

# D. Lukas B. Brantner – Curriculum Vitae

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- EMPLOYMENT**     **Merton College, Oxford University**, Oxford, United Kingdom     Oct 2018 –  
Junior Research Fellow
- Max Planck Institute for Mathematics**, Bonn, Germany     Sep 2017– Sep 2018  
Researcher (Scientific Assistant)
- VISITING POSITION**     **Mathematical Sciences Research Institute**, Berkeley, United States of America     Jan 2019–May 2019  
Stephen Della Pietra Fellow
- EDUCATION**     **Harvard University**, Cambridge, United States of America     Sep 2012– May 2017
- Doctor of Philosophy (Ph.D.) in Mathematics  
Thesis: The Lubin-Tate Theory of Spectral Lie Algebras  
Available at <https://scholar.harvard.edu/files/brantner/files/brantnerthesis.pdf> (edited).  
Advisor: Jacob Lurie
- Minor Thesis: The  $p$ -adic Hodge Theory of Semistable Galois Representations (2013)  
Advisor: Mark Kisin  
Passed Qualifying Exams immediately (09/2012)
- University of Cambridge**, St. John’s College, Cambridge, United Kingdom     Oct 2008– Jun 2012
- Bachelor of Arts (hons), Master of Mathematics  
First (highest class) in Part IA, Part IB, Part II, Distinction (highest class) in Part III.  
Top of the tripos in 2009 (out of  $\simeq 250$ ). 4<sup>th</sup> Wrangler.  
Essay: Abelian and Nonabelian Hodge Theory (with Ian Grojnowski)
- Friedrich Gymnasium and Albert-Ludwigs Universität, Freiburg, Germany  
First year of diploma course physics (grade average: 1.0).     Nov 2007– Jul 2008  
Abitur (graduated one year early, grade average: 1.0).     – Aug 2007  
Attended astrophysics classes at university while in high school
- RESEARCH VISITS**     ■ University of California, Berkeley (Guest of Peter Teichner)     Mar 2018 – Apr 2018  
                         ■ Stockholm University (Guest of Gregory Arone)     Apr 2016  
                         ■ Guest at the Hausdorff Center for Mathematics in Bonn     May 2015 and Nov 2016  
                         ■ Undergraduate Research Fellow, California Institute of Technology     Jul 2010 – Sep 2010  
Project: Stable Commutator Length in Free Groups.  
Advisor: Danny Calegari
- PUBLICATIONS**     [7] Brantner, Lukas, Jeremy Hahn, Gijs Heuts, Allen Yuan, "On  $\Phi$ -good Spaces'.  
                         *In preparation.*
- [6] Brantner, Lukas, Jeremy Hahn, Ben Knudsen, "The Lubin-Tate Theory of Configuration Spaces: I".  
                         *Submitted. Preprint available at <https://arxiv.org/pdf/1908.11321.pdf>.*
- [5] Brantner, Lukas, Akhil Mathew "Deformation Theory via Partition Lie Algebras".  
                         *Submitted. Preprint available at <https://arxiv.org/pdf/1904.07352.pdf>.*
- [4] Gregory Arone, Brantner, Lukas, "The Action of Young Subgroups on the Partition Complex".  
                         *Submitted. Preprint available at <https://arxiv.org/abs/1801.01491>.*
- [3] Brantner, Lukas, "The Lubin-Tate Theory of Spectral Lie Algebras", Harvard Thesis.  
                         Available at <https://scholar.harvard.edu/files/brantner/files/brantnerthesis.pdf> (edited).
- [2] Brantner, Lukas, Gijsbert Heuts, "The  $v_n$ -periodic Goodwillie Tower on Wedges and Cofibres",  
                         *To appear in Homology, Homotopy and Applications.* Available at <https://arxiv.org/abs/1612.02694>.
- [1] Brantner, Lukas, (Appendix: F. Manners), "On the complexity of sails."  
                         *Published. Pacific Journal of Mathematics*, 258.1 (2012): 1-30.

