Annamaria IEZZI
Curriculum Vitae et Studiorum

Department of Mathematics & Statistics
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Personal Information

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

Research interests

Algebraic geometry over finite fields (algebraic curves, number of rational points, zeta function, function fields, etc.), cryptography (isogeny-based cryptography, post-quantum cryptography), coding theory.

Employment

08/17 – present
Postdoctoral Scholar Researcher - *Department of Mathematics & Statistics*, *University of South Florida*, Tampa.
Supervisors: Jean-François Biasse and Xiang-dong Hou.

09/15 – 08/17
ATER 100% (Attachée Temporaire d'Enseignement et de Recherche) ∼ **Visiting assistant professor** - *Institut de Mathématiques de Marseille* (I2M), *Aix-Marseille Université*, Marseille.

10/13 – 09/15
Monitorat ∼ **Teaching assistant** - *Institut de Mathématiques de Marseille* (I2M), *Aix-Marseille Université*, Marseille.

Education

11/12 – 07/16
Ph.D. in Mathematics, Aix-Marseille Université (*grant of* LabEx Archimède).
Title of the thesis: *Number of rational points on singular curves over finite fields.*
Supervisor: Yves Aubry.

09/10 – 07/12
M.S. *cum laude* in Mathematics, *Università degli Studi di Roma Tre*, Rome.
Title of the master's thesis: *Almost Dedekind domains.*
Supervisor: Stefania Gabelli.

09/11 – 01/12
Five-months Erasmus Exchange Program, *Université d'Aix-Marseille II*, Marseille, within the master *Mathématiques Discrètes et Fondements de l'Informatique*.

09/07 – 07/10
B.S. *cum laude* in Mathematics, *Università degli Studi di Roma Tre*, Roma.

Research Publications

J.-F. Biasse, <u>A. Iezzi</u>, M. Jacobson Jr. - *A note on the security of CSIDH*, Progress in Cryptology - INDOCRYPT 2018, Proceedings, Security and Cryptology, vol. 11356, Springer, pp. 153-168, (2018).

Y. Aubry, <u>A. Iezzi</u> - *Optimal and maximal singular curves*, Contemporary Mathematics, 686, Amer. Math. Soc., pp. 31-43, (2017).

Y. Aubry, <u>A. Iezzi</u> - *On the maximal number of points on singular curves over finite fields*, Mosc. Math. J. 15 (2015), no. 4 pp. 615-627.

Talks

Research talks

2/09/2018	*Isogeny-based cryptography, a quantum-safe alternative*, Florida Women In Mathematics Day, Florida Atlantic University.
1/08/2018	*Un échange de clés dans le monde des calculateurs quantiques (A key exchange in the world of quantum computers)*, workshop ANR Manta, Paris, France.
12/11/2018	*A note on the security of CSIDH*, Indocrypt 2018, New Delhi, India.
11/19/2018	*On the security of a recent isogeny-based cryptosystem*, Discrete Mathematics Seminar, Department of Mathematics & Statistics, University of South Florida.
03/05/2018	*A singular trip through the world of algebraic curves over finite fields*, Discrete Mathematics Seminar, Department of Mathematics & Statistics, University of South Florida.
11/20/2016	*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.
11/05/2015	*Courbes optimales et maximales (Optimal and maximal curves)*, Seminar of Arithmetic and Information Theory, I2M, Université d'Aix-Marseille.
05/18/2015	*Towards maximal singular curves over finite field*, Arithmetics, Geometry, Cryptography and Coding Theory (AGCT), CIRM, Marseille.
02/17/2015	*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.
01/29/2015	*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.
06/11/2014	*Singular curves over finite fields with many rational points*, Yet Another Conference on Cryptography (YACC), Porquerolles Island, France.
05/12/2014	*Singular curves over finite fields with many rational points*, Antalya Algebra Days XVI, Antalya, Turkey.
05/14/2013	*Courbes avec un nombre fixé de points rationnels (Curves with a prescribed number of rational points)*, Seminair of Algebra at IMATH, Université de Toulon.

Outreach talks

01/22/2016	*Allô Papa Tango Charlie, théorie des codes correcteurs (Allô Papa Tango Charlie, theory of error-correcting codes)*, for a High School class, Marseille.
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, Marseille.
03/25/2014	*L'hypothèse de Riemann dans le paysage des courbes sur les corps finis (The Riemann Hypothesis in the landscape of curves over finite fields)*, Ph.D. student seminar, Marseille.
03/14/2014	*Pi... comme pizza (Pi... as pizza)*, *Pi day 2014*, Campus Saint-Charles, Marseille.

Teaching experience

UNIVERSITY OF SOUTH FLORIDA - UNITED STATES

Graduate courses:

- *Algebraic curves over finite fields* (Fall 2018).

Undergraduate courses:

- *MAC 2311 - Calculus 1* (Fall 2018, Spring 2018, Fall 2017).

