

Annamaria IEZZI

Curriculum Vitae et Studiorum

Institut de Mathématiques de Marseille
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Personal Information

Annamaria IEZZI
Born in Teramo (Italy) on 19 January 1989
Nationality: Italian

Current Position

Since 9/2015 **Research and teaching assistant** (ATER 100% - Attachée Temporaire d'Enseignement et de Recherche) at *Aix-Marseille Université*, attached to *Institut de Mathématiques de Marseille (I2M)*.

Education

- 11/12 – 07/16 **PhD in Mathematics**, *Aix-Marseille Université* (grant of *LabEx Archimède*),
Title of thesis: *Nombre de points rationnels des courbes singulières sur les corps finis* (Number of rational points on singular curves over finite fields).
Supervisor: Yves Aubry.
Beginning: 12 November 2012.
Defense: 6 July 2016 in Marseilles, distinction *très honorable*.
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|-------------|------------------------|-----------------------------------|-------------------|
| Jury | Yves Aubry | Université de Toulon | <i>Supervisor</i> |
| | Massimo Giulietti | Università degli Studi di Perugia | <i>Examiner</i> |
| | Marc Hindry | Université Paris Diderot | <i>Referee</i> |
| | James W. P. Hirschfeld | University of Sussex | <i>Referee</i> |
| | David Kohel | Aix-Marseille Université | <i>Examiner</i> |
| | Marc Perret | Université de Toulouse II | <i>Examiner</i> |
| | Serge Vladuts | Aix-Marseille Université | <i>Examiner</i> |
- 09/10 – 07/12 **Master's Degree in Mathematics**, *Università degli studi Roma Tre*, Rome.
Title of master's thesis: *Domini Almost Dedekind* (Almost Dedekind domains)
Supervisor: Stefania Gabelli
Final Mark: 110/110 *cum laude*.
- 09/11 – 01/12 **Five-months Erasmus exchange program**, *Université d'Aix-Marseille II*, Marseilles, in the Master *Mathématiques Discrètes et Fondements de l'Informatique*.
- 09/07 – 07/10 **Bachelor's Degree in Mathematics**, *Università degli studi Roma Tre*, Rome.
Final Mark: 110/110 *cum laude*.
- 07/07 **Scientific High School Degree**, Liceo Scientifico Statale *A. Einstein*, Teramo.
Final mark: 100/100.

Research activities

Member of the research team *Arithmetic and Information Theory*.

Research interests

Algebraic geometry over finite fields (algebraic curves, number of rational points, zeta functions, function fields, etc.), theory of error-correcting codes.

Research projects

Member since April 2016 of the research project **ANR Manta** *Algebraic geometry and coding theory* about error-correcting codes built using algebraic geometry and number theory and their applications in cryptography, multiparty computation and complexity theory.

Publications

- [2] Y. Aubry, [A. Iezzi](#) - *Optimal and maximal singular curves*, to appear in *Contemporary Mathematics* (AMS).
- [1] Y. Aubry, [A. Iezzi](#) - *On the maximal number of points on singular curves over finite fields*, *Mosc. Math. J.* 15 (2015), no. 4 pp. 615-627.

Research talks

- 20/11/2016 *Curve su campi finiti a singolarità prescritte (Curves over finite fields with prescribed singularities)*, Seminar of Commutative Algebra, Dipartimento di Matematica e Fisica, Università degli studi di Roma Tre.
- 05/11/2015 *Courbes optimales et maximales (Optimal and maximal curves)*, Seminar of Arithmetic and Information Theory, I2M, Université d'Aix-Marseille.
- 18/05/2015 *Towards maximal singular curves over finite field*, Arithmetics, Geometry, Cryptography and Coding Theory (AGCT), CIRM, Marseilles.
- 17/02/2015 *Sur le nombre maximum de points rationnels d'une courbe singulière sur un corps fini (On the maximal number of points on singular curves over finite fields)*, Seminar of Algebra at IMATH, Université de Toulon.
- 29/01/2015 *Sur le nombre maximum de points rationnels d'une courbe singulière sur un corps fini (On the maximal number of points on singular curves over finite fields)*, Seminar of Arithmetic and Information Theory, I2M, Université d'Aix-Marseille.
- 11/06/2014 *Singular curves over finite fields with many rational points*, Yet Another Conference on Cryptography (YACC), Porquerolles Island, France.
- 12/05/2014 *Singular curves over finite fields with many rational points*, Antalya Algebra Days XVI, Antalya, Turkey.
- 14/05/2013 *Courbes avec un nombre fixé de points rationnels (Curves with a prescribed number of rational points)*, Seminaire of Algebra at IMATH, Université de Toulon.

