

University of applied arts and sciences of southern Switzerland
 6962 Lugano, Switzerland
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 Web: <http://www.maestran.ch/math/>

Date of birth: 07.05.1979

Place of birth: Arogno (TI), Switzerland

Citizenship: Swiss

Civil status: Married with Elena since 2018



Education

CAS Hochschuldidaktik

PH Zurich, Switzerland.

June 2021

Habilitation in Mathematics

University of Bremen, Germany.

July 2011

Ph.D. in Mathematics

ETH Zurich, Switzerland.

July 2006

Diploma in Mathematics with distinction (*mit Auszeichnung*)

ETH Zurich, Switzerland.

May 2003

Current position

Professor, University of Applied Arts and Sciences of Southern Switzerland. Since March 2021

Previous positions

Visiting fellow, University of Pisa, Italy.

March-August 2021

SNSF-Professor, University of Fribourg, Switzerland.

September 2014 - February 2021

Akademischer Rat, University of Bremen, Germany.

September 2010 - August 2014

Visiting Assistant Professor

State University of New York, Binghamton, NY, USA.

January 2008 - August 2010

Postdoctoral fellow of the Mathematical Sciences Research Institute

Berkeley, CA, USA.

August 2007 - December 2007

Postdoctoral researcher at University of Pisa, Italy.

October 2006 - August 2007

Awards and distinctions

Italian qualification (ASN) as Full Professor (ordinario).

November 2020

ISA Fellow, Istituto di Studi Avanzati, University of Bologna.

November 2019

Swiss National Science Foundation Professorship.

February 2014

Postdoctoral fellowship, MSRI Berkeley.

April 2007

“Fellowship for prospective researchers” Swiss National Science Foundation.

July 2006

Polyà-price for high score diploma degree, ETH Zurich, Switzerland.

May 2003

Publications

Links to electronic versions of the papers available from my website.

Published research papers

Dual structures on Coxeter and Artin groups of rank three

(with Giovanni Paolini and Mario Salvetti).

Geometry and Topology, to appear (2024), 37 pp.

Many faces of symmetric edge polytopes

(with Alessio d'Alì and Mateusz Michałek).

Electronic Journal of Combinatorics, Vol. 29 n. 3 (2022), 42 pp.

Stanley–Reisner rings for symmetric simplicial complexes, G -semimatroids and Abelian arrangements (with Alessio d'Alì).

Journal of Combinatorial Algebra, Vol. 5 n. 3 (2021), pp.185–236

The homotopy type of elliptic arrangements

(with Roberto Pagaria).

Algebraic & Geometric Topology, Vol. 21 (2021), pp. 2037–2063

Fundamental polytopes of metric trees via parallel connections of matroids

(with Linard Hoessly).

European Journal of Combinatorics Vol. 87 (2020), 21 pp.

Impossibility results for stability of phylogenetic consensus methods

(with Linard Hoessly and Giovanni Paolini).

Systematic Biology, Vol. 69 n. 3 (2020), pp. 557–565

Orlik–Solomon–type presentations for the cohomology algebra of toric arrangements

(with Michele d'Adderio, Filippo Callegaro, Luca Migliorini and Roberto Pagaria).

Trans. Amer. Math. Soc., Vol. 373 (2020), pp.1909–1940.

Shellability of posets of labeled partitions and arrangements defined by root systems

(with Noriane Girard and Giovanni Paolini).

Electronic Journal of Combinatorics, Vol. 26 n. 4 (2019), 22 pp.

Products of arithmetic matroids and quasipolynomial invariants of CW-complexes

(with Luca Moci).

Journal of Combinatorial Theory ser. A, Vol. 157 (2018), pp. 28–40.

Group actions on semimatroids

(with Sonja Riedel).

Advances in Applied Mathematics, Vol. 95 (2018), pp. 199–270.

The integer cohomology algebra of toric arrangements

(with Filippo Callegaro).

Advances in Mathematics, Vol. 313 (2017), pp. 746–802.

An equivariant discrete model for complexified arrangements

(with Michael J. Falk).

Proc. Amer. Math. Soc., Vol. 145 (2017), 15 pp.

Cryptomorphisms for rigidity matroids

(with Tim Lindemann).

Configurations Spaces - Geometry, Topology and Representation Theory,

Springer INdAM series (2016), pp. 195–211.

Bergman complexes of Lattice Path Matroids

(with Martin Dlugosch).

SIAM journal of Discrete Mathematics, Vol. 29, n. 4 (2015), pp. 1916–1930.

Minimality of toric arrangements

(with Giacomo d’Antonio).

Journal of the European Mathematical Society, Vol. 7, n. 3 (2015), pp. 483–521.

Foundations for a theory of complex matroids

(with Laura Anderson).

Discrete and Computational Geometry, Vol. 48, n. 4 (2012), pp. 807–846.

A Salvetti complex for toric arrangements and its fundamental group

(with Giacomo d’Antonio).

International Mathematics Research Notices, Vol. 2011, article ID rnn161, 32 pp.

f-vectors of subdivisions of simplicial complexes

(with Lucas Sabalka and Aaron Pixton).

Discrete Mathematics, Vol. 31,2 n. 2 (2011), pp. 248–257.

Modular elimination in matroids and oriented matroids.

European Journal of Combinatorics, Vol. 32, n. 3 (2011), pp. 339–343.

Combinatorial polar orderings and recursively orderable arrangements

(with Simona Settepanella).

Advances in Applied Mathematics Vol. 44, n. 2, (2010), pp. 124–144.

Combinatorics of covers of complexified arrangements.

In “Arrangements, Local systems and singularities”.

Progress in Mathematics Vol. 283, Birkhäuser (2009), pp. 1–38.

Shelling-type orderings of regular CW-complexes and acyclic matchings for the Salvetti complex.

International Mathematics Research Notices, Vol. 2008, n. 6, article ID rnm167, 39 pp.

