

## CONTACT DETAILS

Institute for Advanced Study  
School of Mathematics A-104  
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## RESEARCH INTERESTS

Algebraic geometry, geometric representation theory, derived/homological aspects.

## EMPLOYMENT

2017–current	Member, School of Mathematics, Institute for Advanced Study, Princeton, NJ
2015–2017	Postdoctoral Research Fellow, Department of Mathematics, University of British Columbia

## EDUCATION

2015	Ph.D. in Mathematics Northwestern University, Evanston, IL Thesis: <i>Some microlocal aspects of perverse coherent sheaves and equivariant D-modules</i> Advisor: David Nadler
2010	Master in Advanced Studies in Mathematics (Part III) University of Cambridge, Churchill College, Cambridge, United Kingdom
2009	MSc in Technical Mathematics with a concentration in Mathematics in Computer Science Vienna University of Technology, Vienna, Austria including a semester at ETH Zürich, Switzerland Master Thesis: <i>Elliptic curve cryptography</i> Advisor: Michael Drmota

## PUBLICATIONS

*V-filtrations and the logarithmic de Rham functor.* In preparation.

*Constructible sheaves on the Kato–Nakayama space.* In preparation.

*Holonomic and perverse logarithmic D-modules.* Joint with Mattia Talpo.  
Advances in Mathematics 346 (2019), 510–545. doi:10.1016/j.aim.2019.02.016.

*Exotic sheaves via actions of quantum affine algebras.* Joint with Sabin Cautis.  
To appear in the Journal of the European Mathematical Society. arXiv:1611.02777.

*Hochschild cohomology of torus-equivariant D-modules.*  
To appear in International Mathematics Research Notices. arXiv:1506.07370.

*Exact functors on perverse coherent sheaves*  
Compositio Mathematica 151 (2015), no. 9, 1688–1696. doi:10.1112/S0010437X15007265.

## INVITED TALKS

April 2019	<i>T-structures from categorical representations.</i> Symplectic Representation Theory, CIRM, Marseille, France
March 2019	<i>Logarithmic D-modules and the de Rham functor.</i> Imperial College London, United Kingdom
January 2019	<i>Logarithmic Riemann–Hilbert Correspondences.</i> University of Glasgow, United Kingdom
November 2017	<i>Exotic t-structures via quantum affine algebras.</i> M-seminar, Kansas State University
October 2016	<i>T-structures on coherent sheaves and categorical actions.</i> Algebraic Geometry Seminar, University of British Columbia
September 2015	<i>Hochschild cohomology of torus-equivariant D-modules.</i> Algebraic Geometry Seminar, University of British Columbia
April 2015	<i>A “microlocal” characterization of perverse coherent sheaves.</i> Midwest Algebraic Geometry Graduate Conference, UIC  <i>A “microlocal” characterization of perverse coherent sheaves.</i> Geometry/Physics Seminar, Northwestern University

## OTHER PRESENTATIONS

September 2018	<i>Logarithmic Riemann–Hilbert Correspondences.</i> Short talks by postdoctoral members, Institute for Advanced Study, Princeton, NJ
November 2017	Poster and short talk <i>Exotic sheaves via actions of quantum affine algebras.</i> Winter School: Categorification, representation theory and symplectic geometry, HIM, Bonn, Germany
September 2017	<i>Categorical actions in geometry and representation theory.</i> Short talks by postdoctoral members, Institute for Advanced Study, Princeton, NJ
August 2017	Poster <i>Exotic sheaves via actions of quantum affine algebras.</i> Interactions between Representation Theory and Algebraic Geometry, Chicago, IL

## TEACHING

## UNIVERSITY OF BRITISH COLUMBIA

2016/17, Term 2	MATH 317 Calculus IV 80 students
Summer 2016	MATH 100 Differential Calculus with Applications to Physical Sciences and Engineering 80 students; single section course; responsible for all aspects of the course
2015/16, Term 2	MATH 532 Algebraic Geometry I 10 students; graduate course
2015/16, Term 1	MATH 100 Differential Calculus with Applications to Physical Sciences and Engineering 120 students; section in a large coordinated multi-section course

## NORTHWESTERN UNIVERSITY

Teaching assistant. Responsibilities included discussion sections and grading for the following classes (each section with 20–40 students):

Spring 2015	MATH-224-0 Integral Calculus of One Variable Functions (2 sections)
Fall 2013	MATH-220-0 Differential Calculus of One-Variable Functions (3 sections)

Spring 2013	MATH-281-3 Accelerated Mathematics for ISP: First Year
Spring 2013	MATH-340-0 Geometry
Fall 2012	MATH-230-0 Differential Calculus of Multivariable Functions (3 sections)
Spring 2012	MATH-331-3 MENU: Abstract Algebra
Spring 2012	MATH-308-0 Graph Theory
Winter 2012	MATH-334-0 Linear Algebra: Second Course
Winter 2012	MATH-306-0 Combinatorics & Discrete Mathematics
Fall 2011	MATH-220-0 Differential Calculus of One-Variable Functions (2 sections)

#### VIENNA UNIVERSITY OF TECHNOLOGY

Exercise and repetition classes in Mathematics for Engineers and Mathematics for Computer Scientists during the years 2006 to 2009.

#### SERVICE AND OUTREACH

Peer review for *Selecta Mathematica*

Organizer of the UBC Algebraic Geometry seminar

Co-initiator and co-maintainer of the community website for the Austrian Mathematical Olympiad

Member of the Austrian Mathematical Society (ÖMG)

#### AWARDS AND GRANTS

2017	UBC postdoctoral travel grant
2010	Fulbright fellowship (declined)
2010	Churchill College excellence award
2005–2009	Excellence scholarships of the Vienna University of Technology

#### PERSONAL

Languages	German: native; English: fluent; French: basic
Citizenship	Austria