Schools, Conferences, Workshops and Thematic days

- 11/2016 Workshop: *Algebraic surfaces*, within the framework of ANR Manta, X, Paris.
- 06/2016 Conference: *Premier congrès de la Société Mathématique de France*, Tours.
- 05/2016 School: *École de printemps en codage et cryptographie*, La Chapelle Gauthier (Seine-et-Marne).
- 04/2016 Workshop: *Retraite ANR Manta*, Lacapelle-Biron.
- 10/2015 Conference: *Journées Codage et Cryptographie (JC2)*, La Londe-les-Maures, France.
- 05/2015 Conference: *Arithmetics, Geometry, Cryptography and Coding Theory (AGCT)*, CIRM, Marseille.
- 21/04/2015 Thematic day: *Crypto quantique et codes quantiques*, Université de Toulon.
- 06/2014 Conference: *Yet Another Conference on Cryptography (YACC)*, Porquerolles Island, France.
- 05/2014 Conference: *Antalya Algebra Days XVI*, Antalya, Turkey.
- 02/2014 Workshop: *Frobenius Distribution on Curves*, CIRM, Marseilles.
- 02/2014 School: *Frobenius Distribution on Curves*, CIRM, Marseilles.
- 06/2013 School: *Number Theory for Cryptography*, University of Warwick, United Kingdom.
- 06/2013 Conference: *Arithmetic, Geometry, Cryptography and Coding Theory (AGCT)*, CIRM, Marseilles.

Teaching activities

2016-2017 ATER 100%, Aix-Marseille Université:

- **Lectures + exercice sessions:** *Algèbre Linéaire* (1st year Math/Computer science Bachelor - 59h).
- **Lectures + exercice sessions:** *Géométrie et Arithmétique 1* (1st year Math/Computer science Bachelor - 95h).
- **Introductory tutorials** on Mathematics: *Passerelle pour les Maths* (1st year Math/Computer science Bachelor - 20h).
- **Stages Hippocampe** (three-days research initiation for high school students): *Allô Papa Tango Charlie, théorie des codes correcteurs* (12h - supervisor), *The Mathematics of Sudoku* (12h - tutor).

2015-2016 ATER 100%, Aix-Marseille Université:

- **Lectures + exercice sessions:** *Algèbre Linéaire* (1st year Math/Computer science Bachelor - 77h).
- **Lectures + exercice sessions:** *Géométrie et Arithmétique 1* (1st year Math/Computer science Bachelor - 77h).
- **Introductory tutorials** on Mathematics: *Passerelle pour les Maths* (1st year Math/Computer science Bachelor - 26h).
- **Stages Hippocampe:** *Allô Papa Tango Charlie, théorie des codes correcteurs* (12h - supervisor and tutor).

2014-2015 2nd year teaching mission during my PhD, Aix-Marseille Université :

- **Exercice sessions:** *Algèbre Linéaire* (1st year Math/Computer science Bachelor - 20h).
- **Exercice sessions:** *Introduction à l'analyse* (1st year Math/Computer science Bachelor - 20h).
- **Introductory tutorials** on Mathematics: *Passerelle pour les Maths* (1st year Math/Computer science Bachelor - 26h).
- **Referent teacher** (1st year Math/Computer science Bachelor - 8h).

2013-2014 1st year teaching mission during my PhD, Aix-Marseille Université :

- **Exercice sessions:** *Algèbre Linéaire* (1st year Math/Computer science Bachelor - 40h).
- **Stages Hippocampe:** *Théorie des noeuds* (12h - tutor), *Les Mathématiques des jeux : comment gagner presque sûrement* (12h - tutor) .

2010-2011 During my first year of Master, Università degli Studi di Roma 3 :

- **Tutorial:** *Geometria 3, Topologia generale e elementi di topologia algebrica* (24h).
- **Tutorial:** *Geometria 2, Geometria Euclidea e proiettiva* (24h).

2009-2010 During my third year of Bachelor, Università degli Studi di Roma 3 :

- **Tutorial:** *Teoria delle equazioni e teoria di Galois* *Théorie des équations et théorie de Galois* (24h).
- **Tutorial:** *Geometria 2, Geometria Euclidea e proiettiva* (24h).

Activity of public awareness of science

- Founder member and secretary of **Pi day association** for promotion and communication of Mathematics to the general public. The association is the laureate of **d'Alembert Prize 2016** awarded one time every two years by the Société Mathématique de France, and of the **Trophée Phocéén Étudiant 2016** for students initiatives awarded by the city of Marseille.
- Member of **GDS Audimath** (Groupement de Services : Autour de la Diffusion des Mathématiques), created by the Institut National Sciences Mathématiques et de leurs Interactions (INSMI) of CNRS to join and coordinate the different actors of Mathematics communication to the public in France.
- Active member of **Com' Science** de **DynAMU**, the association of PhD students of Aix-Marseille Université.