Nested set complexes of Dowling lattices and complexes of Dowling trees.

Journal of Algebraic Combinatorics, Vol. 26, n. 4 (2007), pp. 477–494.

Simplicial shellable spheres via combinatorial blowups

(with Sonja L. Čukić).

Proc. Amer. Math. Soc. Vol. 135, n. 8 (2007), pp. 2403–2414.

Research preprints

A combinatorial remark on Equivariant Ehrhart theory with applications to poset polytopes
(with Alessio D’Alì).

ArXiv e-prints, December 2023, 18 pp.

Supersolvable posets and fiber-type abelian arrangements

(with Christin Bibby).

ArXiv e-prints, April 2021, 32 pp.

Finitary affine oriented matroids

(with Kolja Knauer).

ArXiv e-prints, November 2020, 35 pp.

Realization spaces of matroids over hyperfields
(with Linard Hoessly and Elia Saini).
ArXiv e-prints, December 2015, 42 pp.

Books

Combinatorial methods in Topology and Algebra
(edited with Bruno Benedetti and Luca Moci).
Springer-Verlag, *INdAM conference series* (2015), vii + 227 pp.

Giochi e percorsi matematici
(with Giovanni Gaiffi and Ludovico Pernazza).
Springer-Verlag, *Convergenze* (2012), xii + 199 pp.

Theses

Combinatorial geometries in algebra and topology.
Habilitationsschrift, 160 pp., Universität Bremen.

Topology and combinatorics of arrangement covers and of nested set complexes.
Ph.D. thesis, advisor: Prof. Dr. Eva-Maria Feichtner, 156 pp., ETH Zurich.

On generalizing oriented matroids to a complex setting.
Diploma thesis, advisor: Prof. Dr. Eva-Maria Feichtner, 48 pp., ETH Zurich.

Peer-reviewed conference proceedings

Supersolvable posets and fiber-type arrangements
(with Christin Bibby).
Proceedings of the 36th International Conference on Formal Power Series
and Algebraic Combinatorics (FPSAC 2024), Accepted in DMTCS Proceedings, 12 pp.

Finitary affine oriented matroids
(with Kolja Knauer).
Proceedings of the 33d International Conference on Formal Power Series
and Algebraic Combinatorics (FPSAC 2021), DMTCS Proceedings, 12 pp.

Combinatorial topology of toric arrangements
(with Giacomo d'Antonio).
Proceedings of the 25th International Conference on Formal Power Series
and Algebraic Combinatorics (FPSAC 2013), DMTCS Proceedings, pp. 1161–1172.

f-vectors of subdivided simplicial complexes
(with Aaron Pixton and Lucas Sabalka).
Proceedings of the 22th International Conference on Formal Power Series
and Algebraic Combinatorics (FPSAC 2010), DMTCS Proceedings, pp. 693–700.

Education and outreach

In-person vs online teaching: empirical analysis based on bootstrap for matching estimators
(with Lorenzo Camponovo, Matteo Garzoni, Slobodan Krstic, Stefano Scaravaggi, Oliver Villa).
Journal of Econometrics and Statistics, Vol. 3 (2), 2023, pp. 129–139.

Il gioco del 15: \$1000 per due blocchetti!
(with Giovanni Gaiffi and Ludovico Pernazza).
Xlatangente, vol. 15 (2009).

Numeri e simmetria: il Sudoku
 (with Giovanni Gaiffi and Ludovico Pernazza).
 Xlatangente, vol. 13 (2009).

Forme, trasformazioni e topologia
 (with Giovanni Gaiffi and Ludovico Pernazza).
 Quaderni della Settimana Matematica, Università di Pisa (2008), 67 pp.

“+&c.”
 (with Maurice D. Froidcoeur).
 Bollettino dei docenti di matematica, ed. Centro Didattico Cantonale TI, Vol. 55 (2007), 15pp.

Miscellanea

Book review: L'arte della matematica; by S. Weil and A. Weil.
 Didattica Della Matematica. Dalla Ricerca Alle Pratiche d'aula, Vol. 14, (2023), 174 - 175.

Book review: Euclide: il I libro degli Elementi; by L. Russo, G. Pirro, E. Salciccia.
 Didattica Della Matematica. Dalla Ricerca Alle Pratiche d'aula, Vol. 12, (2022), 154 - 155.

Book review: Matroid Theory by James Oxley.
 Newsletter of the European Mathematical Society, June 2012.

Academic advising

University of applied arts and sciences of southern Switzerland

Master's theses (DTI)

Maddalena Pismataro (University of Bologna, co-advisor with Roberto Pagaria). *On the Salvetti Complex for Abelian arrangements.*
 Funding: Fellowship of U Bologna. Fall 2021

Master theses (DFA/ASP):

Ghazale Jazayeri, *Il segno di uguale e le sue interpretazioni.* October 2010 - June 2011

Andrea Ghirlanda, *Motivazione e competenza*
 (jointly supervised with Alberto Crescentini). October 2010 - June 2011

Laura Piccioli, *Misconcezioni da posizione vincolante.* October 2010 - June 2011

Exchange students (DTI):

Maddalena Pismataro (U. Bologna, Italy. Co-supervised with R. Pagaria) Fall 2021

Ettore Marmo (U. Milano Bicocca, Italy. PhD Student of T. Weigel) Spring 2024

University of Fribourg

Postdoc mentoring:

Giovanni Paolini
 PhD SNS Pisa, advisor: M. Salvetti
 Funding: SNSF. Spring 2019 - Fall 2019

Davide Bolognini

PhD Genova, advisor: M. E. Rossi

Funding: *Bundesexzellenzstipendium* of the Swiss confederation.

Fall 2017 - Fall 2018

Alessio D'Alì

PhD Genova, advisor: A. Conca

Funding: *Bundesexzellenzstipendium* of the Swiss confederation.

