

MICHELE GRAFFEO

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EDUCATION

PhD in Geometry and Mathematical Physics at SISSA - Trieste (Italy) 10/2018-present

Thesis: " *Hilbert schemes, constellations and resolutions of singularities* "

Supervisors: U. Bruzzo & A. T. Ricolfi

Master of Science in Mathematics at *University of Pisa* - Pisa (Italy) 9/2015-9/2018

Thesis: " *Koszul cohomology and Hilbert schemes of points* "

Supervisors: M. Franciosi

Bachelor in Mathematics at *University of Pisa* - Pisa (Italy) 9/2010-5/2015

Thesis: " *Il teorema degli zeri in algebre analitiche reali e complesse* "

Supervisors: F. Acquistapace

Scientific High School diploma at *Liceo Scientifico "Enrico Fermi"* - Sciacca (Italy) 9/2003-8/2008

RESEARCH INTERESTS

• Algebraic Geometry • Birational Geometry • Resolution of singularities • Hilbert schemes & Moduli spaces of sheaves • Representation theory • Toric Geometry • Enumerative Geometry • Minimal Model Program • Derived Category

PREPRINTS

- "On the Behrend function and the blowup of some fat points", with A. T. RICOLFI, [2022](#).

TEACHING

T.A. for Mathematical Analysis at *University of Trieste, School of Engineering* - Trieste (Italy) 9/2021-present

T.A. for Mathematical Analysis at *University of Trieste, School of Engineering* - Trieste (Italy) 9/2020-2/2021

T.A. for Mathematical Analysis at *University of Trieste, School of Engineering* - Trieste (Italy) 9/2019-2/2020

T.A. for Mathematical Analysis at *University of Pisa, School of Engineering* - Pisa (Italy) 9/2017-2/2018

T.A. for Linear Algebra at *University of Pisa, School of Engineering* - Pisa (Italy) 9/2017-2/2018

T.A. for Linear Algebra at *University of Pisa, School of Engineering* - Pisa (Italy) 9/2016-2/2017

HELD SEMINARS & WRITTEN ESSAYS

- "How to get your hands dirty with canonical singularities" SISSA
- "Crepan resolutions of symplectic quotient singularities as moduli spaces of constellations" SISSA
- "Introduction to K3 surfaces" SISSA
- "Moduli of representation of quivers and first examples of scattering diagrams" SISSA/ICTP
- "Intersection theory and tautological ring of moduli space of curves" SISSA
- "Blowups: some properties and funny examples" SISSA
- "Towards the Kodaira vanishing theorem" SISSA
- "Playing with quotient singularities" SISSA
- "The real nullstellensatz" University of Pisa
- "Normalization of complex spaces" University of Pisa
- Fifty-pages extended essay on "Markov's Theorem" based on in-class lectures and individual research

ATTENDED SCHOOLS & ADVANCED COURSES

- "Derived Functors" PhD course by U. Bruzzo Fall 2020
- "Hilbert schemes, Mckay correspondence and singularities" winter school at Univ. Paris Diderot (Paris) Winter 2019
- "Localisation in Enumerative Geometry" PhD course by A. T. Ricolfi Fall 2019
- "Differentiable Orbifolds" PhD course by B. Fantechi Fall 2019
- "Foliations in algebraic geometry" summer school at Istitut Fourier (Grenoble) Summer 2019
- "Gauge Theory" PhD course by A. Tikhomirov Spring 2019
- "Advanced topics in algebraic geometry" PhD course by E. Arbarello Fall 2018
- "Algebraic surfaces: the cubic surface, the Cayley cubic, lines on smooth surfaces" PhD course by F. Catanese Fall 2018
- "Cones of divisors and positivity" PhD course by L. Lombardi Fall 2018
- "Integrable systems from moduli spaces of stable curves" PhD course by P. Rossi Fall 2018

LANGUAGES & IT SKILLS

- Italian: native; English: fluent; French: basic.
- Latex, Windows OS, Android OS, Microsoft application, Office suite (ECDL) (Advanced). Ubuntu, C programming language, html, Macaulay2 (Good command)

REFEREES

Ugo Bruzzo

SISSA

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Marco Franciosi

University of Pisa

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Andrea Tobia Ricolfi

University of Bologna

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ORGANISATION OF EVENTS & OTHER TASKS

- Co-organiser of the Algebraic Geometry seminar in SISSA 2021-22
- Co-organiser of the Algebraic Geometry seminar in SISSA/IGAP 2020-21
- Co-organiser of the Algebraic Geometry seminar joint between SISSA and ICTP 2019-20
- Co-organiser of the Algebraic Geometry seminar in SISSA 2018-19
- Museum guide of a Mathematics exhibition named "*Mathematics in ancient Greece*" Pisa (Italy) 2018
- Developed strong analytical, problem-solving and time management skills, throughout my PhD studies at SISSA.
- Proven excellent communication, coaching and leadership skills, when working as a teaching assistant.
- Learnt how to be a team-player and how to get the best from joint outcome when working in a group.
- Learnt how to work and deliver results in high-pressure situations, such as studying and working at the same time.
- Volunteer work with both the needy and the elderly.
- Interests and hobbies: music, politics and chess.