Amos Turchet Curriculum Vitae

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↻ *Last Updated: October 2024*

EMPLOYMENT

2023 –	Associate Professor, Università di Roma Tre
2020 – 2023	Ricercatore a tempo determinato tipo B (tenure track), Università di Roma Tre
2019 – 2020	Junior Visitor, Scuola Normale Superiore di Pisa
2016 – 2019	Acting Assistant Professor, University of Washington (USA)
2014 – 2016	Postdoctoral Researcher, Chalmers University of Technology (Sweden)

VISITING APPOINTMENTS

Aug	2023	Visitor at NCTS Mathematical Division, Taipei, Taiwan
May	2013	Academic guest, Rational Points, Rational Curves and Entire Holomorphic Curves on Algebraic Varieties, Centre de recherches mathématiques, Montréal, Canada
2012 – 2013		Visiting Researcher, Brown University, USA Advisors: Prof.s Dan Abramovich and Joseph Silverman

EDUCATION

2014	Ph.D. Mathematics, Università degli studi di Udine (advisor: Pietro Corvaja)
2010	M.S. Mathematics, Università degli studi di Udine, cum laude
2007	Classical Guitar Diploma, Conservatorio A. Boito di Parma, 10/10

RESEARCH INTERESTS

Arithmetic and Algebraic Geometry, Number Theory

Publications

In Journals and Volumes

1. Divisibility of polynomials and degeneracy of integral points. (with E. Rousseau and J.T.-Y. Wang). – *Mathematische Annalen* **388** (2024), no.2, 1969–1999.
   doi: /10.1007/s00208-023-02564-3

2. Greatest common divisor results on semiabelian varieties and a conjecture of Silverman. (with F. Barroero and L. Capuano). – *Res. Number Theory* **10** (2024), no.1, Paper No. 17, 16 pp.
   doi: /10.1007/s40993-023-00494-2

3. Around the Chevalley-Weil theorem. (with P. Corvaja and U. Zannier) – *L'Enseignement Mathématique* **68** (2022), no. 1-2, 217–235.
   doi: 10.4171/lem/1027

4. Lang-Vojta Conjecture over function fields for surfaces dominating $\mathbb{G}_m^2$.
   (with L. Capuano.) – *European Journal of Mathematics* **8** (2022) no. 2, 573–610.
   doi: 10.1007/s40879-021-00502-8

5. Hyperbolicity And Uniformity Of Varieties Of Log General Type. (with K. Ascher and K. DeVleming.) – *International Mathematics Research Notices* **2022**, Issue 4, February 2022, 2532–2581.
   doi: 10.1093/imrn/rnaa186

6. Nonspecial varieties and Generalized Lang-Vojta conjectures. (with E. Rousseau and J.T.-Y. Wang) – *Forum Math. Sigma* **9** (2021), Paper No. e11, 29 pp.
   doi: 10.1017/fms.2021.8

7. The Erdős–Ulam problem, Lang's Conjecture, and uniformity. (with K. Ascher and L. Braune) – *Bulletin of the London Mathematical Society* **52** (2020), no. 6, 1053–1063. doi: 10.1112/blms.12381

8. Fibered Threefolds and Lang-Vojta's Conjecture over Function Fields.
   Transactions of the American Mathematical Society **369** (2017), no.12, 8537-8558.
   doi: 10.1090/tran/6968

9. A fibered power theorem for pairs of log general type. (with K. Ascher.) *Algebra and Number Theory* **10** (2016), no. 7, 1581–1600.
   doi: 10.2140/ant.2016.10.1581

10. Invitation to Integral and Rational points on curves and surfaces. (with P. Das.) *Rational Points, Rational Curves, and Entire Holomorphic Curves on Projective Varieties*, Contemporary Mathematics, vol. 654, Amer. Math. Soc., Providence, RI, 2015, pp. 53-73.
    doi: 10.1090/conm/654/13215

Submitted for Publication

11. The Algebraic Green-Griffiths-Lang Conjecture For Complements Of Very General Pairs Of Divisors (with K. Ascher and W. Yeong)

12. Tropical Curves Of Unibranch Points And Hypertangency (with L. Caporaso)

13. Hypertangency Of Plane Curves And The Algebraic Exceptional Set. (with L. Caporaso)

14. Rational Distances From Given Rational Points In The Plane. (with P. Corvaja and U. Zannier)

15. Simply Connectedness And Hyperbolicity (with C. Gasbarri, E. Rousseau and J.T.-Y. Wang)

16. Some examples of exceptional loci in Vojta Conjecture.

Other Publications

17. Hyperbolicity of varieties of log general type.
    chapter in *Arithmetic Geometry of Logarithmic Pairs and Hyperbolicity of Moduli Spaces*, Nicole, Marc-Hubert (Ed.), CRM Short Courses - Springer International Publishing. doi: 10.1007/978-3-030-49864-1.

