

# 1 Curriculum Vitae

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CONTACT INFORMATION	Matilde Manzaroli Universität Tübingen Mathematisches Institut Auf der Morgenstelle 10 72076 Tübingen Raum P 43, Ebene 5, Bau C matilde.manzaroli 'at' uni-tuebingen.de <a href="http://matilde.manzaroli.perso.math.cnrs.fr/">http://matilde.manzaroli.perso.math.cnrs.fr/</a>
RESEARCH INTERESTS	Algebraic geometry, real algebraic geometry, tropical geometry.
CURRENT JOB	Postdoctoral Research Fellow at Fachbereich Mathematik, University of Tübingen, 2021/2024, with a renewable contract until 2027 with Habilitation as objective.
WORK EXPERIENCE	<ul style="list-style-type: none"><li>• Postdoctoral Research Fellow at the Department of Mathematics at the University of Oslo, 2019/2021</li><li>• A.T.E.R. (Teacher-Researcher) in Mathematics-Informatics, Université de Nantes 2018/2019</li></ul>
EDUCATION	PhD in Mathematics, CMLS, École Polytechnique, EDMH, June 2019 <ul style="list-style-type: none"><li>• Thesis topic: Real algebraic curves in real del Pezzo surfaces</li><li>• Advisor: Erwan Brugallé</li></ul> Master 2 (Erasmus Plus), Institut de Mathématiques de Jussieu - Paris Rive Gauche Sorbonne Université, 2014/2015 <ul style="list-style-type: none"><li>• Topic: <i>Simple Harnack curves</i></li><li>• Advisors: Erwan Brugallé and Enrico Arbarello</li></ul> Master, Matematica magistrale, Sapienza Università di Roma, 2013/2015 Bachelor, Matematica triennale, Università di Trento, 2010/2013 Highschool, Liceo Classico G.Cesare-M.Valgimigli, Rimini, 2005/2010
PUBLICATIONS	<ol style="list-style-type: none"><li>1. <b>Articles</b><ol style="list-style-type: none"><li>(a) <b>Manzaroli, M.</b>, “Real algebraic curves on real del Pezzo surfaces”, <i>International Mathematics Research Notices</i>, rnaa169, <a href="https://doi.org/10.1093/imrn/rnaa169">https://doi.org/10.1093/imrn/rnaa169</a>, 2020.</li><li>(b) <b>Manzaroli, M.</b>, “Real algebraic curves of bidegree (5,5) on the quadric ellipsoid”, <i>Algebra i Analiz</i> 32-2, St. Petersburg Mathematical Journal, 2020.</li></ol></li><li>2. <b>PhD thesis, Manzaroli, M.</b>, “Real algebraic curves in real del Pezzo surfaces”, École polytechnique, CMLS - Centre de Mathématiques Laurent Schwartz, 2019.</li></ol>
PREPRINTS	<ol style="list-style-type: none"><li>1. <b>Kummer, M., Le Texier, C. and Manzaroli, M.</b>, “Real fibered morphisms of del Pezzo surfaces and conic bundles”, arXiv 2101.08703, 2021 (submitted).</li></ol>

