

Filippo Alberto Edoardo Nuccio Mortarino Majno di Capriglio

Personal data

Date and place of birth January 23rd 1982 – Turin (Italy).

Nationality Italian.

Position Lecturer (*Maitre de Conférences*), Université Jean-Monnet, Saint-Étienne (France).

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Education

2004–2009 PhD in Mathematics, University of Rome La Sapienza: *On \mathbb{Z}_p -extensions of real abelian number fields*, direction: prof. René Schoof.

01.–07. 2007 Visiting researcher, Laboratoire des Mathématiques de Caen (France).

01.–07. 2006 Visiting researcher, Laboratoire des Mathématiques de Jussieu (Paris).

2000–2004 Master in Mathematics, University of Turin: *Minorazione dell'altezza di Weil in campi di numeri abeliani e CM*, direction: prof. Andrea Mori.

Academic positions

10. 2019–08. 2020 Visiting Professor, Pacific Institute for Mathematical Sciences, Vancouver (Canada).

11. 2013–present Lecturer, Univ de Lyon, Université Jean Monnet, Saint-Étienne (France).

11. 2011–9. 2013 JSPS post-doctoral position, University of Osaka (Japan).

03. 2011–10. 2011 INDAM post-doctoral position, University of Milan (Italy).

06. 2009–02. 2011 MATCH post-doctoral position, University of Heidelberg (Germany).

01.–05. 2009 Invited researcher, University of Leiden (Netherlands).

Grants

10. 2019–08. 2020 CNRS International Exchange Grant, 33.000 €, CNRS (France).

10. 2019–08. 2020 PIMS Visiting Professor, 3.000 CAD, PIMS (Canada).

01. 2012–06.2013 “Grant-in-Aid for Scientific Research”, 2200000 ¥, JSPS (Japan).

Publications

Accepted papers

1. (with A. Baanen, S. R. Dahmen and A. Narayanan) *A formalization of Dedekind domains and class groups of global fields*, Leibniz International Proceedings in Informatics, Volume 193, ITP 2021.
DOI: 10.4230/LIPIcs.ITP.2021.5.
2. (with R. Sujatha) *Residual supersingular Iwasawa theory and signed Iwasawa invariants*, Rendiconti del Seminario Matematico della Università di Padova, to appear.
arXiv:1911.10649.
3. (with L. Caputo) *Class number formula for dihedral extensions*, Glasgow Mathematical Journal, 62 (2020), no. 2, 323–353.
DOI:10.1017/S0017089519000144
4. (with N. Billerey) *Représentations galoisiennes diédrales et formes à multiplication complexe*, Journal de théorie des nombres de Bordeaux, 30 no. 2 (2018), 651–670.
DOI:10.5802/jtnb.1043.
5. *Fitting Ideals*, in J. Coates, C. S. Dalawat, A. Saikia and Sujatha R. (eds), “Guwahati Workshop on Iwasawa Theory of Totally Real Fields”, LNS 12, Ramanujan Mathematical Society, Mumbai, (2010) 83–95.
6. *Cyclotomic Units and Class groups in \mathbb{Z}_p -extensions of real abelian fields*, Mathematical Proceedings of the Cambridge Philosophical Society, 148 (2010), 93–106.
DOI:10.1017/S0305004109990119
7. (with B. Anglès) *On Jacobi Sums in $\mathbb{Q}(\zeta_p)$* , Acta Arithmetica, 142.3 (2010), 199–218.
DOI:10.4064/aa142-3-1.
8. (with L. Caputo) *A Criterion for Greenberg’s Conjecture*, Proceedings of American Mathematical Society, 136 (2008), 2741–2744.
DOI:10.1090/S0002-9939-08-09283-6
9. (with F. Amoroso) *Algebraic Numbers of Small Weil’s Height in CM-fields: on a Theorem of Schinzel*, Journal of Number Theory, 122 (2007) 247–260.
DOI:10.1016/j.jnt.2006.04.005

Preprints

1. (with L. Caputo) *Cohomology of normic systems and fake \mathbb{Z}_p -extensions*, arXiv:0807.1135, submitted.
2. (with T. Ochiai) *Appendix to “Iwasawa Invariants for the Fine Selmer Groups in Coleman Families”, by J. Ray*, submitted.

