

JOHN ALEXANDER LIND – CURRICULUM VITAE

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Citizenship: U.S.A.
Date of Birth: 1985

Education

University of Chicago

Ph.D., Mathematics, 2011 (Thesis advisor: J. Peter May)
M.S., Mathematics, 2008

Reed College

B.A., Mathematics, 2006

Appointments

Assistant Professor, California State University, Chico, 2018–present
Visiting Assistant Professor, Reed College, 2016–2018
Postdoctoral Researcher, Universität Regensburg, Germany, 2014–2016
Visiting Fellow, Australian National University, 2013
J.J. Sylvester Assistant Professor, Johns Hopkins University, 2011–2014

Honors and Awards

- **NSF award DMS-1953894**: *Chico Topology Conference* (PI, joint with Thomas Mattman)
- **Stillman Drake Fund** for Faculty Development, Reed College, 2017
- **NSF award DMS-1722545**: *Homotopy theory in the ecliptic: chromatic, equivariant, and motivic mathematics* (co-PI, joint with Agnès Beaudry, Michael Hill, Kyle Ormsby, and Angélica Osorno), 2017
- **Fulbright Scholarship**, Norway 2014 (declined)
- **Lawrence and Josephine Graves Prize** for excellence in undergraduate teaching, 2010
- **Phi Beta Kappa**, elected member 2006

Research Publications

- (1) *Diagram spaces, diagram spectra and spectra of units*, Algebraic and Geometric Topology 13 (2013) 1857–1935
- (2) *Bundles of spectra and algebraic K-theory*, Pacific Journal of Mathematics 285, no. 2 (2016) 427–451
- (3) *Uniqueness of $BP\langle n \rangle$* (with Vigleik Angeltveit), Journal of Homotopy and Related Structures 12, no. 1 (2017) 17–30
- (4) *Infinite loop spaces and nilpotent K-theory* (with Alejandro Adem, José Manuel-Gomez and Ulrike Tillmann), Algebraic and Geometric Topology 17 (2017) 869–893
- (5) *The Morita equivalence between parametrized spectra and module spectra* (with Cary Malkiewich), in *New directions in homotopy theory: Proceedings of the second Mid-Atlantic Topology Conference*, Contemporary Mathematics (2018), 24pp.
- (6) *The transfer map of free loop spaces* (with Cary Malkiewich), Transactions of the Amer. Math. Soc. 371 (2019), 2503–2552, 54pp.

- (7) *Twisted iterated algebraic K-theory and topological T-duality for sphere bundles* (with Hisham Sati and Craig Westerland), *Annals of K-theory* 5 (2020), no. 1, 1–42.
- (8) *K-theory of endomorphisms, the TR-trace, and zeta functions* (with Jonathan Campbell, Cary Malkiewich, Kate Ponto, and Inna Zakharevich), submitted [arXiv:2005.04334].
- (9) *Spectral Waldhausen categories, the S_\bullet -construction, and the Dennis trace* (with Jonathan Campbell, Cary Malkiewich, Kate Ponto, and Inna Zakharevich), submitted [arXiv:2006.04006].
- (10) *Parametrized ring spectra and bivariant A-theory* (with Georgios Raptis), in preparation
- (11) *Bivariant K-theory of ∞ -categories* (with Kim Nguyen, Georgios Raptis, Christoph Schrade), in preparation
- (12) *Cartier duality and T-duality* (with Hisham Sati and Craig Westerland), in preparation

Interdisciplinary publications

- (1) *Sandpiles and synthesizers: listening to the discrete Laplacian*, BRIDGES Linz 2019 Conference Proceedings.

Service to the Profession

- Referee for *Algebraic and Geometric Topology*, *Boletín de la Sociedad Matemática Mexicana*, *Journal of Topology*, *Mathematische Zeitschrift*, *Transactions of the AMS*, *Cambridge University Press*, *Proceedings of the Edinburgh Mathematical Society*
- Scientific Committee, *Homotopical Methods in Fixed Point Theory*, summer workshop for Ph.D. students (July 2021)
- Conference organizer, *Chico Topology Conference* (April 2020)
- Conference organizer, *Homotopy Theory in the Ecliptic: Chromatic, Equivariant, and Motivic Mathematics* (August 2017)
- Organizer, Reed College Calculus help center
- Organizer, *Higher Invariants Oberseminar: The Grothendieck-Teichmüller group* at Universität Regensburg (2015)
- Johns Hopkins University topology seminar organizer (2011–2014)
- Mentored and taught graduate students in algebraic topology at Johns Hopkins University, Universität Regensburg
- Reviewer for AMS Mathematical Reviews