Fall 2016 - Spring 2017

Farhad Babaei

PhD Bordeaux, advisors: F. Yger/A. D'Agnolo

Funding: SNSF.

Fall 2016 - Fall 2018

Ivan Martino

PhD Stockholm University, advisors: T. Ekedahl/A. Björner

Funding: SNSF.

Fall 2014 - Summer 2016

Matthias Lenz

PhD TU Berlin, advisor: O. Holtz

Funding: *Bundesexzellenzstipendium* of the Swiss confederation, DAAD. Fall 2015 - Fall 2016

PhD advising:

Linard Hösly (co-supervised with C. Mazza),

On some problems in mathematical biology around combinatorics, geometry, and probability.

Funding: University of Fribourg, SNSF.

Fall 2015 - Summer 2019

Elia Saini, *Phased matroids and topology of complex arrangements.*

Funding: Institute ALTA Bremen, SNSF.

Spring 2014 - Summer 2017

Sonja Riedel, *Combinatorics and topology of toric arrangements.*

Funding: research fellowship of the University of Bremen,

fellowship of the "Studienstiftung des deutschen Volkes", SNSF.

Fall 2012 - Summer 2016

Master's theses:

Noemi Wicki, *Eine ordnungstheoretische Formulierung von unendlichen Matroiden.* Fall 2020

Clara Lemarigner, *Combinatorial properties of 4- and 5- point metric spaces.* Spring 2020

Emilie Dennig, *Factorisation du polynôme caractéristique de certains posets.* Fall-Spring 2020

Davina Grand-Guillaume-Perrenoud, *Sur les circuits brisés et la décomposition par activités de semi-matroides finitaires avec actions de groupe.* Spring 2019

Noriane Girard, *Shellability of posets of components of toric arrangements associated to root systems.* (Awarded the prize of the faculty of Sciences.) September 2016 - Spring 2017

Fabian Schneuwly, *Chomp – ein kombinatorisches Spiel.*

September 2016 - Spring 2017

Exchange students:

Giovanni Paolini (Ph.D. student Scuola Normale Superiore, Pisa, Italy)

Spring 2017

Tim Lindemann (Master's student U. Bremen, Germany)

Spring 2015

University of Bremen

Diploma theses:

Sonja Riedel, *Fundamental groups of toric Weyl arrangements*.
(Awarded the prize of the mathematics department.)

July 2011 - September 2011

Robert Stein, *Computational aspects of complex matroids*.

March 2012 - February 2013

Bachelor theses:

Nico Graap, *Algebraische methoden zur Behandlung von Spielen*.

April-July 2014

Mathias Hinz, *Combinatorial rigidity*.

April-July 2014

Tim Lindemann, *Abstract rigidity matroids*.

April-July 2014

Angelina Degner, *Farkas' lemma in complex space*.

March-June 2013

Wienke Menges, *Das Spiel 'Shapley' und die Projektive Ebene*.

February-June 2013

Anika Behrens, *Partial orderings in the unitary group*.

February-August 2012

Friederike Klimas, *The fundamental group of complex arrangements*.

June-September 2012

Julia Heller, *Brylowski's conjecture and the arithmetic Tutte polynomial*.

March-August 2012

Sven J. Kossenjans, *Der Satz von Soddy und Wasan-Geometrie*.

March-August 2012

Lasse Paetz, *Arithmetische Matroide: Strukturtheorie und Dualität*. October 2011 - April 2012

Organization of events

InterCity seminar (organized jointly with E. Gorla, J. Draisma and M. Michałek).

Universities of Bern, Neuchâtel, Konstanz and SUPSI.

Website: <https://mathsites.unibe.ch/intercity-seminar/>

Since Fall 2022

Arrangements in Lugano (organized jointly with C. Bibby, F. Callegaro, M. Yoshinaga).

Locarno and Lugano, Switzerland.

Website: <http://www.combinatorialmethods.ch/lugano22/>

June 27 - July 1 2022

Arrangements at home IV (organized jointly with C. Bibby, F. Callegaro, M. Yoshinaga).

Online event.

Web: <http://sites.google.com/view/arrangements-at-home2021>

June 30 - July 2, 2021

SIAM AG 19 (organized jointly with E. Gorla, J. Draisma and J. Rosenthal).

Bern, Switzerland.

Website: <https://mathsites.unibe.ch/siamag19/>

July 9-13, 2019

InterCity seminar (organized jointly with E. Gorla and J. Draisma).

Universities of Bern, Fribourg and Neuchâtel, Switzerland.

Fall 2016 - Spring 2020

Matroids over hyperfields.

University of Fribourg, Switzerland.

Website: <http://www.combinatorialmethods.ch/moh/>

August 28-29, 2017

Arrangements and beyond, and Perspectives in algebraic topology

(organized jointly with F. Callegaro, G. Gaiffi, C. De Concini, A. Suci, M. Yoshinaga).

Centro De Giorgi, Scuola Normale Superiore and University of Pisa, Italy.

Websites: <http://www.combinatorialmethods.ch/AB/>

and <http://www.combinatorialmethods.ch/PAT/>

June 6-10, 2017

Toric, tropical and combinatorial geometry: a panorama
 (organized jointly with E.-M. Feichtner).
 Minisymposium at the European Mathematical Congress 2016.
 Berlin, Germany.
 Website: <http://www.combinatorialmethods.ch/ECM16/> July 20, 2016

ToGA: Topology and Geometry of Arrangements. Doctoral school/workshop.
 Funding: Conférence Universitaire de la Suisse Occidentale (CUSO), Uni Fribourg, Stiftung zur Förderung der Mathematischen Wissenschaften in der Schweiz.
 Fribourg, Switzerland.
 Website: <http://www.combinatorialmethods.ch/toga/> June 6-8, 2016

SM'ART: Seminar on matroids in algebra, representation theory and topology
 (Borel Seminar 2016, organized jointly with Laura Anderson and Elisa Gorla).
 Funding: Conférence Universitaire de la Suisse Occidentale (CUSO).
 Les Diablerets, Switzerland.
 Website: <http://www.combinatorialmethods.ch/sm-art/> January 25-29, 2016

Thematic semester *Combinatorial methods* (organized jointly with Ivan Martino).
 Fribourg, Switzerland.
 Website: <http://www.combinatorialmethods.ch/> February - May, 2015.

