

# Leonardo Patimo

## Curriculum Vitae

Ernst-Zermelo-Straße 1  
79104 Freiburg im Breisgau  
Germany

☎ +49 761 20354029

✉ [leonardo.patimo@math.uni-freiburg.de](mailto:leonardo.patimo@math.uni-freiburg.de)  
🏠 [home.mathematik.uni-freiburg.de/patimo](http://home.mathematik.uni-freiburg.de/patimo)

## Employment

- June 2018 - **Wissenschaftliche Mitarbeiter**, *University of Freiburg*, Freiburg im Breisgau (Germany).  
Research Assistant of Prof. Wolfgang Soergel
- Spring 2018 **Postdoctoral Fellow**, *Mathematical Sciences Research Institute*, Berkeley (USA).  
Semester Program on: Group Representation Theory and Applications

## Education

- 2014-2018 **Ph.D. Student**, *Max Planck Institute for Mathematics*, Bonn (Germany).  
International Max Planck Research School on Moduli Spaces  
Doctoral Program at the Bonn University with Financial Support
- Advisor: Dr. Geordie Williamson
  - Thesis Subject: Geometric Representation Theory, Perverse Sheaves, Soergel Bimodules, Hodge Theory in Representation Theory
- 2012-2014 **Master of Science**, *University of Pisa*, Pisa (Italy), *110/110 cum laude*.  
2-year Master's program in mathematics
- 2009-2014 **Diploma di Licenza**, *Scuola Normale Superiore*, Pisa, *70/70*.  
5-year complementary Bachelor's and Master's program in mathematics, scholarship awarded through competitive examination in 2009 and successfully renewed each year
- 2009-2012 **Bachelor of Science**, *University of Pisa*, Pisa, *110/110 cum laude*.  
3-year Bachelor's Degree in mathematics
- 2004-2009 **Diploma**, *ITIS "G.Ferraris"*, Molfetta (Italy), *100/100*.  
5-year secondary school

## Publications

- A combinatorial formula for the coefficient of  $q$  in Kazhdan-Lusztig polynomials**, *Submitted*, arxiv:1811.08184.
- The Néron-Severi Lie Algebra of a Soergel Module**, *Transform. Groups* 23 (2018), no. 4, arXiv:1607.05565.
- The Hard Lefschetz Theorem in positive characteristic for the Flag Varieties**, *Int. Math. Res. Not. IMRN* 2018, no. 18, arXiv:1608.04202.

## Long Research Visits

- Fall 2016 **Research Institute for Mathematical Sciences**, *Kyoto, Japan*, 2 Months.

Spring 2017 **University of Sydney**, *Sydney, Australia*, 3 Months.

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## Selected Talks

- November 2018 **Workshop: Enveloping Algebras and Geometric Representation Theory**, *Oberwolfach (Germany)*, Minimal reflections and the coefficient of  $q$  in Kazhdan-Lusztig polynomials.
- September 2018 **Conference: Theorie Geometrique des Representations**, *Besse (France)*, Moment graphs, Kazhdan-Lusztig polynomials and combinatorics.
- May 2018 **Algebra Seminar**, *University of Oregon, Eugene, USA*, Moment graphs, Kazhdan-Lusztig polynomials and combinatorics.
- April 2018 **Group and Representation Theory Seminar**, *MSRI, Berkeley, USA*, Moment graphs, Kazhdan-Lusztig polynomials and combinatorics.
- July 2017 **Oberseminar: Algebra, Zahlentheorie und algebraische Geometrie**, *University of Freiburg, Germany*, Some consequences from Hodge theory in representation theory.
- May 2017 **Quinto Incontro Combinatoria Sistemi di Radici (Fifth Meeting on Combinatorics of Root Systems)**, *Cortona, Italy*, Some Applications of Hodge Theory in Representation Theory.
- April 2017 **Pure Mathematics Seminar**, *University of Queensland, Brisbane, Australia*, Hodge Theoretic Properties in Representation Theory.
- October 2016 **Representation Theory Seminar**, *RIMS Kyoto, Japan*, The Hard Lefschetz Theorem in Positive Characteristic for Flag Varieties.
- August 2016 **Koszul Duality and Soergel's Conjecture Seminar**, *MPIM Bonn*, Examples of Koszul duality.
- November 2015 **Path Model Afternoon**, *MPIM Bonn*, Littelmann's Path Model.
- August 2015 **Summer School on Koszul Duality**, *University of Bielefeld*, Perverse Sheaves on the Flag Varieties.
- February 2015 **Seminar on mixed Hodge modules**, *MPIM Bonn*, Introduction to Mixed Hodge Structures.
- April 2014 **Lie Theory Seminar**, *University of Pisa, Italy*, Localization of  $\mathfrak{g}$ -modules.

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## Teaching

- WS 2018/19 **Reflection Groups Seminar**, as *Tutor*, University of Freiburg.
- WS 2018/19 **Linear Algebra I**, as *Assistant*, University of Freiburg.
- SS 2018 **Sheaf Cohomology II**, as *Tutor*, University of Freiburg.
- June 2017 **Summer School on Soergel Bimodules**, as *Teaching Assistant*, MSRI, Berkeley, USA.
- WS 2015/16 **Representation Theory II**, as *Wissenschaftliche Hilfskräfte (Tutoring and Exercise Sessions)*, University of Bonn.

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## Languages

Italian Mother tongue  
English Fluent  
German Advanced

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## Other Awards and Achievements

- 2007-2009 3 gold medals at the Italian Mathematical Olympiad, participation at international competitions, such as BMO '08 and RMM '09, as member of the Italian Team
- 2009 2nd overall in the science class in the accessing exam to Scuola Normale Superiore, 1st amongst Math students