

# Amos Turchet

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## EMPLOYMENT

- 2020 – 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
- 2014 – 2016 Postdoctoral Researcher, Chalmers University of Technology

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## VISITING APPOINTMENTS

- 2013 Academic guest, Rational Points, Rational Curves and Entire Holomorphic Curves on Algebraic Varieties, Centre de recherches mathématiques, Montréal
- 2012 – 2013 Visiting Researcher, Brown University,  
Advisors: Prof.s Dan Abramovich and Joseph Silverman

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## 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 B.S. Mathematics, Università degli studi di Udine, cum laude
- 2007 Classical Guitar Diploma, Conservatorio A. Boito di Parma, 10/10

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## RESEARCH INTERESTS

Arithmetic and Algebraic Geometry, Number Theory

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## AWARDS AND GRANTS

- 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 (Gothenburg Center for Advanced Studies 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

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## PUBLICATIONS

### IN JOURNALS AND VOLUMES

1. Hyperbolicity And Uniformity Of Varieties Of Log General Type. (with K. Ascher and K. DeVleming.) – *International Mathematics Research Notices*.  
published online : <https://doi.org/10.1093/imrn/rnaa186>
2. The Erdős–Ulam problem, Lang’s Conjecture, and uniformity. (with K. Ascher and L. Braune) – *Bulletin of the London Mathematical Society*.  
published online: <https://doi.org/10.1112/blms.12381>
3. 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
4. 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
5. 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

6. Lang-Vojta Conjecture over function fields for surfaces dominating  $\mathbb{G}_m^2$ .  
(with L. Capuano.) – submitted.
7. Nonspecial varieties and Generalized Lang-Vojta conjectures.  
(with E. Rousseau and J.T.-Y. Wang) – submitted.

### IN PREPARATION

8. Geometric Lang-Vojta Conjecture in  $\mathbb{P}^2$ .  
(with K. Ascher and M. Talpo.) – in preparation.
9. GCD results on semiabelian varieties and a Conjecture of Silverman  
(with F. Barroero and L. Capuano) – in preparation.

### OTHER PUBLICATIONS

10. 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.
11. Geometric Lang-Vojta Conjecture in the projective plane. Ph.D. Thesis, 2014.

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## LECTURE SERIES

- 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 - 4 lectures)

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**SEMINARS AND CONFERENCES AS SPEAKER**

- 2020 Minisymposium "Number Theory" within the 8ECM (Covid postponed)
- 2019 University of Freiburg, Seminar: Algebra, Zahlentheorie und algebraische Geometrie  
Summer program on complex geometry and several complex variables, Shanghai Center  
for Mathematical Sciences  
Université Paris-Sud, Audition pour MDC  
Diophantine Approximation and Value Distribution Theory at the interface of Arith-  
metic 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 Banff International Research Station, 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  
Chalmers University of Technology, Number Theory Seminar  
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

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## SELECTED CONFERENCES AS A PARTICIPANT

- 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  
Géométrie Algébrique en Liberté, SISSA
- 2011 School and Conference on Modular Forms and Mock Modular Forms and their applications  
in Arithmetic, Geometry and Physics, ICTP

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## TEACHING

**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

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**CONFERENCE ORGANIZATION****ORGANIZER**

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)

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**ADVISING****THESIS SUPERVISED**

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

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## OUTREACH

- 2018 Lecturer, Math Day - University of Washington
- 2017 Lecturer, Math Day - University of Washington

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## SERVICE

### DEPARTMENTAL SERVICE

- 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 IMRN, Journal of Pure and Applied Algebra, Periodica Mathematica Hungarica, Mathematica Scandinava
- Reviewer for Zentralblatt MATH
- Member of the American Mathematical Society

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## ACADEMIC REFERENCES

### RESEARCH

- Prof. Dan Abramovich, Brown University - abrmovic@math.brown.edu
- Prof. Pietro Corvaja, Università degli studi di Udine - pietro.corvaja@uniud.it
- Prof. Sándor Kovács, University of Washington - skovacs@uw.edu
- Prof. Erwan Rousseau, Aix-Marseille University - erwan.rousseau@univ-amu.fr
- Prof. Bianca Viray, University of Washington - bviray@uw.edu

### TEACHING

- Prof. Jayadev Athreya, University of Washington - jathreya@uw.edu
- Prof. David Collingwood, University of Washington - colling@uw.edu