18. Geometric Lang-Vojta Conjecture in the projective plane. Ph.D. Thesis, 2014.

Lecture Series

2024	Training school in Algebraic Geometry and Arithmetic, Kigali, Rwanda, August 2024 Title: *Introduction to Diophantine Geometry*
2024	An AESIM school on Algebra, Number theory and their applications to Cryptography Erbil, Kurdistan Region, Iraq, February 2024 Title: *Elliptic curves Cryptography*
2023	NCTS Mathematical Division, Taipei, Taiwan, August 2023 Title: *Uniformity Results in Diophantine Geometry*
2021	10th swiss-french workshop in Algebraic Geometry, Charmey, September 2021 Title: *Diophantine geometry and hyperbolicity properties of algebraic varieties*
2019	School (and Workshop) on Diophantine geometry and special varieties Trento, September 2019, Supporting lecturer
2018	Geometry and arithmetic of orbifolds, Montréal December 2018 Title: *Arithmetic and Geometry of log pairs* (w. Kenny Ascher)

Seminars and Conferences as Speaker

2024	Université de Strasbourg, Séminaire Arithmétique et géométrie algébrique, Strasbourg, France (upcoming) 8th Number Theory Meeting, Torino

2023   Convegno UMI, sezione Teoria dei Numeri, Pisa
        International Workshop On Several Complex Variables, Complex Geometry And Diophantine Geometry, Taipei, Taiwan
        CMND 2023 Thematic Program on Rationality and Hyperbolicity, University of Notre Dame, Notre Dame
        Università di Genova, Seminario di Teoria dei Numeri
2022   Université de Bretagne Occidentale, Seminaire Géométrie et Topologie, Brest, France
        Geometry and Arithmetic of Moduli Spaces, Pisa, Italy
        Geometric and Arithmetic Frontiers of Orbifolds, Montreal, Canada
        Foliations and Algebraic Geometry, Quimper, France
2021   Università di Bologna, Seminario di Algebra e Geometria
        Università La Sapienza, Seminario di Algebra e Geometria
        Università Tor Vergata, Geometry Seminar Tor Vergata
        Minisymposium "Number Theory" within the 8ECM (Online)
        Number Theory Online 2021 (Online)
2020   Universitá di Roma Tre, Geometry Seminar
2019   University of Freiburg, Seminar: Algebra, Zahlentheorie und algebraische Geometrie
        Topics On Nevanlinna Theory And Complex Hyperbolicities, Shanghai Center for Mathematical Sciences
        Université Paris-Sud, Audition pour MDC
        Diophantine Approximation and Value Distribution Theory at the interface of Arithmetic and Complex Hyperbolic Geometry. UQAM, Montréal
        Hawaii Number Theory 2019 conference (HINT 2019)
            Arithmetic Geometry Session
        Greater Vancouver Number Theory Day, UBC, Vancouver
2018   Canadian Math Society Winter Meeting, Vancouver
            Recent Advances in Arithmetic and Hyperbolic Geometry
        University of Oxford, Arithmetic Geometry Seminar
        Spring Eastern Sectional AMS Meeting, Portland University
            Special Session on Algebraic Geometry and its Connections
        University of Oxford, Algebraic Geometry Seminar
2017   BIRS, Diophantine Approximation and Algebraic Curves
        UBC, Algebraic Geometry Seminar
2016   University of Oregon, Number Theory Seminar
        University of Washington, Number Theory Seminar
        University of Washington, Algebra and Algebraic Geometry Seminar
        KTH, Seminar Algebra and Geometry
        Aix Marseille Université, Séminaire Géométrie, Dynamique et Topologie
        Universität Bayreuth, Algebraic Geometry Seminar
        Johannes Gutenberg University Mainz, SFB-Kolloquium

2015 Terzo Incontro Italiano di Teoria dei Numeri, Centro de Giorgi Pisa
Quantitative arithmetic geometry, Mittag-Leffler Institute
$\mathbb{N}^3$-days 2, University of Copenhagen
Chalmers University of Technology, Algebraic Geometry Seminar

2014 Universität Basel, Seminar Algebra and Geometry
Banff International Research Station, Vojta's Conjectures
Intercity workshop in Arakelov Theory, "Sapienza" Università di Roma
On Lang and Vojta's conjectures, CIRM Marseille

2013 TULSF VIII (A meeting in Algebraic Geometry), Ljubljana University
Brown University, Junior Arithmetic and Algebraic Geometry Seminars

2012 Moduli of Curves and Gromov-Witten Theory, Institut Fourier

Selected Conferences as a Participant

2024 Lean for the Curious Mathematicians 2024, CIRM, Marseille
Higher Dimensional Algebraic Geometry: James 60, San Diego

2022 Foliations in Algebraic and Birational Geometry, EPFL Lausanne
Banff International Research Station, Specialisation and Effectiveness in Number Th.