CUSO doctoral school *Let's matroid* (organized jointly with Elisa Gorla and Relinde Jurrius).
 Neuchâtel, Switzerland.
 Website: <http://www.combinatorialmethods.ch/letsmatroid/> March 25-27, 2015

Conference *CoMeTA – Combinatorial Methods in Topology and Algebra*
 (organized jointly with Bruno Benedetti and Luca Moci).
 Funding: Istituto Nazionale di Alta Matematica (INdAM).
 Cortona, Italy. Website: <http://www.cometa2013.org> September 9-13, 2013

Workshop *Arrangements and configuration spaces*
 (organized jointly with Michael Falk and Eva-Maria Feichtner).
 University of Bremen, Germany. May 23-25, 2012

Third-party funding (selected)

Conference grants for “Arrangements in Lugano”. Swiss National Science Foundation
 (ca. 25.000 CHF), Foundation Compositio Mathematica (ca. 5.000 CHF) Spring 2021

Renewal of SNSF-Professorship grant, Swiss National Science Foundation
 (ca. 600.000 CHF) Spring 2018

Grant for Séminaire Borel, Swiss doctoral program (CUSO)
 (ca. 20.000 CHF) Spring 2015

Grant for doctoral school, Swiss doctoral program (CUSO)
 (ca. 8.000 CHF) Fall 2014

SNSF-Professorship grant, Swiss National Science Foundation
 (ca. 1.500.000 CHF) Fall 2014 - Spring 2018

Grant for research in pairs, CIRM / B. Kessler Foundation
 (joint with F. Callegaro) Fall 2013

<i>Promotionsstipendium</i> , Studienstiftung des Deutschen Volkes (for Sonja Riedel, ca. 30.000 EUR)	Fall 2013
<i>Brückenstipendium</i> , Zentrale Forschungsförderung of the University of Bremen (for Sonja Riedel, ca. 10.000 EUR)	Spring 2013
Conference grant for <i>CoMeTA 2013</i> , Istituto Nazionale di Alta Matematica (joint with B. Benedetti and L. Moci, 15.000 EUR)	Summer 2012
Postdoctoral fellowship, MSRI Berkeley (ca. 25.000 USD)	Fall 2007
Fellowship for prospective researchers, Swiss National Science Foundation (40.000 CHF)	Spring 2006
• Various smaller travel and conference grants (Deutscher akademischer Austauschdienst, Stiftung zur Förderung der mathematischen Wissenschaften in der Schweiz, FPSAC conferences, MSRI).	

Research visits (selected)

Research in Pairs MFO, Oberwolfach, Germany.	January 4-15, 2022
Combinatorial Coworkspace - A session in algebraic and geometric combinatorics Haus Bergkranz, Hirschegg, Kleinwalsertal, Austria.	March 8-15, 2020
Invited professor at Istituto di Studi Avanzati (incl. 4-part lecture) Università di Bologna, Italy.	November 4-30, 2019
Research visit Arctic University of Tromsø, Norway.	October 7-12, 2019
Research visit at Max Planck Institute for mathematics in the sciences Leipzig, Germany.	April 1-3, 2019
Workshop on algebraic aspects of matroid representability La Vacquerie, France.	July 8-14, 2018
Mittag-Leffler program on tropical geometry Mittag-Leffler Institut, Djursholm, Sweden.	January 21-26, 2018
Oberwolfach workshop on representation stability Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, Germany.	January 15-19, 2018
Research stay at the Einstein Institute for Mathematics (Funded by a grant from the J. Nordmann Foundation) Hebrew University, Jerusalem, Israel.	October-November, 2016
Invited participant at the Dagstuhl seminar “Topological methods in distributed computing” Schloss Dagstuhl, Wadern, Germany.	July 10-15, 2016
Invited participant at the workshop “Frames and Algebraic & Combinatorial Geometry” Jacobs University, Bremen, Germany.	July 27-31, 2015
Conference “Computational Geometric Topology in Arrangement Theory” ICERM, Brown University, Providence, RI, USA.	July 6-10, 2015

Invited participant at the research program “Perspectives in Lie theory”
 Centro De Giorgi, Scuola Normale Superiore, Pisa, Italy. February 8-25, 2015

Visit at SUNY Binghamton and NYU (Goodman-Pollack fest)
 Binghamton and New York, NY, USA. October 1-9, 2014

Research in Pairs (with Filippo Callegaro)
 Research grant of CIRM / Fondazione B. Kessler, Trento, Italy. March 9-22, 2014

Invited research visit
 Scuola Normale Superiore and Università di Pisa, Pisa, Italy. March 4-9, 2013

Workshop “Cluster Algebras and Commutative Algebra”
 MSRI, Berkeley, CA, USA. August 27 - September 7, 2012

Invited guest at the Institute for the Physics and Mathematics of the Universe (IPMU)
 University of Tokyo, Tokyo, Japan. February 13 - March 2, 2012

Research visit (funded by the German academic exchange program DAAD)
 Cornell University, SUNY Binghamton, SUNY Albany, USA. September 18-28, 2011

Invited participant at the research program “Configuration spaces in Pisa 2010”
 Centro De Giorgi, Scuola Normale Superiore, Pisa, Italy. May-June, 2010

Second Seasonal Institute of the Mathematical Society of Japan
 on Arrangements of Hyperplanes
 Hokkaido University, Sapporo, Japan. August 1-13, 2009

Workshop “Computational Algebraic Topology”
 Mathematisches Forschungsinstitut Oberwolfach, Germany. June 29 - July 04, 2008


Invited participant at CIMPA program on arrangements and local systems
 Galatasaray University, Istanbul, Turkey. June 11-22, 2007

Euroconference “Algebraic and geometric combinatorics”
 Anogia, Crete, Greece. August 20-26, 2005

Conference “Trends in Topological Combinatorics”
 KTH Stockholm, Sweden. February 14-16, 2005

Visitor at the special semester on arrangement theory
 MSRI, Berkeley, CA, USA. August-September, 2004

Invited research talks (selected)

Events marked  have been held online due to the Coronavirus pandemic.

