

Gabriel J. Angelini-Knoll

Freie Universität Berlin
Institut für Mathematik
Arnimallee 7
14195 Berlin
Germany
Phone: +1 313-970-8036
Email: gak@math.fu-berlin.de
URL: <http://www.gangeliniknoll.com>

Research Interests

Chromatic homotopy theory, algebraic K-theory, and equivariant homotopy theory

Academic Positions

2019-Present Postdoctoral Researcher, Freie Universität, Berlin, Germany
2017-Present Postdoctoral Researcher, Michigan State University, Lansing, Michigan (on leave)

Education

2017 PhD in Mathematics, Wayne State University, Detroit, Michigan
2013 MA in Mathematics, Wayne State University, Detroit, Michigan
2011 BA in Mathematics, Kalamazoo College, Kalamazoo, Michigan
2011 BA in Psychology, Kalamazoo College, Kalamazoo, Michigan

Papers

PUBLISHED AND ACCEPTED PAPERS

2020 Gabriel Angelini-Knoll, “On topological Hochschild homology of the $K(1)$ -local sphere,” *Accepted for publication in Journal of Topology*, [arXiv:1612.00548](https://arxiv.org/abs/1612.00548).
2018 Gabe Angelini-Knoll and Andrew Salch (2018), “A May-type spectral sequence for higher topological Hochschild homology” *Algebraic & Geometric Topology* **18** no. 5, 2593–2660.

SUBMITTED PAPERS

2020 Gabriel Angelini-Knoll and Andrew Salch, “Commuting unbounded homotopy limits with Morava K-theory,” Submitted to Annals of K-theory, [arXiv:2003.03510](https://arxiv.org/abs/2003.03510).
2019 Gabriel Angelini-Knoll and J.D. Quigley, “Chromatic complexity of the algebraic K-theory of the Thom spectra $y(n)$,” submitted, [arXiv:1810.10088](https://arxiv.org/abs/1810.10088). Gabriel Angelini-Knoll, “Detecting the β -family in iterated algebraic K-theory of finite fields,” *submitted*, [arXiv:1810.10088](https://arxiv.org/abs/1810.10088).
2017 Gabriel Angelini-Knoll and J.D. Quigley, “The Segal Conjecture for topological Hochschild homology of the Ravenel spectra $X(n)$ and $T(n)$,” *submitted*, [arXiv:1705.03343](https://arxiv.org/abs/1705.03343).

PAPERS IN PREPARATION

- 2020 Gabriel Angelini-Knoll, Teena Gerhardt, and Mike Hill, “Real topological Hochschild homology, Witt vectors, and norms,” In preparation.
- 2020 Gabriel Angelini-Knoll, Dominic Culver, and Eva Höning, “Topological Hochschild homology of truncated Brown-Peterson spectra,” In preparation.

Talks

INVITED TALKS

- TBD Universität Hamburg, Topology Seminar, (Postponed due to Covid-19)
- TBD University of Pennsylvania, Geometry and Topology Seminar (Postponed due to Covid-19)
- 2020 École polytechnique fédérale de Lausanne, Topology Seminar (April 2020)
- 2020 Massachusetts Institute of Technology, Topology Seminar (March)
- 2020 Equivariant Stable Homotopy Theory and p-adic Hodge Theory, BIRS, Banff, Canada (March)
- 2019 Freie Universität Berlin, Topology Seminar (May)
- 2019 University of California Los Angeles, Algebraic Topology Seminar (May)
- 2019 University of Illinois Urbana-Champaign, Topology Seminar (April)
- 2019 AMS Sectional, University of Hawaii at Manoa (March)
- Northwestern University, Topology Seminar (March)
- Electronic Computational Homotopy Theory Seminar (January)
- 2018 AMS Sectional, Ohio State University (March)
- 2017 AMS Sectional: Bloomington, Indiana (April)
- Midwest Topology Conference, Wayne State University (November)
- University of Kentucky, Topology Seminar (November)
- Johns Hopkins University, Topology Seminar (February)
- University of Chicago, Topology Seminar (February)
- 2016 University of Notre Dame, Topology Seminar (December)
- Michigan State University, Topology Seminar (November)
- Indiana University, Topology Seminar (November)
- University of Illinois Urbana-Champaign, Topology Seminar (March)
- Ohio State University, K-theory Seminar (February)

CONTRIBUTED TALKS

- 2019 LG&TBQ Conference at University of Michigan, Ann Arbor (June)
- 2017 Transatlantic Transchromatic Homotopy theory conference, University of Regensburg (June)
- 2016 Graduate Student Geometry and Topology Conference, Indiana University (April)
- 2015 Young Topologists’ Meeting, École Polytechnique Fédérale de (July)
- Graduate Student Geometry and Topology Conference, UIUC (March)

