optimal control in medical imagery". International Symposium on Symbolic and Algebraic Computation (ISSAC). Wilfrid Laurier University, Waterloo, Canada, 2016
- "Algebraic classification related to contrast optimization for MRI". Journées annuelles du GdR Mathématiques de l'Optimisation et Applications 2015. IMB, Université de Bourgogne, Dijon, France, 2015
- "Complexité du calcul de bases de Gröbner pour les systèmes homogènes avec poids". Journées Nationales de Calcul Formel 2014. CIRM, Luminy, France, 2014
- "Bases de Gröbner et systèmes structurés". Rencontres doctorales Henri Lebesgue 2014. IRMAR, Rennes, France, 2014
- "On the complexity of computing Gröbner bases for quasi-homogeneous systems". International Symposium on Symbolic and Algebraic Computation (ISSAC). Northeastern University, Boston, USA, 2013

Teaching

2016 – 2017 Teaching assistant at INP Toulouse, in applied mathematics (total: 26h)
2013 – 2016 Teaching assistant (*moniteur*) at UPMC, in computer science (total: 189h)

Language skills

French Native speaker

English Fluent

German Basic

Russian Basic