Special session *Discrete and combinatorial homotopy, theory and applications*
 Joint AMS-UMI meeting, Palermo. Upcoming July 25, 2024

Talk at the MFO workshop *Arrangements and logarithmic vector fields*
 Mathematisches Forschungsinstitut Oberwolfach (Germany). Upcoming June 16-21, 2024

Minicourse at *ASGARD 2024*
 University of Oslo (Norway). Upcoming May 27-30, 2024

Talk at *Artin groups and arrangements - Topology, Geometry and Combinatorics*
Mathematical Sciences Research Institute, Berkeley, CA (USA). Upcoming March 11-15, 2024

Talk at *Arrangements in Tokyo 2023*
Rikkyo University, Tokyo (Japan). December 11-15, 2023

Talk at *Oberseminar Algebra*
University of Bielefeld (Germany). July 5, 2023

Talk at *GMZ60*
Freie Universität Berlin (Germany). May 18-19, 2023

Talk at *Various guises of reflection arrangements*
ICMS, Edinburgh, Scotland. March 13-17, 2023

Talk at the conference *Combinatorial and Algebraic aspects of Lattice Polytopes*
Kwansei Gakuin University, Osaka (Japan). February 20-22, 2023

Talk at the conference *Geometry meets Combinatorics in Bielefeld*
University of Bielefeld (Germany). September 5-9, 2022

Talk at *Algebraic, combinatorial, and optimization methods for Kuramoto and power-flow equations*. American Mathematical Society spring sectional session. ☞ May 14-15, 2022

Talk at the Algebra seminar
University of Genoa (Italy). May 12, 2022

Presentation at FPSAC 2021 conference
Bar-Ilan University, Ramat-Gan (Israel). ☞ January 19, 2022

Talk at Combinatorics seminar
KTH Royal Institute of Technology, Stockholm, Sweden. ☞ June 9, 2021

Lecturer at the graduate student meeting on applied algebra and combinatorics
Copenhagen, Denmark. ☞ April 21-23, 2021

Talk at the *Conway spirited lecture series*
School of science and engineering, LUMS, Pakistan. ☞ March 22, 2021

Workshop “Logarithmic Vector Fields and Freeness of Divisors and Arrangements: New perspectives and applications”
MFO, Oberwolfach, Germany. ☞ January 24-30, 2021

Algebra seminar
Politecnico di Milano, Milan, Italy. October 22, 2020

“Pidsia” Seminar
IDSIA USI-SUPSI, Manno, Switzerland. October 14, 2020

Oberseminar Gruppen und Geometrie
Bielefeld, Germany. ☞ May 27, 2020

Talk at “Arrangements@home”
Zoom seminar. ☞ May 14-15, 2020

Talks at AMS Eastern sectional meeting
Binghamton University, Binghamton, NY, USA. October 15-16, 2019

Workshop Algebraic Combinatorics in Genova
Università di Genova, Genoa, Italy. September 11-13, 2019

Workshop on toric arrangements and matroids over \mathbb{Z} University of Bristol, United Kingdom.	September 3-6, 2019
Talk at the section on combinatorics Congresso Unione Matematica Italiana, Bologna, Italy.	September 2, 2019
Talk at the combinatorics seminar KTH, Stockholm, Sweden.	April 10, 2019
Talk at the combinatorics seminar SUNY Binghamton, NY, USA.	January 29, 2019
Talk at the combinatorics seminar George Mason University, Fairfax, VA, USA.	January 25, 2019
Talk at the combinatorics seminar George Washington University, Washington, DC, USA.	January 24, 2019
Talk at the combinatorics seminar University of Florida, Miami, USA.	January , 2019
Talk at the meeting on applied algebraic geometry University of Bristol, UK.	December 12-14, 2018
Talk at the meeting of the Swiss Institute of Bioinformatics SIB, Geneva, Switzerland.	November 28, 2018
Talk at the workshop on algebraic combinatorics FU Berlin, Germany.	November 1-2, 2018
Talk at the conference on combinatorial geometries CIRM Luminy, Marseille, France.	September 24-28, 2018
Minicourse at doctoral school on arrangements Ruhr-Universität Bochum, Bochum, Germany.	September 10-14, 2018
Talk at the the conference “Matroids, reflection groups and free hyperplane arrangements” RIMS, Kyoto, Japan.	June 11-14, 2018
Talk at the the conference “Topology and geometry - in honour of Stefan Papadima” Simion Stoilow Institute of the Romanian Academy, Bucharest, Romania.	May 28-30, 2018
Colloquium talk Northern Arizona University, Flagstaff, AZ, USA.	April 25, 2018
Talk at the special session on arrangements of submanifolds AMS sectional meeting, Boston, MA, USA.	April 21-22, 2018
Seminar talk Max Planck Institute for mathematics, Leipzig, Germany.	November 21, 2017
Invited speaker at the workshop on advances in hyperplane arrangements University of Bremen, Bremen, Germany.	August 24-27, 2017
Invited speaker at the session “Symmetric Simplicial Complexes and Polytopes” SIAM conference on applied algebraic geometry 2017.	August 1, 2017
Invited speaker at the session “Geometry and Combinatorics of Cell complexes” Mathematical congress of the Americas, Montreal, Canada.	July 24-27, 2017
Invited speaker at the session “Advances in arrangement theory” Mathematical congress of the Americas, Montreal, Canada.	July 24-27, 2017