Organisation of events

- 10/05/2016 Co-organiser of **Treize Minutes Jeunes Chercheurs 2016** - Alcazar, Marseilles (300 people).
Night of multidisciplinary conferences by young researchers, organized by a group of PhD students of Aix-Marseille University.
- 14/03/2016 Co-organiser of **Pi day 2016** - Théâtre National de la Criée, Marseilles (700 people).
Mathematics musical, revolved around three talks for the general public, to celebrate in a joyous atmosphere the most famous of the constants!
- 14/03/2015 Co-organiser of **Pi day 2015** - MuCEM, Marseilles (500 people).
Mathematics day revolved around a morning-show with three talks to the general public, a pie contest and an afternoon of stands and fun animations.

Talks

- 22/01/2016 *Allô Papa Tango Charlie, théorie des codes correcteurs (Allô Papa Tango Charlie, theory of error-correcting codes)*, for a High School class, Marseilles.
- 06/06/2014 *Les nombres premiers ne sont pas si aléatoires (Prime numbers are not so random)*, Journée d'étude sur le Hasard (Thematic day on Randomness), Fort St Jean, Marseilles.
- 25/03/2014 *L'hypothèse de Riemann dans le paysage des courbes sur les corps finis (The Riemann Hypothesis in the landscape of curves over finite fields)*, Seminar for PhD students, Marseilles.
- 14/03/2014 *Pi... comme pizza (Pi... as pizza)*, Pi day 2014, Campus Saint-Charles, Marseilles.

Stands, expositions, etc.

- 10/2016 Guide for the stand *Tous les chemins mènent à Rome-Dragon (T3) (All roads lead to Rome-Dragon)*, Fête de la Science 2016, Vieille Charité, Marseilles.
- 05/2016 Guide for the *Exposition Imaginary*, Salon Culture et Jeux Mathématiques, place Saint-Sulpice, Paris.
- 02/2016 Participation to the drafting of the theatrical piece *Les π travaux d'Archimède*, played during *Pi day 2016*, at Théâtre National de la Criée in Marseilles.
- 10/2015 Creation of a stand on cryptography and coding theory: *Le charabia du numérique : mégapixels, gigaoctets, cryptage... et autres gros mots !*, Fête de la Science 2015, Villa Méditerranée, Marseilles.
- 2/07/2015 Introduction to Mathematics and scavenger hunt at the library of CIRM for primary school children, CIRM, Marseilles.
- 22/03/2015 Guide for the *Exposition Imaginary*, Vieux Port, Marseilles.
- 20/03/2015 Creation of the stand *Les Mathématiques nous transportent en... cuisine ! (The Mathematics of cooking)*, Journée de l'école au monde, École de la Deuxième Chance, Marseilles.
- 14/03/2015 Creation of the stand *Les Mathématiques nous transportent en... cuisine ! (The Mathematics of cooking)*, Pi day 2015, MuCEM, Marseilles.

Other

- 12/2016 Participation to the workshop *Writing* within the framework of GdS Adimath, for the drafting of articles about scientific popularization, Maison des Mathématiques et de l'Informatique (MMI), Lyon.
- 6/2016 Participation to journées du GdS Audimath *Sharing experiences*, Maison des Mathématiques et de l'Informatique (MMI), Lyon.

Administrative Responsibilities

- Since 11/16 Secretary of *Pi day* association.
- 11/15-11/16 Treasurer of *Pi day* association.
- 1/11/2015 Founder member of ***Pi day* association**, for promotion and communication of Mathematics to the general public, which is the laureate of **d'Alembert Prize 2016** awarded by the Société Mathématique de France.
- Since 03/14 Appointed member of 12M council (college of non-permanent researchers).

Other collective tasks

- 2016/2017 Co-organiser of a weekly workshop for phd students and post-docs of the research team *Arithmétique et Théorie de l'Information*.
- 25/11/2015 Organiser of a welcome day for the academic year 2015/2016 of the *Doctoral School Mathematics-Computer Science* of Aix-Marseille Université.
- 14/10/2015 Organiser of a welcome day for the academic year 2014/2015 of the *Doctoral School Mathematics-Computer Science* of Aix-Marseille Université.

Language skills

- Italian (mother tongue), French (fluent), English (very good command), Spanish (very good command), Portuguese (good command).
- Since 2012 Coordinator of the project ***Café des Langues Luminy*** (in collaboration with the *Centre des Langues de Luminy* (CIELL) of Aix-Marseille Université and the *Erasmus Student Network (ESN) Marseille association*) and animator for the Italian language. The project is one of the laureate of the **Trophée Phocéén Étudiant 2016** for students initiatives awarded by the city of Marseilles.

Computer skills

- Symbolic computation Wolfram Mathematica, Sage
- Programming C, Python
- Others html, css