- GRANTS AND AWARDS
- Athene grant from 01/01/2022 to 31/12/2023.
  - Kovalevskaya Travel Grant for attending the ICM 2022 in St. Petersburg.
- INVITED CONFERENCE TALKS
- 2022/2023:
- Real Aspects of Geometry, in honour of Alexander Degtyarev's 60th birthday, CIRM, Luminy, France.
- 2021/2022:
- Conference in enumerative, real and birational geometry, Le Croisic (France), June 2022
  - 28th Nordic Congress of Mathematicians, Aalto, Finland, August 2022.
  - Women in Algebra and Symbolic Computations, Bad Dürkheim, Germany, December 2021.
- 2020/2021:
- Workshop on "Real Algebraic and Convex Geometry".
  - Facets of Real Algebraic Geometry, in honour of Viatcheslav Kharlamov's 70th birthday.
  - MEGA 2021.
  - 3rd BYMAT Conference.
- 2019/2020:
- Einstein Workshop on Real Applied Algebraic Geometry, TU Berlin.
  - Tropical Methods in Real Algebraic Geometry, Casa Matemática Oaxaca, Mexico.
- 2018/2019:
- Séminaire - Journées réelles du CHL, Université de Nantes, Nantes.
- 2017/2018:
- Université de Toulouse Paul Sabatier, Tropical Geometry in Europe.
  - University of Oslo, Workshop: Real algebraic and tropical mathematics.
  - Mini-Workshop Algebraic Geometry, Institut de Mathématiques de Bourgogne, Dijon.
- INVITED SEMINAR TALKS
- 2021/2022:
- UGA (University of Georgia), Algebraic Geometry Seminar.
- 2020/2021:
- Séminaire de topologie, géométrie et algèbre de Nantes et Séminaire de géométrie algébrique de Angers.
  - Latin American Geometria Algebraica Real y Tropical Seminar.
  - Seminario de Álgebra Conmutativa y Geometria Algebraica, CIMAT.
- 2019/2020:
- Algebra seminar, University of Oslo.
- 2018/2019:
- Séminaire Singularité et Applications, Université de Lille, Laboratoire Paul Painlevé, Lille.
  - Séminaire Géométrie, Université Lyon 1, Institut Camille Jordan, Lyon.
  - Universität Basel, "Seminar Algebra and Geometry", Basel.
  - Université d'Angers, "Séminaire de géométrie algébrique".
- 2017/2018:
- University of Warwick, Junior Algebraic geometry Warwick seminar, UK.
  - Séminaire de Géométrie Tropicale, Institut de Mathématiques de Jussieu - Paris Rive Gauche Sorbonne Université, Paris.
  - Séminaire de topologie, géométrie et algèbre, Laboratoire de Mathématiques Jean-Leray, Nantes.
  - Seminario Singularidades, UNAM, Cuernavaca, Mexico.
- CO-ORGANIZED EVENTS
- ASGARD 2020, The 4th Scandinavian Gathering Around Remarkable Discrete Mathematics, University of Oslo (to be rescheduled).

TEACHING,  
EXERCISE  
SESSIONS  
AND  
TUTORING

Universität Tübingen, Mathematics.

2021/2024

A.T.E.R. (Teacher-Researcher), Université de Nantes, Math Department and Info Department.

2018/2019

Tutor at IUT d'Orsay, Informatics.

2015/2018

Subject	Degree	Year	Type	Hours
Riemann Surfaces	Master	2021/2022	TS	26h
Proseminar: Matroid theory	Bachelor	2021/2022	PS	13h
Toric Geometry	Bachelor/Master	2021	TS	26h
Calculation tools for science	Bachelor	2018/19	TS	18h
Mathematics I	Bachelor	2018/19	TS	24h
Script languages	Master	2018/19	PT	16h
Fundamental informatics	Bachelor	2018/19	PT	12h
Mathematics for informatics I	Bachelor	2018/19	TS	24h
Complements of mathematics and informatics	Bachelor	2018/19	TS	36h
Logic, enumeration and numerical sequences	Bachelor	2018/19	TS	48h
Analysis of numerical methods	1st year	2018	TS	24h
Linear algebra	1st year	2018	TS	39h
Graphs, languages and automata	2nd year	2018	TS	21h
Modelisation	2nd year	2017	TS,PT	45h
Analysis of numerical methods	1st year	2016	TS	32h
Linear algebra	1st year	2016	TS	21h

Table 1: \*TS= Teaching/Tutoring sessions; \*PT=Teaching in Computer Room; \*PS=Supervisor of the student seminar

MATHEMATICS  
RESEARCH  
DEVELOPMENT IN  
DEVELOPING  
COUNTRIES

- CIMPA-ZIGUINCHOR 2020, Quelques aspects réels et effectifs de la géométrie algébrique, Université Assane Seck de Ziguinchor, Sénégal (to be rescheduled).
- Assistant at CIMPA Research School on Combinatorial and Computational Algebraic Geometry, University of Ibadan, Oyo State, Nigeria (2017).

