

# Matteo SESIA

## PERSONAL DATA

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## RESEARCH INTERESTS

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Statistics, Machine Learning, Optimization, Algorithms, Probability, Graphical Models, Applied Math

## EDUCATION

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- 2015 – PhD Student in Statistics, **Stanford University**
- JULY 2015 Master of Science, Physics of Complex Systems (international joint program)  
**Politecnico di Torino** (Italy), **Université Paris-Sud** (France), **SISSA** (Italy)  
Final grade: 110/110 cum laude, class rank: 1/26
- JULY 2015 Master of Arts (with distinction), Statistics and Applied Mathematics  
Allievi Honors Program, **Collegio Carlo Alberto**, (Italy)
- JULY 2013 Bachelor of Science, Physical Engineering, **Politecnico di Torino**  
Final grade: 110/110 cum laude
- JULY 2013 Allievi Diploma (with distinction), **Collegio Carlo Alberto**  
Thesis title: “Belief Propagation on the Random Field Ising Model” (adviser: R. Zecchina)
- JUNE 2010 British Columbia Certificate of Graduation (with honors)  
**Oak Bay High School**, Victoria, BC, Canada

## RESEARCH EXPERIENCE

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- Spring 2015 **Research Internship in Machine Learning**  
Developing, coding (Matlab) and testing algorithms for network inference from diffusion data.  
Using regularization techniques to exploit prior information.  
CMLA, ENS Cachan (adviser: N. Vayatis)
- 2012-2014 **Research Internship in Statistical Physics and Inference**  
Coding (C++) and testing message-passing algorithms for inference on graphical models.  
Politecnico di Torino and Collegio Carlo Alberto (adviser: R. Zecchina)
- JAN. 2014 **Applied Probability Class Elective Project**  
Application of MC methods and statistical physics concepts to data clustering and replication  
of two papers’ results: L. Giada & M. Marsili (2001)<sup>1</sup>, L. Giada & M. Marsili (2002)<sup>2</sup>  
SISSA and ICTP, Trieste, Italy (adviser: M. Marsili)

## ACTIVITIES

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- AUG. 2015 **Machine Learning Summer School** (Kyoto, Japan)  
Professors: M. Wainwright (UC Berkeley), P. Rigollet (MIT) et al.
- JUNE 2014 **Applied Bayesian Statistics Summer School** (CNR, Como, Italy)  
Professors: M. Jordan (UC Berkeley), F. Caron (University of Oxford)  
**Student’s presentation:** “Belief Propagation on the Random Field Ising Model”
- AUG. 2013 Summer School in Computational Physics (University of Jyväskylä, Finland)  
Professors: A. Logg (Chalmers University of Technology), P. Ylä-Oijala (Aalto University)
- JULY 2013 Summer School in Computational Chemistry (ICS, Pierre-and-Marie-Curie University, France)  
Professors: E. Cancès (École des Ponts ParisTech), Y. Maday (Pierre-and-Marie-Curie University)
- AUG. 2012 Summer School in Theoretical Physics (Utrecht University, The Netherlands)  
Professors: G. Arutyunov (Utrecht University), G. Hooft (Utrecht University)
- MAY 2012 Summer School in Mathematics “AlfaClass Update” (Fondazione CRT, Torino, Italy)
- SEPT. 2011 Summer School in Mathematics “AlfaClass” (Fondazione CRT, Torino, Italy)
- APRIL 2010 Euclid Mathematics Contest, School Champion (Oak Bay High School, BC, Canada)

## SKILLS

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PROGRAMMING: C++, C, Matlab, Python, Fortran, R  
LANGUAGES: Italian (native), English (fluent), French (fluent)

## TEACHING EXPERIENCE

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Winter 2016 **Teaching Assistant** Stats 216: Introduction to Statistical Learning  
2011-2013 **Independent Undergraduate Tutoring**  
Mathematical Analysis, Linear Algebra, Computer Programming  
2010-2012 **Independent High School Tutoring**  
Calculus and Precalculus Mathematics, Physics, Computer Programming

## FELLOWSHIPS AND AWARDS

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2014-2015 International Master Scholarship IDEX Paris-Saclay (€10,000); Paris, France  
2011-2014 Full Scholarship (tuition + living expenses); Allievi Honors Program, Collegio Carlo Alberto  
JULY. 2013 ICS Fellowship for the 2013 ICS Summer School in Roscoff; ICS, UPMC, Paris, France  
SEPT. 2012 Alfaclass-Update Mathematics Contest, 3rd Prize; Fondazione CRT, Torino, Italy  
JUNE 2010 International Student Spirit Award; Oak Bay High School, Victoria, BC, Canada

## PERSONAL INTERESTS

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Road cycling, hiking, skydiving, tennis  
Chess, modern literature

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<sup>1</sup>L. Giada, M. Marsili (2001), "Data clustering and noise undressing for correlation matrices", Phys. Rev. E 63, 061101 (2001)

<sup>2</sup>L. Giada, M. Marsili (2002), "Algorithms of maximum likelihood data clustering with applications", Physica A-Statistical Mechanics and its Applications, 315(3-4), 650-664.