2021 Banff International Research Station, Geometry via Arithmetic

2019 Topics in Rational and Integral Points, Universität Basel
Birational Geometry and Hodge Theory – Entire Curves, Rational Curves and Foliation, CIRM Marseille

2018 International summer school on Arithmetic geometry, Università degli Studi di Salerno
Workshop on effectivity and ineffectivity for unlikely intersections, University of Manchester

2017 Western Algebraic Geometry Symposium, Fall 2017, UCLA
Specialization problems in Diophantine Geometry, Cetraro
Western Algebraic Geometry Symposium, Spring 2017, UBC
Banff International Research Station, Newton-Okunkov Bodies, Test Configurations, and Diophantine Geometry

2016 $\mathbb{N}^3$-days 4, University of Copenhagen

2015 Banff International Research Station, Distribution of Rational and Holomorphic Curves in Algebraic Varieties
2015 Summer Research Institute on Algebraic Geometry, University of Utah
Final ERC meeting in Diophantine Geometry, Accademia dei Lincei

2014 $\mathbb{N}^3$-days 1, University of Copenhagen
Second ERC Research Period on Diophantine Geometry, Cetraro
Géometrié Algébrique en Liberté, SISSA

2011 School and Conference on Modular Forms and Mock Modular Forms and their applications in Arithmetic, Geometry and Physics, ICTP

Awards and grants

2024	Grant for "8th Minisymposium of the RNTA": 2500 Euro (INDAM)
2023	Grant for "Winter Meeting in Algebra and Geometry": 2000 Euro (Found. Compositio)
2023	Habilitation for Associate Professor in Algebra and Geometry (01/A2)
2019	Qualification for Maître de conférences
2018	Nominee, University of Washington Postdoc Mentoring Award
2017	Grant for "Where Geometry meets Number Theory, a conference for 60th birthday of P. Salberger" : 110.000 SEK (GoCAS) and 93.000 SEK (Swedish Research Council)
2016	Grant for "Number Theory Days 5" : 25.000 SEK (GoCAS)
2015	Grant for "Number Theory Days 3" : 35.000 SEK (GoCAS)
2014	Knut and Alice Wallenberg Foundation Travel grant
2011 – 2014	MIUR Ph.D. Scholarship

Teaching

University Roma Tre, Professor

2024	Fall – Geometry for Electrical Engineering
2024	Spring – GE510: Algebraic Geometry 2
2023	Fall – CR510: Elliptic Cryptography
2023	Fall – Geometry for Electrical Engineering
2022	Fall – CR510: Elliptic Cryptography
2022	Spring – GE220: Topology
2021	Spring – GE450: Algebraic Topology

University of Washington, Professor

2019	Spring Math 308 H: Matrix Algebra (Linear Algebra)
	Winter Math 340 G: Abstract Linear Algebra
2018	Fall Math 308 C: Matrix Algebra (Linear Algebra)
	Math 308 D: Matrix Algebra (Linear Algebra)
	Spring Math 308 B: Matrix Algebra (Linear Algebra)
	Winter Math 582 G: Diophantine Geometry of Curves (Graduate Course)
	Math 308 D: Matrix Algebra (Linear Algebra)
2017	Fall Math 402: Introduction to Modern Algebra I (Group Theory)
	Spring Math 308 G: Matrix Algebra (Linear Algebra)
	Winter Math 308 A: Matrix Algebra (Linear Algebra)
	Math 308 D: Matrix Algebra (Linear Algebra)
2016	Fall Math 308 G: Matrix Algebra (Linear Algebra)

University of Washington, Reading courses

2018	Arithmetic of Elliptic Curves (1 graduate student)
	Uniformity of Rational points (4 undergraduate students)
2017	Diophantine Equations (4 undergraduate students)

Primality Tests and Elliptic Curves (4 undergraduate students)
Primality Tests and the AKS Theorem (4 undergraduate students)
Chalmers University of Technology, Professor

2015   Scheme Theory (Graduate Course)

Chalmers University of Technology, Teaching assistant

2015   MVE085: Multivariable Calculus
         MVE016: Calculus II
2014   MVE085: Multivariable Calculus

Università degli studi di Udine, Teaching assistant

2013 – 2014   Matematica Discreta per Informatica (Combinatorics, arithmetic and linear algebra)
2012 – 2013   Matematica Discreta per Informatica
2011 – 2012   Matematica Discreta per Informatica
                Matematica per Architettura (Multivariable calculus and linear algebra)
2010 – 2011   Matematica per Architettura

