

CURRICULUM VITAE

Dr. Valerio Talamanca

Current Position and address

Adjunct Professor, Roma Tre University
Dipartimento di Architettura and Dipartimento di Matematica e Fisica
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INdAM Associate for the programme INdAM-DP-COFUND-2015 - EUROPEAN COMMISSION Research Executive Agency (REA) n.713485

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Education

Ph.D. in Matematica February 1995

Brandeis University.
Thesis: “Height Preserving Transformations on Linear Spaces”.
Advisor: Prof. Alan L. Mayer

Laurea in Matematica (cum laude) January 1989

Università degli Studi di Roma “La Sapienza”, Roma, Italia.
Advisor : Prof. E. Sernesi.

Professional experiences

Adjunct Professor, Roma Tre University, March 2004-August 2006 and October 2007-present

Research fellow, Department of Pure and Applied Mathematics, L’Aquila University, October 1st, 2001 - September 31st, 2003

Instructor, Roma Tre University October 1st, 1999- June 30th, 2001

Visiting Researcher Korteweg-de Vries Institute for mathematics, Universiteit van Amsterdam, October 1st, 1998 - September 31st, 1999.

Research Assistant, Mathematical Institute, University of Oxford - in the framework of the EC-network Arithmetic Geometry, May 1st - June 30th 1998

Post-Doctoral fellow, University of Padova, Department of Pure and Applied Mathematics: April 1st 1996 - March 31st, 1998:

Visiting Researcher, Roma Tre University, December 1994 - March 1996, funding provided by INDAM and Fondazione Francesco Severi.

Research Interest

Number theory, Arithmetic geometry, Algebraic geometry, Dynamical system, in particular

- Height functions on linear spaces and semisimple algebras over global fields
- Height functions on linear algebraic groups
- Abelian varieties
- Arithmetic of dynamical systems

Fellowships and Awards

Fellowship of the Italian National Research Council 1998-99

Fondazione F. Severi Prize for young mathematicians 1995

Senior fellowship of the Istituto Nazionale di Alta Matematica 1994

Fellowship of the Italian National Research Council for studying abroad 1991-93

International Cooperation

Member of the West Asian Mathematical school committee 2018-

Member of the Scientific Committee for the *CIMPA research school on Group Actions in Arithmetic and Geometry* Universitas Gadjah Mada Yogyakarta, Indonesia February 17-28, 2020

Member of the Scientific Committee for the *CIMPA research school on Elliptic curves: arithmetic and computation* Universidad de la República, Montevideo, Uruguay February 11 - 22, 2019

Member of the Scientific Committee for *Emil Artin International School in Mathematics for Students A Wams school on The mathematics of Artin's conjectures* Yerevan State University, Yerevan, Armenia May 21th-25th, 2018

Member of the Scientific Committee for the *CIMPA research school on Explicit Number Theory*, The University of the Witwatersrand, Johannesburg, South Africa January 8th- 19th, 2018

Member of the Scientific Committee for the *joint CIMPA-ICTP research school on Artin L-functions, Artin's primitive roots conjecture and applications*, Nesin Mathematical village, Sirince, Turkey, May 29th- June 12, 2017

Member of the Scientific Committee for the *WAMS research school on Topics in algebraic number theory and Diophantine approximation*, Mathematics Department, College of Science, Salahaddin University- Erbil, Kurdistan Region/IRAQ, March 12th - 17th, 2017.

Member of the Scientific Committee for the *joint CIMPA-ICTP research school on Lattices and applications to cryptography and coding theory*, Ho Chi Minh University of Pedagogy, Ho Chi Minh City, Vietnam, August 1st - 12th, 2016

Member of the Scientific Committee for the *joint CIMPA-ICTP-UNESCO-MESR-MINECO-PHILIPPINES research school on Algebraic Curve over Finite Fields*, University of the Philippines Dillman, Manila, July 22nd - August 2nd 2013

Publications

Symmetries for heights on split tori, Journal de Théorie des Nombres de Bordeaux, **30**, no.1 (2018), pp. 41-57.

Folding cubic roots: Margherita Piazzolla Beloch's contribution to elementary geometric constructions, (with Paola Magrone) Proceedings of the 16th Conference on Applied Mathematics (APLIMAT 2017), Slovak University of Technology, Bratislava, Slovak Republic, January 31st - February 2nd, 2017, ISBN: 978-1-5108-3698-3

Canonical heights over global function fields Riv. Mat. Univ. Parma (new series) Vol 7 (2016) pp. 247-258 (Proceeding of the Third Italian Number Theory Meeting)

Modelli geometrici per nuvole di punti, (with Corrado Falcolini) in “Atti del Convegno 2015, Mathematica Italia User Group Meeting, Napoli 28-29 Maggio 2015” CD-ROM, ISBN 978-88-96810-04-0.

Prodromes of a theory of heights on non-commutative separable K -algebras, “Proceedings of the Second Italian Conference in Number Theory, Parma (Italy) 13-15 November 2003” Riv. Mat. Univ. Parma: (7) 3* (2004)

The Canonical Height of a finite étale K -algebra, “*Number theory, Proceedings of the VII Meeting of the Canadian Number Theory Association, Montreal 2002*”, CRM Proceedings & Lectures notes vol 36, American Mathematical Society, 2004, pp 295-303, .