Talk at the <i>Incontro italiano sui sistemi di radici</i> Il Palazzone, Cortona, Italy.	April 23, 2017
Talk at the graduate school seminar Università degli studi di Genova, Genova, Italy.	May 11, 2017
Talk at the algebra seminar Università degli studi di Genova, Genova, Italy.	May 10, 2017
Lecturer at the Rome-Pisa winter school on combinatorics, Lie theory and algebraic geometry Dobbiaco, Italy.	February 20-24, 2017
Invited speaker at “Topology and geometry in a discrete setting” ICERM, Providence, RI, USA.	November 28 - December 2, 2016
Talk at the combinatorics seminar Hebrew University, Jerusalem, Israel.	November 2, 2016
Invited speaker at “Perspectives on arrangements and configuration spaces” Centro De Giorgi, Scuola Normale Superiore, Pisa, Italy.	September 8-9, 2016
Invited main speaker at “Combinatorial structures in geometry” University of Osnabrück, Osnabrück, Germany.	August 8-13, 2016
Talk at the combinatorics seminar University of Marseille, France.	June 20, 2016
Invited speaker at “Hyperplane Arrangements and Singularity Theory” University of Hokkaido, Sapporo, Japan.	March 22-25, 2016
Invited talk at the conference “Topology and combinatorics of arrangements” AMS Eastern sectional meeting, Stony Brook, NY, USA.	March 19-20, 2016
Talk at the combinatorics seminar University of Miami, Miami, FL, USA.	March 17, 2016
Invited talk at the conference “Arrangements: topology, combinatorics and stability” University of Pisa, Italy.	February 3-6, 2016
Talk at the seminar on groups and geometry University of Geneva, Switzerland.	September 22, 2015
Invited talk at the conference “Hyperplane arrangements and reflection groups” Leibniz University, Hannover, Germany.	August 10-12, 2015
Invited talk at the conference “Perspectives in Lie theory” Centro De Giorgi, Scuola Normale Superiore, Pisa, Italy.	February 18, 2015
Talk at the <i>Graduiertenkolleg</i> on discrete structures University of Osnabrück, Osnabrück, Germany.	December 9, 2014
Talk at the algebra seminar University of Hannover, Hannover, Germany.	December 8, 2014
Colloquium talk University of Neuchâtel, Neuchâtel, Switzerland.	November 25, 2014
Talk at the Combinatorics seminar University of Minnesota, Minneapolis, MN, USA.	October 31, 2014
Invited talk at the conference “Configuration spaces” Palazzone, Cortona, Italy.	September 4, 2014

- Talk at the mathematics seminar
IHÉS, Paris, France. November 27, 2013
- Invited talk at the conference “Geometry and Topology of Arrangements of Hypersurfaces”
AMS joint international meeting, Alba Iulia, Romania. June 27-30, 2013
- Invited talk at the conference “Matroids, Oriented Matroids and applications”
CIRM, Luminy, France. April 2-6, 2013
- Invited lecturer (minicourse) at “Extended root systems and fundamental groups”
IPMU, University of Tokyo, Tokyo, Japan. February 13-16, 2012
- Invited talk at “Geometric and algebraic aspects of matroids”
Special session of the 2011 AMS Fall southeastern sectional meeting
Winston-Salem, NC, USA. September 24-25, 2011
- Talk at the Discrete Mathematics and Combinatorics seminar
Cornell University, Ithaca, NY, USA. September 29, 2011
- Invited speaker, workshop “Algebra and Geometry
of Configuration Spaces and related structures”
Centro De Giorgi, Scuola Normale Superiore, Pisa, Italy. 21-25 June, 2010
- Talk at the mathematics seminar
US Naval Academy, Annapolis, MD, USA. March 31, 2010
- Talk at the Combinatorics seminar
Università Roma 1 “La Sapienza”, Rome, Italy. January 14, 2010
- Talk at the Geometry seminar
Courant institute, New York University, New York, NY, USA. April 14, 2009
- Talk at the Topology and Geometric Group Theory seminar
Cornell University, Ithaca, NY, USA. October 28, 2008
- Invited talk at the conference in honor of Peter Orlik
Fields Institute, Toronto, Canada. August 19-23, 2008
- Talk at the seminar of Discrete Mathematics and Representation Theory
University of California at Davis, Davis, CA, USA. November 19, 2007
- Seminar talk at the program on Geometric Group Theory
Mathematical Sciences Research Institute, Berkeley, CA, USA. October 12, 2007
- Talk at “Formal Power Series and Algebraic Combinatorics” (*FPSAC 2007*)
Nankai University, Tjanjin, China. July 02-06, 2007
- Talk at the 58th *Séminaire lotharingien de combinatoire*
Domaine des Hautannes, Saint Germain au Mont d’Or, Lyon, France. March 19-21, 2007
- Talk at the workshop “Recent developments in arrangements and configuration spaces”
Mathematical Sciences Research Institute, Berkeley, CA, USA. August 07-11, 2006
- Talk at the conference “Arrangements of Hyperplanes”
Centro Stefano Franscini, Ascona, Switzerland. May 15-20, 2005
- Talk at “Geometry, Topology, and Combinatorics”
Satellite conference of the 4th European Congress of Mathematics
KTH Stockholm, Sweden. July 03-06, 2004
- Additional talks in: USA, Finnland, France, Germany, Italy, Japan, Switzerland.
For a complete list see <http://www.maestran.ch/math/talks.html>

Teaching experience

University of applied arts and sciences of southern Switzerland (SUPSI)

Department of innovative technologies (DTI)

Calculus 1 for computer science majors.