Conference Organization

Organizer

2024   Winter Meeting in Algebra and Geometry - Rome 2024
         Co-organizers: D. Fiorenza, M. Lanini, G. Lido, F. Meazzini, L. Schaffler
         8th Mini Symposium of the RNTA and Atelier Pari/GP
         Co-orgnizers: F. Barroero, C. Bertolin, L. Capuano, M. Monsurrò, F. Pappalardi,
         F. Pellarin, V. Talamanca, F. Tropeano
2023   Winter Meeting in Algebra and Geometry - Rome 2023
         Co-organizers: B. Bolognese, D. Fiorenza, M. Lanini
         7th Mini Symposium of the RNTA and 1st Atelier Lean
         Co-orgnizers: F. Barroero, C. Bertolin, L. Capuano, M. Monsurrò, F. Pappalardi,
         F. Pellarin, V. Talamanca
2022   Winter Meeting in Algebra and Geometry - Rome 2022
         Co-organizers: B. Bolognese, D. Fiorenza, M. Lanini
         Leuca2022, Celebrating Claude Levesque's, Damien Roy's and Michel Waldschmidt's
         birthdays
         Co-organizers: F. Barroero, D. Cafiero, L. Capuano, A. Mori, F. Pappalardi, V.
         Talamanca
         Algebraic Geometry in Roma Tre, On the occasion of Sandro Verra's 70th birthday
         Co-organizers: A. Bruno, L. Caporaso, M Lelli-Chiesa, A. F. Lopez, M. Melo, F.
         Merola, M. Pontecorvo, E. Sernesi, P. Supino, V. Talamanca, F. Viviani.
2021   Algebraic geometry conference - Christmas in Rome 2021
         Co-organizers: B. Bolognese, E. Fatighenti, R. Fringuelli
2019   AMS Joint Central and Western Sectional Meeting:
         Special session on "Arithmetic Geometry and its connections"
         Co-organizer: L. Capuano

2017 Where Geometry meets Number Theory, a conference for 60th birthday of P. Salberger
Co-organizer: J. Brandes, T. Browning, O. Marmon

2016 $\mathbb{N}^3$-days 5 at Chalmers University
Co-organizers: J. Brandes, D. Eriksson, P. Salberger, M. Westerholt-Raum

2015 $\mathbb{N}^3$-days 3 at Chalmers University
Co-organizer: D. Eriksson, P. Salberger, M. Westerholt-Raum

2011 9th Metaheuristics International Conference (Local Organizer)

ADVISING

PH.D. STUDENTS

2024 - Danilo Avaro, Sapienza Universitá di Roma

2024 - Ilaria Cruciani, Universitá Roma Tre (co-supervisor: L. Capuano)

THESIS SUPERVISED

exp. 2025 Aurora Guarnieri, Universitá Roma Tre - Undergraduate Thesis
"The Seifert Van Kampen Theorem"

2024 Domenico Marino, Sapienza Universitá Roma - Master thesis:
"Height Inequality and applications to the Uniform Mordell Conjecture"

2023 Cecilia Perucca, Universitá Roma Tre - Undergraduate thesis:
"Algoritmo Mapper e Omologia Persistente"

2016 Stepan Maximov, Trang Nguyen, Robin Sorsa Sigurdson, Olivia Stalin
Chalmers University of Technology - Undergraduate thesis:
"Primality Tests and the AKS primality test"

RESEARCH PROJECTS FOR UNDERGRADUATES

2018 Washington Experimental Mathematical Lab: Uniformity of Diophantine Equations

2017 Washington Experimental Mathematical Lab: Elliptic Curves and Primality Tests
Washington Experimental Mathematical Lab: The AKS Primality Test

OUTREACH

2024 Lecturer, Professione ricercatore - Roma Tre University

2022 Lecturer, Professione ricercatore - Roma Tre University

2018 Lecturer, Math Day - University of Washington

2017 Lecturer, Math Day - University of Washington

SERVICE

DEPARTMENTAL SERVICE

2021 – pres. Roma Tre University: Organizer of the Geometry Seminar
Roma Tre University: Library representative for the Mathematics Section

2018 Leading Acting Assistant Professor (guidance for new postdocs)

2014 – 2016 Chalmers University of Technology: Organizer of the Algebraic Geometry and Number Theory Seminar

Community Service

Referee for Annales Scientifiques de l'ENS, Annali SNS, Compositio, Forum of Mathematics Sigma, IMRN, International Journal of Number Theory, Journal de Théorie des Nombres de Bordeaux, Journal of Pure and Applied Algebra, Mathematica Scandinava, Periodica Mathematica Hungarica, Transactions of the AMS

Reviewer for MathSciNet, Zentralblatt MATH

Member of the Unione Matematica Italiana

Member of the UMI group "Cooperazione Internazionale con il Sud Globale" for the cooperation with the Global south.