A Gelfand-Beurling formula for heights on endomorphisms rings, Journal of Number Theory, n. 1, vol 83 (2000), pp. 91-105

A Note on Height Pairings on Polarized Abelian Varieties, Atti dell’Accademia Nazionale dei Lincei, Rendiconti Lincei, Matematica e Applicazioni, 1999, serie IX - volume X - Fascicolo I, pp. 57-60

Height preserving linear transformations on semisimple K -algebras, Proceedings of the XIX^{èmes} Journées Arithmétiques, Collectanea Mathematica, Vol. XLVIII (1997), fasc. 1-2, pp 217-234,

An Introduction to the theory of height functions, Proceedings of “Primo Incontro Italiano di Teoria dei Numeri”, Rendiconti del Seminario Fisico e Matematico di , Rendiconti del Seminario Fisico e Matematico di Torino, Vol. 53 (1995) n.4, pp 437-453

Editorial services

Editor (with Marina Monsurrò, Francesco Pappalardi and Alessandro Zaccagnini) of the *Proceedings of the 4th mini symposium of the Roman Number Theory Association*, Università Roma Tre, April 18th-20th, 2018, IF PRESS, ISBN 978867881710

Editor (with Marina Monsurrò, Francesco Pappalardi and Alessandro Zaccagnini) of the *Proceedings of the 3rd mini symposium of the Roman Number Theory Association*, Università Roma Tre, April 26th, 2017, IF PRESS, ISBN 9788867881130

Editor (with Marina Monsurrò, Francesco Pappalardi and Alessandro Zaccagnini) of the *Proceedings of the 2nd mini symposium of the Roman Number Theory Association*, Università Roma Tre, April 26th, 2016, IF PRESS, ISBN 9788867881130

Editor (with Marina Monsurrò and Francesco Pappalardi) of the *Proceedings of the 1st mini symposium of the Roman Number Theory Association*, Università Europea di Roma, May 7th, 2015, IF PRESS, ISBN 9788867880775

Guest editor (with René Schoof) of the proceedings of the XXI^{èmes} Journées Arithmétiques, Journal de Théorie des Nombres de Bordeaux, Vol. 13, Fasc. 1, 2001

Invited seminar and short courses

Heights on elliptic curves, short course held at the CIMPA research school on Elliptic curves: arithmetic and computation Universidad de la República, Montevideo, Uruguay February 11 - 22, 2019

Large primes and where to find them, The Eleventh International Conference on Mathematics and Mathematics Education in Developing Countries The National University of Laos, Laos, 2-4 Novembre 2018

An height pairing on split tori International Conference on Class Groups of Number Fields and Related Topics-2018, Harish-Chandra Research Institute, Allahabad, India, 8-11 Ottobre 2018

Cube duplication via paper folding, The Tenth International Conference on Science and Mathematics Education in Developing Countries, Mandalay University, Mandalay, The Republic of the Union of Myanmar, November 10-12, 2017

Groups and algebraic methods in number theory short course held at “Emil Artin International School in Mathematics for Students a Wams school on The mathematics of Artin’s conjectures ” Yerevan State University, Yerevan, Armenia May 21 th- 25th, 2018

Introduction to Algebraic Number Theory, short course held at the CIMPA research school on *Explicit Number Theory*, The University of the Witwatersrand, Johannesburg, South Africa, 8 - 19 Gennaio 2018

Elliptic curves, short course held at the *joint CIMPA-ICTP research school on Artin L-functions, Artin’s primitive roots conjecture and applications*, Nesin Mathematical village, Sirince, Turkey, May 29th- June 12, 2017

Mahler measure of polynomials, short course held at the WAMS school *Topics in algebraic number theory and Diophantine approximation*, Mathematics Department, College of Science, Salahaddin University- Erbil, Kurdistan Region/IRAQ, March 12th - 17th, 2017.

Lattices and modular forms, short course held at the *joint CIMPA-ICTP research school on Lattices and applications to cryptography and coding theory*, Ho Chi Minh University of Pedagogy, Ho Chi Minh City, Vietnam, August 1st - 12th, 2016

Origami e numeri costruibili, Seminari Formulas, Roma, March 26 2015.

Algebraic curves short courses held at the *joint CIMPA-ICTP-UNESCO-MESR-MINECO-PHILIPPINES research school on Algebraic Curve over Finite Fields*, University of the Philippines Dillman, Manila, July 22nd - August 2nd 2013

Dalle ellissi alle curve ellittiche, Seminari Formulas, Roma, April 23 2013.

The Chebotarëv theorem *Sa Conjectura de Catalan*, Menorca, 1-5 settembre 2004.

Heights on finite dimensional separable K -algebras, Number theory seminar, Università di Tor Vergata, Febraury 6 2004.

A Gelfand-Beurling formula for height on endomorphisms rings, Intercity Number Theory Seminar, Rijksuniversiteit Leiden, October 2 1998.