Fall 2021 - Spring 2022, 25 students. [6+6]*

Fall 2022 - Spring 2023, 31 students. [6+6]

Spring 2024, 25 students. [8]

Discrete Mathematics for Computer science majors (DTI), Spring 2024, ca. 50 students. [4]

Discrete Mathematics for work-accompanying curricula (PAP) in Computer science and Business engineering (DTI), Fall 2023 - Spring 2024, ca. 15 students. [1+1]

Precalculus for computer science majors, Fall 2023, 31 students. [4]

Calculus 2 for Data Science/Artificial Intelligence majors. [4]

Fall 2021, 12 students.

Fall 2022, 20 students.

Fall 2023, 15 students.

"Recovery course" for students not reaching the minimum requirements after one semester. (Co-taught with M. Garzoni.)

Spring 2022, 6 students. [7]

Spring 2023, 14 students. [7]

Spring 2024, 16 students. [6]

Algebra 2 for electronics engineering majors (DTI), Fall 2021, 15 students. [2]

Introductory statistics, Spring 2021, 15 students. [4]

School of education (DFA/ASP)

Geometry 2, for prospective secondary school teachers. [3]

Spring 2022, 20 students.

Spring 2024, 16 students.

Geometry lecture for the Master in Mathematics Education, co-taught with Oliver Villa. Spring 2023, 10 students.

Discrete mathematics, for prospective secondary school teachers, Fall 2022, 19 students. [3]

Mathematics for prospective primary school teachers (corso complementare). [3]

Fall 2021 - Spring 2022, 27 students.

Fall 2022 - Spring 2023, ca. 50 students.

Fall 2023 - Spring 2024, ca. 50 students.

Block-courses on history and epistemology of mathematics

For prospective high school teachers, Fall 2010 - Spring 2011, 8 students.

For prospective elementary school teachers, Spring 2011, 35 students.

*the number in brackets represents the number of hours per week, on a 15-weeks-semester basis.

University of Pisa

Topological Data Analysis (doctoral course, Maria A. Pascali and Davide Moroni), Fall 2023.

Combinatorial methods in topology (doctoral course), Spring 2021.

Fernuni Schweiz

Algebra

Spring 2023, 5 students

Spring 2024, 6 students

University of Fribourg

Note: all lectured offered as part of the BENEFR1 circuit, [4] each.

Matroid theory with a view towards tropical geometry, Fall 2021, 14 students.

Combinatorial polynomials, Spring 2020, 11 students.

Introduction to Matroid theory, Spring 2018, 13 students.

Combinatorics of Coxeter groups, Spring 2016, 8 students.

Combinatorial methods in topology,

Spring 2019, 7 students.

Spring 2017, 11 students.

Spring 2015, 8 students.

University of Bremen

Linear algebra I and II [6+6]

Fall 2010 - Spring 2011, ca. 180 students.

Fall 2011 - Spring 2012, ca. 250 students.

Fall 2012 - Spring 2013, ca. 200 students.

Fall 2013 - Spring 2014, ca. 250 students.

Mathematics for computer science, Fall 2012, ca. 300 students. [4]

Algebra, Fall 2011, ca. 60 students. [4]

Topology, Spring 2011, ca. 30 students. [4]

Algebraic topology seminar, Fall 2010, 14 students. [2]

Spectral graph theory seminar, Fall 2010, 13 students. [2]

State University of New York, Binghamton

The Universality Theorem for oriented matroids (graduate/doctoral), Fall 2009, 8 students.

Graph Theory

Spring 2009 (undergraduate), 32 students. [4]

Spring 2010 (undergraduate), 30 students. [4]

Spring 2010 (graduate), 7 students. [3]

Combinatorics [4]

Fall 2008, 27 students.

Fall 2009, 32 students.

Calculus III [4]

Spring 2008, ca. 70 students.

Spring 2009, 36 students.

Fall 2009, 34 students.

Talent-scouting programs

Preparatory lectures for Mathematics Olympiad,
Liceo Lugano 2, Switzerland. September-November, 2023

Teacher at program for gifted schoolchildren (8-11 years old, *Begabtenförderung*).
Primary school Buchs, SG, Switzerland, February 2015.

Summer school *supermath*.

Center “Ugo Morin”, Paderno del Grappa, Italy. August 2009, 2010, 2011.

Studienwoche Mathematik.

ETH Zurich, Switzerland. September 2007 and June 2008.

Settimana matematica.

University of Pisa, Italy. February 2007, March 2011, April 2021.

Activity at the junction between school and university, teacher’s continuing education

Invited talk at *Colloquium für Gymnasiallehrpersonen*,
ETH Zürich, Switzerland.

Upcoming November 21, 2024

Invited lecture at teacher’s continuing education course *Pascal a 401 anni dalla nascita*,
Commissione matematica della Svizzera Italiana
Scuola cantonale di commercio, Bellinzona, Switzerland.

March 1, 2024

Invited lecture at *Schweizerischen Tag für Mathematik und Unterricht*,
Bellinzona, Switzerland.

December 7, 2022

Invited lecture at cantonal continuing education course for mathematics teachers,
Camignolo, Switzerland.

September 14, 2022

Organization of the first *Symposium* for mathematics teachers,
Canton of Fribourg, Switzerland.

January 17, 2020

“*Esperto di sede*” at Liceo Cantonale di Mendrisio (appointed by Canton Ticino, in charge of
final exams supervision and of teacher’s continuing education).

Liceo di Mendrisio (TI), Switzerland.

Since September 2018

Member of *Commissione Matematica della Svizzera Italiana*.

Since 2017

Member of *Didattica della matematica. Dalla ricerca alle pratiche d’aula*.

Edited by DFA-SUPSI and the department of education of Canton Ticino.

Since 2017

Lecturer at the teacher’s continuing education course *Combinatoria: dall’enumerazione al gioco*.
Commissione matematica della Svizzera italiana

Bellinzona, Switzerland.

October 13, 2017

Three-part lecture and co-organization of teacher's continuing education course *Combinatoire : quelques ramifications modernes d'un sujet classique*.

