

**José Pedro Alves Quintanilha**  
Curriculum Vitae  
(last updated April 22, 2022)

## Personal information

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Date of birth 17 June 1990  
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## Peer-reviewed work

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- *Stable integral simplicial volume of 3-manifolds*, joint with Daniel Fauser, Clara Löh and Marco Moraschini (2021)  
Published in Journal of Topology, DOI: [10.1112/topo.12193](https://doi.org/10.1112/topo.12193) ([arXiv:1910.06120](https://arxiv.org/abs/1910.06120))

## Preprints

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- *An algorithm to calculate generalized Seifert matrices*, joint with Stefan Friedl and Chinmaya Kausik: [arXiv:2204.10004](https://arxiv.org/abs/2204.10004)
- *Canonical decompositions and algorithmic recognition of spatial graphs*, joint with Stefan Friedl, Lars Munser and Yuri Santos Rego: [arXiv:2105.06905](https://arxiv.org/abs/2105.06905)
- *The complex of hypersurfaces in a homology class*, joint with Gerrit Herrmann: [arXiv:2007.00522](https://arxiv.org/abs/2007.00522)

## Invited talks

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- *Studying 3-manifolds through the finite quotients of their fundamental groups*, Geometry Graduate Colloquium, ETH Zürich (Oct 2020)
- *Hypersurfaces representing a codimension-1 homology class*, Karlsruher Institut für Technologie (Jan 2020)
- *Uma introdução à topologia e à teoria de nós*, Encontro Nacional de Estudantes de Matemática, Universidade do Porto (Apr 2019)

## Positions held

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Feb 2022 – *ongoing*     Postdoctoral researcher at the University of Bielefeld  
*In the working group of Kai-Uwe Bux*

## Education

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- May 2018 – Jan 2022     **PhD in Mathematics**  
*Universität Regensburg, Germany*  
Grade: *magna cum laude*  
  
Doctoral dissertation: [\*Three slices of 3-manifold topology: spatial graphs, surface complexes and simplicial volumes\*](#) (under supervision of Stefan Friedl and Clara Löh)
- Oct 2015 – Oct 2017     **MSc in Mathematics** (Area: Geometry and Topology)  
*Rheinische Friedrich-Wilhelms-Universität Bonn, Germany*  
Overall grade<sup>1</sup>: 1.4  
  
I was awarded a scholarship by the *German Academic Exchange Service* (DAAD) for the schoolyear 2015-2016.  
Master's thesis: [\*Curves on the boundary of handlebodies\*](#) (under supervision of Sebastian Hensel)
- Sept 2012 – Jul 2015     **BSc in Mathematics** (Minor in Mathematics)  
*Faculty of Sciences of the University of Porto, Portugal*  
Grade average: 19 / 20
- Sept 2007 – Jul 2012     **MSc in Bioengineering** (Biotechnology branch)  
*Faculty of Engineering of the University of Porto and Institute of Biomedical Sciences Abel Salazar, Portugal*  
Grade average: 16 / 20  
  
Master's thesis: [\*The role of Lipocalin-2 on in vitro thymocyte differentiation\*](#) (under supervision of Jorge Pinto)
- Sept 2004 – Jul 2007     **Highschool diploma** (Biotechnology – Scientific path)  
*Colégio Internato dos Carvalhos, Portugal*  
Grade average: 18 / 20

## Teaching experience

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- Winter sem. 2020/21     Co-organizer of a student seminar on  $L^2$ -invariants  
*Joint with Lars Munser*
- Summer sem. 2019     Teaching assistant for Group Cohomology  
*Taught by Clara Löh*
- Sept 2015     Monitor for a summer school in Mathematics for highschool students at the University of Porto

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<sup>1</sup> Where 1 = Very Good, 2 = Good, 3 = Satisfactory, 4 = Sufficient, 5 = Non-sufficient / Fail.

## Additional experience in Mathematics

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Sept 2021	<b>Oberwolfach workshop</b> Invited participant of the MATRIX-MFO Tandem Workshop: Invariants and Structures in Low-Dimensional Topology.
Feb 2020	<b>Oberwolfach workshop</b> Invited participant of the workshop on Low-dimensional Topology at the <i>Mathematisches Forschungsinstitut Oberwolfach</i> , Germany.
Nov 2014 – Sept 2015	<b>Fellow of the program <i>Novos Talentos em Matemática</i></b> <sup>2</sup> I wrote a report entitled <i>Hyperbolic Structures and the Teichmüller Space</i> (under supervision of Peter Gothen).
Feb 2015 – May 2015	<b>CS188.1x: Artificial Intelligence</b> (BerkeleyX) Completed an online course offered by The University of California, Berkeley, through the edX e-learning platform.
Nov 2013 – Sept 2014	<b>Fellow of the program <i>Novos Talentos em Matemática</i></b> I wrote a report entitled <i>Constructing a Basis for the <math>W</math>-Harmonic Polynomials</i> (under supervision of Samuel Lopes).

## Additional information

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Experience in Bioengineering	Internships at research centers: IPATIMUP (Porto, 2010), <i>Université Paris V</i> (2011), IBMC (Porto, 2012). Part of the organising committee for the II Symposium on Bioengineering (FEUP, 2009).
Classical Music Training	Completed the Complementary Piano Course at the <i>Vilar do Paraíso Music Academy</i> (2011).
Languages	Portuguese (native), English (fluent), French (basic), German (intermediate).

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<sup>2</sup> Translates to “New Talents in Mathematics”. A program held by the Gulbenkian Foundation that awards excellent undergraduate students with a scholarship and provides them with a tutor with whom to study advanced topics in mathematics and/or begin mathematical research.