OTHER  
EXPOSITORY TALKS

2020/2021:

- Birational invariance of the tight approximation property, Working group on “The tight approximation property” by O. Benoist and O. Wittenberg, Strasbourg University.
- Graph complexes, JAVA: Algebraic curves, their moduli, and tropical geometry.

2016/2017:

- Journée ”Filles et mathématiques”, École Polytechnique.
- Topology of real algebraic space curves, Reading Group on Real Algebraic Geometry, Max Planck Institute for Mathematics in the Sciences, Leipzig.
- Invariant de Brown et extensions de la congruence de Rokhlin (d’après Mikhalkin), Séminaire de Géométrie Tropicale Institut de Mathématiques de Jussieu - Paris Rive Gauche Sorbonne Université, Paris.

- Construction de types topologiques réels via les dessins d'enfant, Séminaire doctorants P7- Bourbakettes, Université Paris-Diderot, Paris.
- Real algebraic curves on  $\mathbb{R}P^2$ , Séminaire des thésards, Institut des Mathématiques de Bourgogne, Dijon.
- Real algebraic curves on  $\mathbb{R}P^2$ , École Polytechnique, Séminaire des thésards, CMAP CMLS, Palaiseau.

SEMINARS,  
COURSES,  
CONFERENCES AND  
WORKING GROUP

2020/2021:

- Working group on “The tight approximation property” by O. Benoist and O. Wittenberg, Strasbourg University.
- Summer school of the ANR: Symplectic, Real, and Tropical aspects of Enumerative Geometry.
- ”Topics in Matroid Theory”, online course of Matt Baker, School of Mathematics Georgia Institute of Technology.

2019/2020:

- Tropical Geometry in Europe, Université de Nantes, Nantes.
- Lucia Geometrica, Stockholm University, Stockholm.
- A Tropical Day at the MPIM, Bonn.
- Einstein Workshop on Real Applied Algebraic Geometry, TU Berlin.
- Tropical Methods in Real Algebraic Geometry, Casa Matemática Oaxaca, Mexico.
- Tercer Encuentro Tropical, Unidad Cuernavaca del Instituto de Matemáticas (UNAM), Cuernavaca, Mexico.

2018/2019:

- IMJ-PRG summer school New perspectives in Gromov-Witten theory, Institut de Mathématiques de Jussieu - Paris Rive Gauche Sorbonne Université, Paris.
- ASGARD 2019: Around Remarkable Discrete Mathematics, University of Oslo, Norway.
- Tropical Geometry in Europe, Université de Nantes, Nantes.

2017/2018:

- Tropical Geometry in Europe, Université de Toulouse Paul Sabatier, Toulouse.
- ASGARD 2018: Real algebraic and tropical mathematics, University of Oslo, Norway.
- Congreso nacional de la sociedad matemática mexicana, Ciudad de Mexico, Mexico.
- Invited by Lucia López de Medrano, one month stay at the Unidad Cuernavaca del Instituto de Matemáticas, UNAM, Mexico (ECOS NORD program).
- Perspectives en géométrie réelle, CIRM, Luminy, France.

2016/2017:

- Berkovich spaces Tropical geometry and Model thoery, Universidad de los Andes, Bogotá, Colombia.
- Séminaires de Géométrie Tropicale, Institut de Mathématiques de Jussieu - Paris Rive Gauche Sorbonne Université, Paris.
- Reading Group on Real Algebraic Geometry, Max Planck Institute for Mathematics in the Sciences, Leipzig.
- Cremona Conference, University of Basel, Basel, Switzerland.

2015/2016

- Tropical Geometry in Europe, Institut de Mathématiques de Toulouse, Toulouse.
- Singularités et Géométrie Tropicale, Université Paris 7 (Paris-Diderot), Paris.
- Journées Louis Antoine, Université Rennes I, Rennes.
- Les bases pour le doctorant-Enseignant débutant (The basics of tutoring), Université Paris-Sud, Orsay.

SERVICE

Representative of the PhD students to the laboratory council, CMLS, École polytechnique, Palaiseau, France  
Dec 2016 – Sep 2018

LANGUAGES Italian (mother tongue), English, French, notions of Spanish, notions of German (level A2/1).

PROGRAMMING Python, Bash, Isetl, Fortran.  
LANGUAGES