

Matthew Trager

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Education

- 2014–2018 **Ph.D. in Computer Science**, *Inria (Willow team)*, *École Normale Supérieure de Paris*, supervised by Jean Ponce and Martial Hebert.
- 2013–2014 **Master 2 in Mathematics, Machine Learning and Computer Vision (MVA)**, *École Normale Supérieure de Cachan*, Mention: "Très bien - Félicitations".
- 2007–2012 **Specialized diploma in Mathematics**, *Scuola Normale Superiore di Pisa*, "Classe di Scienze", Grade: 70/70.
- 2010–2012 **Master's degree ("Laurea Magistrale") in Mathematics**, *Università di Pisa*, thesis entitled "Arithmetic properties of elliptic curves over finite fields", advisor Prof. R. Dvornicich, Grade: 110/110 *Summa Cum Laude*.
- 2007–2010 **Bachelor's degree ("Laurea Triennale") in Mathematics**, *Università di Pisa*, thesis entitled "Frazioni continue, flussi geodetici e proprietà ergodiche", advisors Prof. S. Marmi and Dott. C. Carminati, Grade: 110/110 *Summa Cum Laude*.
- 2002–2007 **High school diploma**, *Liceo Scientifico "U.Dini" of Pisa*, Grade: 100/100.

Experience

- Nov 2017–Jan 2018 **Visiting Student**, *New York University*.
- June 2017 **Visiting Student**, *Max Planck Institute Leipzig*.
- Sept–Oct 2016 **Visiting Student**, *Washington University of St.Louis*.
- Sept–Dec 2015 **Visiting Student**, *Robotics Institute, Carnegie Mellon University*.
- Apr–Sept 2014 **Internship**, *Inria (Willow team)*.

Scholarships and awards

- 2013–2014 *Bourse "Fondation de coopération scientifique (FCS) Campus Paris-Saclay"*. Scholarship for international students in Master's degrees partnered with IDEX Paris-Saclay.
- 2007–2012 *Funding from Scuola Normale Superiore*. SNS covers all tuition fees and provides free accommodation and access to their canteen. Admissions are based on a very selective entrance exam (about 30 students in scientific disciplines are accepted every year, out of thousands of applicants).
- 2002–2007 *Italian Mathematics Olympiad*. Five participations in the national phase: two gold medals, one silver, two bronze.

2006 *Italian Olympiad in Informatics*.
One participation in the national phase: silver medal.

Presentations

- 2017 *Organizer and speaker at "Algebraic Vision Minisymposium" in SIAM Conference on Applied Algebraic Geometry, Atlanta (GA), USA.*
- 2017 *Invited talk at "Algebraic Algorithms and Applications", Pisa, Italy.*
- 2016 *Invited talk at AIM Workshop "Algebraic Vision", San Jose (CA), USA.*

Publications

M. Trager, B. Osserman, and J. Ponce, "On the solvability of viewing graphs," in *European Conference on Computer Vision*, 2018.

B. Bukh, X. Goaoc, A. Hubard, and M. Trager, "Consistent sets of lines with no colorful incidence," in *International Symposium on Computational Geometry*, 2018.

K. Kohn, B. Sturmfels, and M. Trager, "Changing views on curves and surfaces," *Acta Mathematica Vietnamica*, vol. 43, no. 1, pp. 1–29, 2018.

B. Osserman and M. Trager, "Multigraded cayley-chow forms," *arXiv preprint arXiv:1708.03335*, 2017. Submitted to *Advances in Mathematics*.

M. Trager, B. Sturmfels, J. Canny, M. Hebert, and J. Ponce, "General models for rational cameras and the case of two-slit projections," in *IEEE Conference on Computer Vision and Pattern Recognition*, 2017.

J. Ponce, B. Sturmfels, and M. Trager, "Congruences and concurrent lines in multi-view geometry," *Advances in Applied Mathematics*, vol. 88, pp. 62–91, 2017.

M. Trager, M. Hebert, and J. Ponce, "Consistency of silhouettes and their duals," in *IEEE Conference on Computer Vision and Pattern Recognition*, 2016.

M. Trager, J. Ponce, and M. Hebert, "Trinocular geometry revisited," *International Journal of Computer Vision*, pp. 1–19, 2016.

M. Trager, M. Hebert, and J. Ponce, "The joint image handbook," in *Proceedings of the IEEE International Conference on Computer Vision*, pp. 909–917, 2015.

Other activities

Fencing (Épée) Member of the Italian National Team until 2014, and supported as an athlete of the Italian Army (Esercito Italiano). Main achievements: 5 participations in World Championships (Junior and Senior), Silver medal at the Junior World Championships in 2008, 1st place in the final Junior World Cup ranking for the year 2007-2008, 4 times Italian Champion (U-17,U-20, twice U-23).

Musical studies Exam of Music theory and Solfeggio, and exam "Quinto anno" of piano, at the Musical Institute "L.Boccherini" of Lucca.