Commission Romande de Mathématiques, Leysin, Switzerland September 18-22, 2017

Panelist at conference *Übergang Gymnasium-Universität III*.

University of Bern, Switzerland. September 11-12, 2017

Lecturer at the teacher's continuing education course *Eadem mutata resurgo*.

Commission romande de mathématique / Commissione matematica della Svizzera italiana

Centro Stefano Franscini, Ascona, Switzerland. September 20 - 23, 2016

"Expert supervisor" at *Schweizer Jugend Forscht*.

Contest of 2015

External supervisor at the mathematics exams for high school diploma (*Maturität*).

- Liceo di Mendrisio, TI, Switzerland. Since 2018.
- Liceo Lugano 2, TI, Switzerland. 2008 - 2010, 2013 - 2018.
- Collège St. Michel, FR, Switzerland. 2015, 2016.
- Collège du Sud, Bulle, FR, Switzerland. 2020.

Outreach (schools and general public)

Lecture for high school students,

Liceo Lugano 2, Switzerland.

April, 2022

Lecture at *Wissenschaft zum Z'vieri* (for 8-12 years old children),

University of Fribourg, Switzerland. September 30 (French) and October 7 (German), 2020

"ISA Lecture", public lecture at Istituto di Studi Avanzati

University of Bologna, Italy.

November 19, 2019

Laboratories at the *TecDay* of the Swiss Academy of Technical Sciences (SATW)

Mendrisio, TI, Switzerland.

November 22, 2018 and November 25, 2022

Chur, GR, Switzerland.

February 26, 2016

Lugano, TI, Switzerland.

November 20, 2015 and November 29, 2017

Locarno, TI, Switzerland.

November 14, 2014

Instructor at *Open Days*

University of Fribourg, FR, Switzerland.

Since 2014

Teacher at *Einblicke Mathematik*

University of Bremen, Germany.

2011 and 2012

Concept and realization of the exhibition *San Gaku: tra arte e scienza, la matematica tradizionale giapponese nel periodo di Edo* (joint with Maurice D. Froidcoeur).

Installations: Lugano (CH), Treviso (I), and (partial) in schools.

Fall 2010 - Fall 2011

Member of the board of the "bottega matematica" for teachers and mathematics educators

of the SMASI (Società Matematica della Svizzera Italiana).

Since Fall 2008

Academic administration

PhD. thesis committee member

- U. Milano Bicocca (S. Blumer and A. Cassella; Advisor Prof. T. Weigel)

May 2024

- U. Genova (E. Cecini; Advisor Prof. E. de Vito)

April 2020

- Scuola Normale Superiore, Pisa (G. Paolini; Advisor Prof. M. Salvetti)

January 2019

- U. Pisa (O. Papini; Advisor Prof. M. Salvetti) October 2018
- ETH Zurich (C. Schiessl; Advisor Prof. R. Pandharipande) December 2017
- Université Paris 7 (O. Bégassat; Advisor Prof. C. Berger) November 2017
- Stockholm University (O. Bergvall; Advisor Prof. C. Farber) November 2016
- University of Geneva (A. Paunov; Advisor Prof. A. Szenes) August 2016
- Polytecnic university of Catalunya (A. Dall; Advisor Prof. J. Pfeifle) February 2015

Member of the steering committee
of the DTI-SUPSI degree in management engineering. Since Spring 2021

Member of working groups for strategic development of DTI-SUPSI regarding
International relationships, Innovation of teaching, Cooperation with USI. Since Spring 2021

Member of the committee for renewal of the *Habilitationsordnung*,
University of Fribourg, Switzerland. Fall 2015

Member of the hiring committee for a professorship in applied Analysis,
University of Bremen, Germany. Fall 2011 - Fall 2012

Member of the *Promotionsausschuss*, University of Bremen, Germany. Fall 2011 - Spring 2014

Reviewer for the following journals and conferences

Advances in Applied Mathematics; Advances in Mathematics; Advances in Geometry; Annals of Combinatorics; Algebraic & Geometric Topology; Discrete Mathematics; Discrete and Computational Geometry; FPSAC – formal power series and algebraic combinatorics; Electronic Journal of Combinatorics; IMRN - International Mathematics Research Notices; Inventiones Mathematicae; L’Enseignement Mathématique; Journal of Combinatorial Theory series A; Journal of Algebraic Combinatorics; SIAM journal of Discrete Mathematics; Order; Topology proceedings.

Broadcast media (selected)

Radio Bremen (ARD)
Guest at *Zebra Vier forscht* (ca. 30 min. interview) March 23, 2014

SSR-SRG Rete Uno
Baobab società (ca. 22 min. interview) May 25, 2011
Baobab scienza (ca. 17 min. interview) October 15, 2008
Mille voci (ca. 45 min. panel discussion) February 22, 2007
Various smaller interviews.

Language skills

Italian: native.
French: very good, spoken and written.
German: very good, spoken and written.
English: very good, spoken and written.

Extracurricular activity and hobbies

Voluntary work for a yearly summer vacation camp for handicapped people.
Member of the directive staff, overseeing ca. 100 collaborators and ca. 40 guests, 1998 - 2010.

Music composition. In particular, scoring and orchestra conduction for the recording of shortmovie soundtracks: *Via Tantardini 7* (2003), *Endsieg* (2008), *Moving Forest* (2010).

Vocal music performing activity as member of different choral chamber ensembles.
Current projects: ensemble *Consonans*, Zurich; *Zürcher Männerstimmen*, Zurich.

Research and performance of traditional music, see <http://www.chilometro-zero.ch>.

Publications:

- Book chapter in *Note di bandella, Percorsi nel patrimonio musicale della Svizzera italiana*.
Edited by Centro di Dialettologie e Etnografia del Canton Ticino, Bellinzona, 2019.
- Author of *In festa*, curated edition and arrangement of 20 traditional dances from Ticino.
Mülirad-Verlag, Altdorf 2024.

Updated March 30, 2024.