Altezze su spazi lineari I&II, Dipartimento di Matematica, Università di Padova, Ottobre 1996

Una Introduzione alla Teoria delle Altezze, Primo Incontro Italiano di Teoria dei Numeri, Roma, January 3-5 1995

Sulla Teoria delle Altezze, Giornate di Geometria Algebrica II, Università di L’Aquila, January 1994

Contributed talks

Folding cubic roots: Margherita Piazzolla Beloch’s contribution to elementary geometric constructions, 16th Conference on Applied Mathematics (APLIMAT 2017), Slovak University of Technology in Bratislava, Slovacchia, 31 Gennaio - 2 Febbraio 2017.

On canonical heights on endomorphisms rings over global function field, Terzo Incontro Italiano di Teoria dei Numeri, 21-24 Settembre, Centro De Giorgi, Pisa.

Symmetries for heights on split tori, *XXIX^{èmes} Journées Arithmétiques*, Debrecen, 6 -10 luglio 2015.

Canonical heights on Endomorphism rings and étale algebras over global function fields, *XXVIIth Journées Arithmétiques*, Vilnius, June 26 - July 1 2011.

Prodromi di una teoria delle altezze su K -algebre separabili non commutative, Secondo convegno Italiano di Teoria dei Numeri, Parma, November 13-15 2003.

Heights on finite étale K -algebras, comunicazione al Canadian Number Theory Association VII Meeting, Montreal, May 19-25 2002.

Homogenous heights for linear transformations, *XX^{èmes} Journées Arithmétiques 97*, Limoges, September 16-20 1997.

Height preserving linear transformations on semisimple K -algebras, XIXèmes Journées Arithmétiques, Barcelona, July 16-20 1995.

Professional activities and services

Member of the organizing committee for the *Fifth mini symposium of the Roman number theory association*, Roma Tre University, April 10-12, 2017

Member of the scientific committee for the *Second International conference of Mathematics*, College of Science, Salahaddin University- Erbil, Kurdistan Region/IRAQ, 2-5 February 2019

Member of the organizing committee for the *Fourth mini symposium of the Roman number theory association*, Roma Tre University, April 18-20, 2018.

Member of the local organizing committee for *Numeration 2017*, Università Roma Tre, June 5th-9th, 2017.

Member of the organizing committee for the *Third mini symposium of the Roman number theory association*, Roma Tre University, April 6, 2017.

Member of the local organizing committee for *Leuca2016, Celebrating Michel Waldschmidt's 70th birthday* June 13-17 2016, Marina di San Gregorio, Pat (Lecce),

Member of the organizing committee for the *Second mini symposium of the Roman number theory association*, Roma Tre University, April 26, 2016.

Member of the organizing committee for the *First mini symposium of the Roman number theory association*, Università Europea di Roma, May 7, 2015

Organizer (with Paola Magrone) for the "Seminari Formulas", Roma Tre University, 2013-15.

Organizer (with Laura Tedeschini Lalli) for the "Seminari Formulas", Roma Tre University, 2010.

Member of the local organizing committee of the "*Meeting on Algebraic Varieties*", Roma Tre University, 18-20 Dicembre 2003.

Organizer (with Emilio Musso) for the Geometry seminar, Università di L'Aquila 2001-2003

Professional associations

Member of the Centre International of Mathematics Pures and Appliques

President of the Roman Number Theory Association

Member of the American Mathematical Society

Member of the Unione Matematica Italiana

Teaching experience

Courses

- *Istituzioni di Matematiche II*, Architecture Department, Roma Tre University, 2014-2016,
- *Istituzioni di Matematiche I*, Architecture Department, Roma Tre University, 2007-2014 and 2004-2006
- *Matematica I*, Cdl in Scienze Geologiche, Roma Tre University, 2004-2006

Short courses

- *Plane curves*, Mathematics Department, Roma Tre University, spring 1998
- *Arithmetic Applications of complex function theory* Mathematics Department, Roma Tre University, spring 1997
- *Moduli of elliptic curves over \mathbf{C}* Mathematics Department, Roma Tre University, spring 1996

Wolfram Mathematica Laboratory

- *Geometry of curves and surfaces*, Mathematics Department, Roma Tre University, 2011-2016
- *Curves and Surfaces*, Architecture Department, Roma Tre University, 2009-2016

Recitation section

- In the past years I held recitation sections in the following subjects: Galois theory, abstract algebra, linear algebra and geometry, complex analysis, topology, cryptography, calculus.

Research networks

Geometria sulle Varietà Algebriche e dei loro spazi dei moduli (GVA) a research network financed by the Italian ministry of education and research, member of the Roma Tre team (2000-2016)

European Research Training Network “Galois Theory and Explicit Methods in Arithmetic”, 2006-2010, contract number: MRTN-CT-2006-035495. External member of the Università of Roma Tor Vergata team.

European Research Training Network “Galois Theory and Explicit Methods in Arithmetic” 2000-2004, contract number: HPRN-CT-2000-00114. External member of the Università of Roma Tor Vergata team.

Member of the GNSAGA group (financed by Istituto Nazionale di Alta Matematica).