

# Curriculum vitae - Simon Gritschacher

## Personal information

Nationality: Austrian

## Affiliation

Department of Mathematical Sciences  
University of Copenhagen  
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## Research interests

Homotopy theory, generalised cohomology, infinite loop space theory,  $K$ -theory, classifying spaces, spaces of homomorphisms to Lie groups, homology stability

## Employment

10/2017 - present      **University of Copenhagen**  
Postdoc

## Education

10/2013 - 05/2017      **University of Oxford, Lincoln College**  
05/2017 DPhil in Mathematics

10/2011 - 09/2013      **Ludwig-Maximilians-University, Munich**  
09/2013 MSc in Mathematics (distinction)

07/2010 - 08/2011      **Max Planck Institute for Physics, Munich**

10/2008 - 06/2012      **Technical University, Munich**  
06/2012 BSc in Mathematics (distinction)  
08/2011 Diploma in Physics (5 years degree, distinction)

04/2007 - 07/2008      **Technical University, Graz**  
BSc in Technical Physics and Technical Mathematics (not completed)

## Awards, prizes and scholarships

- Marie Curie Individual Fellowship 2018, EU
- 150th Anniversary Postdoctoral Mobility Grant 2017, London Mathematical Society
- Scholar of the EPSRC, 10/2013 - 04/2017
- Carathéodory Prize for the year's best Master thesis, LMU Munich, 09/2014
- Best Study Award for Bachelor Mathematics for the best overall grade, TU Munich, 06/2013
- Scholar of the Cusanuswerk 04/2009 - 09/2013

- 37th International Physics Olympiad, Singapore, Honourable mention 07/2006

### Invited talks

- Topology seminar, Indiana-University-Purdue-University, Indianapolis 22/08/2017
- Topology seminar, Pacific Institute for the Mathematical science, University of British Columbia, Vancouver 22/06/2017
- Topology seminar, Pacific Institute for the Mathematical science, University of British Columbia, Vancouver 15/06/2017
- Workshop on subfactors, higher geometry, higher twists and almost Calabi-Yau algebras, Isaac Newton Institute, Cambridge 31/03/2017
- Algebra/Topology seminar, University of Copenhagen 05/01/2017
- Topology seminar, University of Oxford 28/11/2016
- 31st Summer Conference on Topology and its Applications, University of Leicester 02/08/2016 - 05/08/2016
- Topology seminar, University of Regensburg 09/06/2016
- Graduiertenkolleg Kolloquium, University of Regensburg 09/06/2016
- Oxford-Aberdeen-Cambridge manifolds meeting, University of Aberdeen 03/05/2016

### Contributed talks and presentations

- Poster presentation at the graduate school *Particles and Interactions*, University of Vienna 14/07/2011
- Annual meeting of the Swiss and Austrian Physical Societies, EPFL Lausanne 15/06/2011 - 17/06/2011
- Annual conference of the German Physical Society, Karlsruhe 28/03/2011 - 01/04/2011
- TopMath Spring school on Trends in probability, Herrsching, Germany 28/03/2010 - 01/04/2010

### Selection of conferences, workshops and schools attended

- Young Topologists Meeting, University of Copenhagen 09/07/2018 - 13/07/2018
- Masterclass on Rigidity and algebraic models in stable homotopy theory, University of Copenhagen 09/04/2018 - 13/04/2018
- Masterclass on Tensor triangular geometry and equivariant stable homotopy theory, University of Copenhagen 12/03/2018 - 16/03/2018
- Oxford-Aberdeen-Cambridge manifolds meeting, University of Oxford 13/03/2017
- Oxford-Aberdeen-Cambridge manifolds meeting, University of Cambridge 09/09/2016
- Topology of manifolds: a conference in honour of Michael Weiss' 60th birthday, Lisbon 27/06/2016 - 01/07/2016
- Oxford-Aberdeen-Cambridge manifolds meeting, University of Oxford 22/02/2016
- Summer school on Algebraic K-theory and Trace methods, University of Regensburg 03/08/2015 - 07/08/2015

- Introductory School on Homotopy theory, manifolds, and field theories, Hausdorff Research Institute for Mathematics, Bonn 04/05/2015 - 08/05/2015
- West Coast Algebraic Topology Summer School, University of British Columbia, Vancouver 07/07/2014 - 12/07/2014
- Young Topologists Meeting, University of Copenhagen 30/06/2014 - 04/07/2014
- Young Topology Meeting UK, Imperial College London 06/06/2014