INVITED TALKS FOR AN UNDERGRADUATE AUDIENCE

- 2018 REU in experimental mathematics, Michigan State University (June)
- 2017 Math Club, University of Kentucky (November)
- 2014 Undergraduate seminar, Kalamazoo College (February)
- 2013 Undergraduate seminar, Wayne State University (December)

SELECT EXPOSITORY TALKS

2018	On Kerz-Strunk-Tamme's Proof of Weibel's Conjecture, University of Illinois at Chicago (May)
2017	Talbot workshop: Obstruction Theory, Gooding, Idaho. (May)
2015	European Talbot Workshop: Invariants of Structured Ring Spectra, Switzerland (July)
2014	MSRI Summer School in Algebraic Topology, CIMAT, Guanajuato, MX (Expository) (July)

Teaching

FREIE UNIVERSITÄT BERLIN

Courses taught as primary instructor:

Winter 2020/21	Algebraic K-theory: Waldhausen algebraic K-theory, fundamental theorems, and applications.
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Seminar courses taught:

Winter 2020/21	Forschungsmodul: Topologie: Equivariant stable homotopy theory, organized with E. Vogt Forschungsseminar Geometrie und Topologie: Equivariant ∞ -categories, organized with H. Reich
Summer 2020	Forschungsmodul: Topologie: Cohomology of Groups, organized with E. Vogt Forschungsseminar Geometrie und Topologie: K-theory of pullbacks, organized with H. Reich
Winter 2019/20	Seminar zur Topologie: Simplicial Methods in Topology, organized with E. Vogt Forschungsseminar Geometrie und Topologie: Chromatic homotopy, organized with H. Reich

Leader for exercise sessions:

Summer 2020	Aufbaumodul: Topologie III, Teaching assistant (course taught by H. Reich)
Winter 2019/20	Basismodul: Topologie II, Teaching assistant (course taught by H. Reich)

MICHIGAN STATE UNIVERSITY

Courses taught as primary instructor:

Winter 2019	MTH 961 – Algebraic Topology II: Homotopy theory, spectral sequences, characteristic class
Fall 2018	MTH 132 – Calculus I: A first course in calculus for engineering majors
Winter 2018	MTH 310 – Abstract Algebra I and Number Theory: A first course on ring theory
Winter 2018	Seminar on Algebraic K-theory, co-organized with Nathan Grieve
Fall 2017	MTH 124 – Business Calculus, Section 01: A first course in calculus for Business majors
Fall 2017	MTH 124 – Business Calculus, Section 13: A first course in calculus for Business majors

WAYNE STATE UNIVERSITY

Courses taught as primary instructor:

Fall 2015	MAT 1050 – Intermediate Algebra with Trigonometry: An elementary college algebra course
Winter 2015	MAT 1050 – Intermediate Algebra with Trigonometry: An elementary college algebra course
Winter 2014	MAT 1050 – Intermediate Algebra with Trigonometry: An elementary college algebra course
Fall 2013	MAT 1800 – Elementary Functions: A course in precalculus
Summer 2013	STAT 1020 – Elementary Statistics: A first course in statistics and probability
Summer 2013	MAT 1000 – Math in Today's World: A quantitative literacy course
Winter 2013	MAT 1800 – Elementary Functions: A course in precalculus

Fall 2012	MAT 1800 – Elementary Functions: A course in precalculus
Summer 2012	MAT 1000 – Math in Today’s World: A quantitative literacy course

Service

CONFERENCE ORGANIZATION

2019	Co-organizer for AMS Sectional Meeting on Homotopy theory, UW Madison (September 2019)
	Co-organizer for Midwest Topology Conference, Michigan State University (May 2019)

REVIEWER

Annals of K-theory

UNDERGRADUATE RESEARCH MENTORSHIP

2019	Undergraduate research project leader and mentor – NSF and NSA funded SURIAM Research Experience for Undergraduates at Michigan State University (Summer)
2019	Undergraduate research project co-leader and mentor – Discovering America program Michigan State University, led with T. Gerhardt (Winter)

TEACHING MENTORSHIP

2018	Teaching Mentor for incoming Graduate Teaching Assistants, Michigan State University (Fall)
2015	Teaching Mentor for incoming Graduate Teaching Assistants, Wayne State University (Fall)
2013	Teaching Mentor for incoming Graduate Teaching Assistants, Wayne State University (Fall)
2013	Course coordinator for Math in Today’s World, Wayne State University (Summer)

Awards

April 2017	The Dr. Chorng-Shi Houh Award, Wayne State University
August 2016	Rumble Fellowship, Wayne State University
April 2016	Karl W. and Helen L. Folley Endowed Mathematics Scholarship, Wayne State University
April 2015	Robert and Nancy Irvan Endowed Scholarship in Mathematics, Wayne State University
April 2014	The Maurice J. Zelonka Endowed Mathematics Scholarship, Wayne State University
April 2013	The Alfred L. Nelson Award, Wayne State University
April 2012	The Sheila Sparbeck Award, Wayne State University