<div align="center">AIX-MARSEILLE UNIVERSITÉ - FRANCE</div>

Undergraduate courses:

- *Linear algebra* (Spring 2017, Spring 2016).

- *Geometry and Arithmetic* (Fall 2016, Fall 2015).

- *Refresher course* in mathematics (Fall 2016, Fall 2015, Fall 2014).

- Recitations: *Geometry and Arithmetic* (Fall 2014), *Introduction to Analysis* (Fall 2014), *Linear algebra* (Spring 2014).

Engaging a broad body of students:

- *Stages Hippocampe* (three-day research initiation for high school students):

  - *Allô Papa Tango Charlie, théorie des codes correcteurs (Theory of error-correcting codes)* (supervisor).
  - *The Mathematics of Sudoku* (tutor).
  - *Théorie des noeuds (Knot theory)* (tutor).
  - *Les Mathématiques des jeux : comment gagner presque sûrement (The mathematics of games: how to win almost surely)* (tutor).

<div align="center">UNIVERSITÀ DEGLI STUDI DI ROMA 3 - ITALY</div>

Tutor for undergraduate courses:

- *General topology and elements of algebraic topology* (Spring 2011).

- *Euclidean and projective geometry* (Fall 2010, Fall 2009).

- *Theory of equation and Galois theory* (Spring 2010).

Mathematical outreach activities

- Founder member of the **Pi day association** that promotes and communicates mathematics to the general public. The association has been awarded the **d'Alembert Prize** in 2016 by the French Mathematical Society (Société Mathématique de France).

Organization of events of popularization of science

04/26/2017 Co-organizer of **Treize Minutes Jeunes Chercheurs 2017** - Alcazar, Marseille - 300 people. Night of multidisciplinary conferences by young researchers, organized by a group of Ph.D students of Aix-Marseille Université.

03/14,16,19/17 General chair of **Tournée de** π - 3.14 Paris (Théâtre des Variétés), 3.16 Marseille (Le Silo), 3.19 Lyon (Le Transbordeur) - 2000 people. *From Marseille to Vegas* (mathematical musical), three talks for the general public, booths, pie contest with prizes.

05/10/2016	Co-organizer of **Treize Minutes Jeunes Chercheurs 2016** - Alcazar, Marseille - 300 people. Night of multidisciplinary conferences by young researchers, organized by a group of PhD students of Aix-Marseille Université.
03/14/2016	Co-organizer of **Pi day 2016** - Théâtre National de la Criée, Marseille - 700 people. *Les π travaux d'Archimède* (mathematical musical), three talks for the general public, booths, pie contest with prizes.
03/14/2015	Co-organizer of **Pi day 2015** - MuCEM, Marseille - 500 people. *Mathematical day revolved around a morning-show with three talks to the general public, a pie contest with prizes and an afternoon of booths and fun animations.*

Article

E. Berardini, J. Cohen, G. Geoffroy, <u>A. Iezzi</u>: *Pi Day: An International Festival of Mathematics*. EMS Newsl. 3 (2018), 36-37. doi: 10.4171/NEWS/107/8

Booths, expositions, etc.

10/2016	Guide for the booth *Tous les chemins mènent à Rome-Dragon (T3) (All roads lead to Rome-Dragon)*, *Fête de la Science 2016*, Vieille Charité, Marseille.
05/2016	Guide for the *Exposition Imaginary*, Salon Culture et Jeux Mathématiques, Paris.
02/2016	Participation to the writing of the theatrical piece *Les π travaux d'Archimède*, performed during *Pi day 2016*, at Théâtre National de la Criée in Marseille.
10/2015	Creation of a booth on cryptography and coding theory: *Le charabia du numérique : mégapixels, gigaoctets, cryptage... et autres gros mots !*, *Fête de la Science 2015*, Villa Méditerranée, Marseille.
03/22/2015	Guide for the *Exposition Imaginary*, Vieux Port, Marseille.
03/14/2015	Creation of the booth *Les Mathématiques nous transportent en... cuisine ! (The Mathematics of cooking)*, *Pi day 2015*, MuCEM, Marseille.

Administrative Responsibilities

11/16-01/18	Secretary of the *Pi day* association.
03/14-08/17	Appointed member of I2M council (college of non-permanent researchers).
11/15-11/16	Treasurer of the *Pi day* association.

Academic activities

- Reviewer for the journal *Finite Fields and Their Applications* and for *Mathematical Reviews*.
- Organizer of a welcome day for the academic years 2014/2015 and 2015/2016 of the *Mathematics and Computer Science Doctoral School* of Aix-Marseille Université.

Computer skills

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

Language skills

Italian (mother tongue), French (fluent), English (fluent), Spanish (fluent), Portuguese (intermediate).

2012-2017 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 has been awarded in 2016 the **Trophée Phocéen Étudiant** (for students initiatives) by the city of Marseille .

Hobbies

Photography, cooking, piano, dance (jazz, contemporary, hip-hop, latin, rock&roll), tennis, hiking, friends, ...