Advising Experience

- Undergraduate Mathematics–Physics interdisciplinary thesis (Aja Procita, Reed College), 2017–2018
- Undergraduate thesis on group cohomology and higher category theory (Sam Johnston, Reed College), 2016–2017
- Undergraduate thesis on Burnside rings and Grothendieck-Witt rings (Ricardo Rojas-Echenique, Reed College), 2016–2017
- Mentor in the Johns Hopkins University Teaching Academy, 2013–2014
- Mentor in the Directed Reading Program (U. Chicago), Spring 2010, Spring 2009, Winter and Spring 2008
- Mentor and Course Assistant for Mathematics REU (U. Chicago), Summer 2007, 2008, 2009

Teaching Experience

at Chico State:

- Topological Data Analysis, Fall 2019

- Introduction to the Theory of Numbers, Fall 2019
- Precalculus Mathematics (two sections), Fall 2019
- Elementary Differential Equations (two sections), Spring 2019
- Advanced Calculus [= Real Analysis], Spring 2019
- Topology (Independent Study with 4 students), Spring 2019
- Calculus II (two sections), Fall 2018
- Elementary Linear Algebra, Fall 2018

at Reed College:

- Introduction to Analysis (two sections), Spring 2018
- Senior Symposium, Fall 2017
- Calculus–Inquiry Based Learning (two sections), Fall 2017
- Vector Calculus, Fall 2017
- Vector Calculus (two sections), Spring 2017
- Topology, Spring 2017
- Calculus (two sections), Fall 2016

at Universität Regensburg:

- Oberseminar: The Grothendieck–Teichmüller group, Winter 2015
- Advanced Seminar: Duality in algebra and topology, Spring 2015

at Johns Hopkins University:

- Multivariable Calculus (two sections), Spring 2014
- Honors Calculus–Inquiry Based Learning, Fall 2013
- Complex Analysis, Spring 2013
- Introduction to Topology, Spring 2013
- Advanced Seminar: Trace methods in algebraic K -theory, Fall 2012
- Honors Calculus–Inquiry Based Learning, Fall 2012
- Elementary Number Theory, Spring 2012
- Multivariable Calculus (two sections), Fall 2011

at University of Chicago:

- Foundations of Mathematics, 2010–2011
- Honors Calculus–IBL/Moore method, 2009–2010
- Elementary Functions and Calculus, 2008–2009
- College Fellow for Honors Calculus–IBL/Moore method, 2007–2008

Outreach Events and Interdisciplinary Talks

- *Abelian Sandpile Music*, CSU Chico colloquium, October 2019
- *Sandpiles and synthesizers: listening to the discrete Laplacian*, Bridges 2019: Mathematics, Art, Music, Architecture, Education, Culture; Linz, Austria, July 2019
- High School outreach event: *Tangles, braids, knots and numbers—F.L. Griffin MathFest*, Reed College, April 7, 2018 (co-organizer: James Pommersheim)
- *Soft geometry: mathematical structure beyond numbers*, (an introduction to topology for a local arts group) Wham City Lecture Series, Baltimore, April 2013

Colloquia and talks for undergraduates

- *Vector fields on spheres*, CSU Chico Undergraduate Mathematics Seminar, February 2019
- *The algebra of the spheres*, CSU Chico colloquium, September 2018
- *Fixed point theory, the Euler characteristic, and the syntax of strings*, CSU Chico colloquium, April 2018
- *Fixed point theory, the Euler characteristic, and the syntax of strings*, Reed College colloquium, February 2018

- *Fixed point theory and the free loop space*, Washington State University Vancouver colloquium, November 2017
- *Fixed point theory and the free loop space*, West Chester University colloquium, February 2017
- *T-duality in physics and topology*, U. Kentucky colloquium, January 2017
- *Transfer maps in calculus, topology, and algebra*, U. Kentucky math club, September 2016
- *Transfer maps in geometry, topology, and algebra*, Reed College colloquium, April 2016
- *Quaternions, Octonions, and non-commutativity*, JHU Undergraduate Math Club, November 2012
- *Moduli spaces, Riemann surfaces, and ribbon graphs*, JHU Undergraduate Math Club, October 2011
- *Topological quantum field theories*, Reed College colloquium, April 2011