#### Other seminar talks

- *Deformation K-theory*, Junior Geometry and Topology seminar, University of Oxford 05/11/2015
- *Zabrodsky Mixing*, Junior Topology and Group Theory seminar, University of Oxford 11/03/2015
- *Waldhausen K-Theory*, Junior Topology and Group Theory seminar, University of Oxford 18/06/2014

#### Extended visits

05/2017 - 09/2017	University of British Columbia, Vancouver Visiting Alejandro Adem
09/2012 - 10/2012	University of Vienna Visiting André Hoang
09/2008 - 10/2008	University of Innsbruck Visiting the Institute for Quantum Optics

#### Teaching

##### *University of Copenhagen*

- Algebraic Topology 1.5 (4th year), Lecturer (jointly with Thomas Wasserman), 2018 Blok 3
- Homological algebra (4th year), Lecturer, 2018 Blok 2
- Algebraic Topology 1.5 (4th year), Teaching assistant, 2017 Blok 3
- Homological algebra (4th year), Teaching assistant, 2017 Blok 2

##### *University of Oxford*

- Constructive mathematics (1st year), Tutor at Balliol College, 2016 Trinity
- Dynamics (1st year), Tutor at Balliol College, 2016 Hilary
- Projective Geometry (2nd year), Tutor at Lincoln College, 2015 Trinity term
- Geometry (1st year), Tutor at Balliol College, 2015 Michaelmas term
- Algebraic Topology (4th year), Class tutor, 2015 Michaelmas term
- Projective Geometry (2nd year), Tutor at Lincoln College, 2014 Trinity term
- Topology (2nd year revisions), Tutor at Merton College, 2014 Trinity term

- Topology (2nd year), Tutor at Merton College, 2014 Hilary term
- Algebraic Topology (4th year), Teaching assistant, 2014 Michaelmas term

*Ludwig-Maximilians-University Munich*

- Geometry and Topology of Surfaces (2nd year), Class tutor, 2013 Summer term
- Measure theory and multivariable calculus (2nd year), Class tutor, 2012 Winter term

#### **Academic commitment**

- Co-organiser (with Tobias Barthel) of the Algebra & Topology seminar in Copenhagen, 10/2017 - present

#### **Publications and preprints**

*Mathematics*

- (with Markus Hausmann) *Commuting matrices and Atiyah's Real K-theory*. Preprint 2018. arXiv:1807.06864
- (with O. Antolín-Camarena and B. Villarreal) *Classifying spaces for commutativity of low-dimensional Lie groups*. Preprint 2018. arXiv:1802.03632
- *The spectrum for commutative complex K-theory*. Algebraic and Geometric Topology 18 (2018) pp. 1205–1249
- *A remark on the group-completion theorem*. Preprint 2017. arXiv:1709.02036

*Physics*

- (with A. Hoang, I. Jemos, V. Mateu and P. Pietrulewicz) *Variable-flavor-number scheme for final state jets in thrust*. Phys. Rev. D 90, 114001 (2014)
- (with A. Hoang, I. Jemos and P. Pietrulewicz) *Two loop soft function for secondary massive quarks*. Phys. Rev. D 89, 014035 (2014)
- (with A. Hoang, I. Jemos and P. Pietrulewicz) *Secondary heavy quark production in jets through mass modes*. Phys. Rev. D 88, 034021 (2013)

*Theses*

- *Commutative K-theory*. Ph.D thesis, Oxford (2017)
- *On Poincaré rings of manifolds*. MSc thesis, LMU (2013)
- *Computational simulation of fluid dynamics*. BSc thesis, TU Munich (2012)
- *Massive gluino effects in event shape distributions*. Diploma thesis, TU Munich (2011)

#### **Memberships**

- LMS London Mathematical Society, 2014 - present
- DMV Deutsche Mathematiker Vereinigung (German Mathematical Society), 2013 - present

#### **Non-academic commitment**

- Committee member Cusanuswerk Munich (scholarship foundation), 02/2011 - 02/2012
- Voluntary paramedic with the Austrian Red Cross, 12/2006 - 12/2009