Talks as invited speaker

At conferences

- April 2012 : International Workshop on Iwasawa theory (Osaka, Japan), three lectures on *p-adic L functions for totally real number fields*
- December 2011 : Algebraic Number Theory (RIMS, Kyoto, Japan), *Cyclotomic Units and Greenberg Conjecture*
- April 2011 : Instructional workshop on the noncommutative main conjectures (Münster, Germany), *Congruences between p-adic L-functions and Shintani decomposition*
- 12/08/2010 : ICM Satellite conference “Galois Representations in Arithmetic and Geometry” (Goa, India), *Congruences between p-adic L-functions*
- September 2008 : Guwahati Workshop on Iwasawa Theory of Totally Real Fields (Guwahati, India), two introductory courses on Fitting Ideals
- 09/06/2008 : Number fields, lattices and curves (Cetraro, Italy), *Cyclotomic units and class groups*
- 24/07/2005 : Number fields and curves over finite fields (Anogia, Greece), *Lower bound for Weil’s height in abelian and CM fields*

At local seminars I have been invited to give talks in regular seminars of the Universities of Waseda, Keio, Osaka (Japan), Montpellier, Besançon, Caen, Grenoble, Limoges, Lyon (France), Dublin (Ireland), Heidelberg, Essen, Berlin, Potsdam (Germany), Barcelona (Spain), Exeter, Durham (UK), Vancouver, Victoria (Canada).

Organization of study groups

- 01.2019–07.2019 Organization with Michael Bulois of a study group of J. P. Serre’s paper *Homologie singulière des espaces fibrés. Applications*, UJM Saint-Étienne.
- 01.2018–07.2018 Organization with Michael Bulois of a study group *Introduction to stacks*, UJM Saint-Étienne.
- 01.2017–07.2016 Organization with Michael Bulois of a study group *Grothendieck Topologies and Topoi*, UJM Saint-Étienne.
- 01.2016–07.2015 Organization with Michael Bulois of a study group *Derived Categories*, UJM Saint-Étienne.
- 01.2017–07.2016 Organization with Ramla Abdellatif of a study group *On Bertolini–Darmon’s works in anticyclotomic Iwasawa theory*, ENS Lyon.
- 09.2010–03.2011 Organization with Jakob Stix of a study group on C. Demarche’s paper *Obstruction de descente et obstruction de Brauer–Manin étale*, University of Heidelberg.

Teaching activities

As module leader

2016/17–2017/18 Third year module “Probabilities”, IUT Saint-Étienne (26 students, 24 hours)

2015/16–2018/19 Second year module “Parametric curves” (80 students, 12 hours).

10.2014–12.2014 Master module “Introduction to scheme theory”, ENS Lyon (10 students, 20 hours).

2013/14–2018/19 First year module “Linear Algebra”, IUT Saint-Étienne, (100 students, 48 hours).

2013/14–2014/15 First year module “Calculus”, IUT Saint-Étienne, (100 students, 36 hours).

As teaching assistant

09.2008–01.2009 Fourth year module “Cryptography”, Univ. Rome 2 (10 students, 20 hours).

09.2007–01.2008 First year module “Linear Algebra”, Univ. Rome 2, (30 students, 12 hours).

09.2006–01.2007 First year module “Linear Algebra”, Univ. Rome 1, (100 students, 24 hours).

09.2005–01.2006 First year module “Calculus”, Univ. Rome 1, (100 students, 24 hours).

Students

02.2019–07.2019 Supervision of the Master Thesis *Iwasawa theory for CM elliptic curves* of Patricío Pérez Piña, ENS Lyon.

02.2019–07.2019 Supervision of the Bachelor Thesis *p-adic logarithm and p-adic exponential* of Emin Ali Calyaka, UJM Saint-Étienne.

09.2014 External referee for the PhD thesis *On the Birch and Swinnerton-Dyer conjecture for elliptic curves of analytic rank 0* by Andrea Berti, University of Milan (under the supervision of prof. Massimo Bertolini)

Editorial Responsibilities

11. 2020–présent Member of the board of MathOA, an organization aimed at facilitating and accelerating the switch to open access publishing in Mathematics.

10. 2017–today Algebraic Combinatorics, (ed. Centre Mersenne): layout editor.

06. 2017–11. 2019 Math. Slovaca, (ed. De Gruyter Open): section editor “Number Theory”.

09. 2016–présent Journal of Math. Analysis and Application, (ed. Elsevier), managing editor.

05. 2016–présent Open Mathematics, (ed. De Gruyter Open): section editor “Number Theory”.

07. 2015–présent I have served as referee for the journals *Abhandlungen aus dem Mathematischen Seminar der Universität Hamburg*, *Annales Mathématiques du Québec* (ed. Springer), *Confluentes Mathematici* (ed. Cedram), *Journal für die Reine und Angewandte Mathematik* (ed. De Gruyter), *Journal of Algebra and its Applications* (ed. Elsevier), *Journal de Théorie des Nombres de Bordeaux* (ed. Cedram), *Mathematica Slovaca* (ed. De Gruyter), *New York Journal of Mathematics*, *Tokyo Journal of Mathematics*.

05. 2007–12. 2018 Reviewer for the mathematical databases MathSciNet and Zentralblatt MATH.

Other skills

Computing Good knowledge of \LaTeX , HTML, pari/gp, SAGE

Languages

- Italian: native.
- English, French: C2
- German: B2
- Hebrew, Yiddish: A2