

POEMA

Polynomial Optimization, Efficiency through Moments and Algebra

Marie Skłodowska-Curie Innovative Training Network

2019-2022

Demand for highly trained scientists with a deep understanding of algebraic and geometric methods combined with computer algebra techniques for global non-linear optimization problems is particularly high in control engineering, physics, information processing, economy, biology. The need of global solutions to optimisation problems is likewise high in many applications such as smarter cities challenges, urban traffic management, water network management, energy flow control, or environmental monitoring.

POEMA network goal is to train scientists at the interplay of algebra, geometry and computer science for polynomial optimization problems and to foster scientific and technological advances, stimulating interdisciplinary and intersectoriality knowledge exchange between algebraists, geometers, computer scientists and industrial actors facing real-life optimization problems.

Partners:

- 1 Inria, Sophia Antipolis, France (Bernard mourrain)
- 2 CNRS, LAAS, Toulouse France (Didier Henrion)
- 3 Sorbonne Université, Paris, France (Mohab Safey el Din)
- 4 NWO-I/CWI, Amsterdam, the Netherlands (Monique Laurent)
- 5 Univ. Tilburg, the Netherlands (Etienne de Klerk)
- 6 Univ. Konstanz, Germany (Markus Schweighofer)
- 7 Univ. degli Studi di Firenze, Italy (Giorgio Ottaviani)
- 8 Univ. of Birmingham, UK (Mikal Kovara)
- 9 Friedrich-Alexander-Universitaet Erlangen, Germany (Michael Stingl)
- 10 Univ. I Tromsø, Norway (Cordian Riener)
- 11 Artelys SA, France (Arnaud Renaud)

Associate partners:

- 1 IBM, Ireland (Martin Mevissen)
- 2 NAG, Oxford, UK (Mike Dewar)
- 3 RTE, Versailles, France (Jean Maeght)

15 PhD positions available
from 1/09/2019

Contact: bernard.mourrain@inria.fr or the partner leaders.