<b>SEMINAR TALKS</b>	▪ University of Aberdeen Topology Seminar	Nov 2019
	▪ Princeton University Algebraic Geometry Seminar	Sep 2019
	▪ Oxford University Algebraic Geometry Seminar	Jun 2019
	▪ Paris 13 Séminaire de Topologie Algébrique	May 2019
	▪ MIT Topology Seminar	Apr 2019
	▪ MSRI Derived Algebraic Geometry Seminar	Mar 2019
	▪ Electronic Computational Homotopy Theory Seminar	Jan 2019
	▪ Oxford University Topology Seminar	Oct 2018
	▪ Transpennine Topology Triangle, Sheffield	Oct 2018
	▪ Workshop on $\infty$ -Operads, Utrecht	Jun 2018
	▪ University of Chicago Topology Seminar	Apr 2018
	▪ Bonn University Topology Seminar	Jan 2018
	▪ KTH / Stockholm Topology Seminar	Nov 2017
	▪ Johns Hopkins University Topology Seminar	Feb 2017
	▪ University of Chicago Topology Seminar	Jan 2017
	▪ University of Copenhagen Topology Seminar	Jan 2017
	▪ Hausdorff Institute Bonn, Trimester Program	Nov 2016
	▪ Oxford University Topology Seminar	Sep 2016
	▪ KTH / Stockholm University Algebra and Geometry Seminar	Apr 2016
	<b>CONFERENCE TALKS</b>	▪ Oberwolfach Workshop Homotopy Theory
▪ Oberwolfach Workshop Topology (Report: <a href="https://scholar.harvard.edu/files/brantner/files/oberwolfachreport_brantner.pdf">https://scholar.harvard.edu/files/brantner/files/oberwolfachreport_brantner.pdf</a> )		Jul 2018
▪ Banff Workshop on Operations in Highly Structured Homology Theories, “Discrete Morse Theory and André–Quillen Homology” (Recording: <a href="https://open.library.ubc.ca/cIRcle/collections/birs/items/1.0339952">https://open.library.ubc.ca/cIRcle/collections/birs/items/1.0339952</a> )		May 2016
<b>MINICOURSE</b>	Max Planck Institute for Mathematics, Bonn. “The Partition Complex”.	Jan 2018
<b>SELECTED AWARDS / MERIT SCHOLARSHIPS</b>	▪ ERP Scholarship, German National Academic Foundation (research stipend, US \$ 91.400)	2013-2015
	▪ Bayliss Scholarship, Wright Prize, St. John’s College, Cambridge (students with best exams across all subjects)	2009-2012
	▪ Study Abroad Scholarship, German National Academic Foundation	2011
	▪ Master’s Prize, St. John’s College, Cambridge for my Paper ‘On the Complexity of Sails’	2011
	▪ Ian Hall Year Prize, Adams Prize, St. John’s College, Cambridge for “the top-performing mathematicians of the mathematical tripos” (4 <sup>th</sup> Wrangler)	2011
	▪ German Academic Exchange Service (DAAD) Scholarship	2010
	▪ Lapwood-Towle Prize, St. John’s College, Cambridge	2010
	▪ Johnston Year Prize, Leathem Prize for being the top scoring Mathematician in the University (out of $\simeq 250$ )	2009
	▪ Study Abroad Scholarship, German National Academic Foundation	2008
	▪ Member of the German National Academic Foundation (Studienstiftung des Deutschen Volkes)	since 2008
<b>TEACHING EXPERIENCE</b>	▪ Designed and led Oxford advanced class “Chromatic Homotopy Theory”	Fall 2018
	▪ Vector Calculus (Math 21a): delivered lectures, held office hours, and carried out exam grading	Fall 2015, Spring 2017
	▪ Teaching apprenticeship with Janet Chen (included video coaching of my calculus teaching)	Spring 2015
	▪ Mentor for Harvard undergraduates in mathematics	2014
	▪ Calculus teaching class (Math 300, included video coaching of my calculus teaching)	Fall 2012

- SERVICE**
- Organised double conference “Higher Algebra and Mathematical Physics” Aug 2018  
Max Planck Institute for Mathematics, Bonn,  
Perimeter Institute for Theoretical Physics, Waterloo
  - Organised block seminar “Elliptic Cohomology” at Berkeley Spring 2018
  - Organised “Juvitop seminar” (Harvard-MIT Graduate Topology Seminar) 2014/2015, Fall 2015
  - Organised “Trivial Notions seminar” (Harvard graduate student seminar) 2013/2014
  - President of the Adams’ Society (Mathematical society of St. John’s College) 2010/2011

**LANGUAGES**     ▪ German: Native. English: Fluent (IELTS). French: Fluent (DALF C1). Spanish: Beginner.

**SKILLS**            MATLAB, Mathematica, R, C++, Python

**REFERENCES**

**Jacob A. Lurie**

Professor of Mathematics, Harvard University  
1 Oxford Street, Cambridge, Massachusetts 02138, United States of America  
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**Michael J. Hopkins**

Professor of Mathematics, Harvard University  
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**Gregory Z. Arone**

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Department of Mathematics, Stockholm University, SE-106 91 Stockholm, Sweden  
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**Janet Chen (Teaching)**

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