Invited Research Talks

- *K-theory of endomorphisms, TR, and the characteristic polynomial*, Bavarian Geometry & Topology Meeting, Regensburg, Germany, July 2019
- *Twisted motives*, Cascade Topology Seminar, Portland OR, May 2019
- *Transfer maps in topological Hochschild homology*, AMS Western Sectional, Portland OR, April 2018
- *Fixed point theory, the Euler characteristic, and the syntax of strings*, U. Regina, March 2018
- *Fixed point theory, the Euler characteristic, and the syntax of strings*, U. Michigan–Dearborn, February 2018
- *Fixed point theory, the Euler characteristic, and the syntax of strings*, Union College, February 2018
- *T-duality in physics and topology*, U. Rochester topology seminar, December 2017
- *T-duality in physics and topology*, U. Oregon topology seminar, October 2017
- *The transfer map of free loop spaces*, Shanks Workshop, Vanderbilt University, March 2017
- *The transfer map of free loop spaces*, U. British Columbia topology seminar, November 2016
- *The transfer map of free loop spaces*, U. Kentucky topology seminar, September 2016
- *T-duality and iterated algebraic K-theory*, Copenhagen topology seminar, April 2016
- *T-duality and iterated algebraic K-theory*, Johns Hopkins topology seminar, February 2016
- *T-duality and iterated algebraic K-theory*, University of Illinois topology seminar, February 2016
- *Duality in bicategories and the THH transfer*, University of Chicago topology seminar, February 2016
- *Duality in bicategories and the THH transfer*, Minnesota topology seminar, February 2016
- *The descending central series of the sphere spectrum*, Stockholm topology seminar, January 2015
- *The structure group of a twisted cohomology theory*, University of Oxford topology seminar, November 2014
- *Equivariantly twisted cohomology theories*, Baltimore AMS/MAA Joint Meetings special session on homotopy theory, January 2014
- *Equivariantly twisted cohomology theories*, University of Chicago topology seminar, November 2013
- *Equivariantly twisted cohomology theories*, Northwestern University topology seminar, November 2013
- *Equivariantly twisted cohomology theories*, Spring 2013 Midwest topology seminar (U. Kentucky)

- *Equivariantly twisted cohomology theories*, MIT topology seminar, April 2013
- *Principal A_∞ bundles and parametrized cohomology theories*, Australian National University Algebraic Geometry seminar, January 2013
- *Higher geometry and algebraic K -theory*, University of Virginia topology seminar, November 2012
- *The de Rham Witt Complex*, West Coast Algebraic Topology Summer School on algebraic K -theory, Stanford University, July 2012
- *Equivariantly twisted cohomology theories*, Stanford University topology seminar, June 2012
- *Equivariantly twisted cohomology theories*, University of Oregon topology seminar, May 2012
- *Equivariant A_∞ bundle theory*, Banff International Research Station (BIRS) workshop on algebraic K -theory and equivariant homotopy theory, February 2012
- *A rigid model for E_∞ spaces*, Pennsylvania State University Altoona topology seminar, January 2012
- *Higher geometry and algebraic K -theory*, Boston AMS/MAA Joint Meetings special session on homotopy theory, January 2012
- *Higher geometry and algebraic K -theory*, Wayne State University topology seminar, October 2011
- *A parametrized approach to Thom spectra*, Johns Hopkins topology seminar, September 2011
- *Higher geometry and algebraic K -theory*, Johns Hopkins topology seminar, April 2011
- *Higher geometry and algebraic K -theory*, University of Michigan topology seminar, March 2011
- *Higher geometry and algebraic K -theory*, Northwestern University topology seminar, January 2011
- *Sheaves of Categories*, West Coast Algebraic Topology Summer School on Cobordism Categories, University of Oregon, August 2010
- *2-Vector Bundles*, Graduate Student Topology Conference, University of Michigan, April 2010
- *Infinite Loop Space Theory of Diagram Spectra*, Notre Dame topology seminar, April 2010
- *Infinite Loop Space Theory of Diagram Spectra*, University of Illinois topology seminar, March 2010