

Barbara Giunti | Curriculum Vitae

Personal Information

Name and Surname: Barbara Giunti

Date and place of birth: June, 24 1991 in Susa (Italy)

Contacts:

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Current position

University of Modena and Reggio Emilia

Postdoc fellow in Topological Data Analysis

December 2019 -

Tutor: Prof. Claudia Landi

Education

University of Pavia

PhD in Mathematics

October 2016 - December 2019

Thesis title: *Tame parametrised chain complexes*

Advisors: Prof. Wojtek Chachólski, Prof. Claudia Landi

Torino University (Italy) - Potsdam Universität (Germany)

M.Sc. in Mathematics, 110/110 cum Laude

October 2013 - October 2015

Thesis title: *Differential equations on graphs*

Advisor: Prof. Paolo Cermelli

IED Torino (Italy)

Short master in Jewelry

February 2011 - May 2011

Torino University (Italy)

Bc. in Mathematics, 103/110

October 2010 - July 2013

Thesis title: *Best-reply dynamics and differential inclusions*

Advisor: Prof. Paolo Cermelli

Liceo Norberto Rosa, Susa (Italy)

Humanistic high school diploma, 100/100

September 2005 - July 2010

Languages

Italian: mother tongue

English: C1, IELTS certification on June 25th, 2016

French: basic

German: good

Norwegian: basic

Fellowships and grants

SIAM travel grant

SIAM AG19, Bern, Swizerland

July, 9th-13th 2019

INFN travel grant

Visitor at the KTH Royal Institute of Stockholm

April, 24th - May, 31st 2019

INdAM travel grant

Visitor at the KTH Royal Institute of Stockholm

February, 2nd - March, 30th 2018

HIM travel grant

Applied and Computational Topology (2) - Collaboration between experts
HIM, Bonn, Germany

September, 03rd-30th 2017

Applied Algebraic Topology conference travel grant

Applied Algebraic Topology 2017, Sapporo, Japan

August, 8th-12th 2017

member of the Gruppo Nazionale per la Fisica Matematica

GNFM - Istituto Nazionale di Alta Matematica

2017-now

member of the Istituto Nazionale di Fisica Nucleare

INFN

2017-now

PhD fellowship

University of Pavia

2016-2019

Presented seminars

Oxford Applied Topology Seminar

Invariants for tame parametrised chain complexes

October, 9th 2020

Graz Geometry seminar

Persistence theory of parametrised chain complexes

October, 8th 2020

Journal Club Heidelberg

A model category of tame parametrised chain complexes

July, 7th 2020

AATR online seminar

Invariants for tame parametrised chain complexes

May, 6th 2020

University of Bologna, Italy

Parametrised chain complexes in persistence theory

February, 11th 2020

University of Aberdeen, UK

Invariants for tame parametrised chain complexes

January, 15th 2020

Northumbria University Newcastle, UK

Persistence theory and applications

January, 13th 2020

NTNU Trondheim, Norway

Parametrised chain complexes as a model category

September, 26th 2019

TU München, Germany

Filtered Chain Complexes: Decomposition and Algorithm

March, 22nd 2019

NTNU Trondheim, Norway

Classification of filtered chain complexes

October, 29th 2018

Milano Bicocca University, Italy

Introduction to persistence theory

November, 20th 2017

Ruhr-Universität Bochum, Germany

Introduction to zigzag persistence

September, 26th 2017

Potsdam University, Germany

Analysis, Geometrie und Physic

December 2014

Potsdam University, Germany

November 2014

Participation in conferences, schools and workshops

<i>Bern, Swizerland</i> <i>SIAM AG19</i> Talk: <i>Parametrised chain complexes</i>	<i>July, 9th-13th 2019</i>
<i>Wrocław, Poland</i> <i>Joint meeting SIMAI-UMI-PTM</i> Talk: <i>Classification of filtered chain complexes</i>	<i>September, 17th-20th 2018</i>
<i>IST, Wien, Austria</i> <i>Algebraic Topology: Methods, Computation and Science 8</i> Poster: <i>Decomposition of filtered chain complexes</i>	<i>June, 25th-29th 2018</i>
<i>Renyi Institute, Budapest, Hungary</i> <i>Symposium of Computational Geometry</i> Talk: <i>Decomposition of filtered chain complexes: Structure theorem and algorithm</i>	<i>June, 11th-14th 2018</i>
<i>Max Planck Institute, Leipzig, Germany</i> <i>TAGS - Linking Topology to Algebraic Geometry and Statistics</i> Poster: <i>Decomposition of persistent chain complexes</i>	<i>February, 19th-23rd 2018</i>
<i>KTH, Stockholm, Sweden</i> <i>Young Topologists Meeting</i> Talk: <i>Topology and data science: an introduction to persistent homology</i>	<i>July, 3rd-7th 2017</i>
<i>University of Warwick, UK</i> <i>The Dynamics of Complex Systems: A meeting in honour of the 60th birthday of Robert MacKay FRS</i> Poster: <i>Dynamical systems on graphs through the signless Laplacian matrix</i>	<i>May, 18th-20th 2016</i>

Teaching

TA <i>Mentor Prof. Nina Otter</i>	ACT adjoint school 2020 <i>Spring semester 2019/2020</i>
12 hours TA for Calculus I <i>Pavia University, Prof. Fornaro</i>	Faculty of Electric and Informatics Engineering <i>Fall semester 2018/2019</i>
8 hours TA for Theory of dynamical systems <i>Pavia University, Prof. Marzuoli</i>	Faculty of Mathematics <i>Spring semester 2018</i>
12 hours TA for Calculus I <i>Pavia University, Prof. Fornaro</i>	Faculty of Edil Engineering and Architecture <i>Fall semester 2017/2018</i>
3 hours TA for Mathematical physics <i>Pavia University, Prof. Bisi</i>	Faculty of Civil Engineering <i>June 21st, July 13th 2017</i>

Publications

- 1.: *Tame parametrised chain complexes*, B. Giunti, PhD Thesis, 2019, Advisors: Prof. W. Chachólski and Prof. C. Landi
 - 2.: *Dynamical systems on graphs through the signless Laplacian matrix*, B. Giunti and V. Perri, *Ricerche di Matematica*, Springer online 03 May 2017, DOI:10.1007/s11587-017-0326-z1
- Preprint**
- 1.: *Invariants for tame parametrised chain complexes*, W. Chachólski, B. Giunti and C. Landi, arXiv:2003.03969, 2020