

# Thibaut Verron

**Birth date (age)** 21 march 1991 (26)

**Nationality** French

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## Current position

**Status** Post-doctoral researcher

**Dates** October 2017 – September 2019

**Location** Institute for Algebra, Johannes Kepler University (Linz, Austria)

**Supervisor** Manuel Kauers

**Keywords** computer algebra, analytic combinatorics

## Previous positions

**2016 – 2017** Post-doctoral researcher at INP-ENSEEIH (Toulouse, France)  
Supervisors: Joseph Gergaud, Olivier Cots

## 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

<b>Director</b>	Jean-Charles Faugère	Research director, Inria
<b>Advisor</b>	Mohab Safey El Din	Professor, UPMC
<b>Reviewer</b>	Laurent Busé	Researcher, Inria, HdR
<b>Reviewer</b>	Bruno Salvy	Research director, Inria
<b>Examiner</b>	Bernard Bonnard	Professor, Université de Bourgogne
<b>Examiner</b>	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<sup>e</sup> Biennale Française des Mathématiques Appliquées et Industrielles (SMAI 2017), Minisymposium "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