

CURRICULUM VITAE – LEO S. HERR, PH.D.

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PERSONAL INFORMATION

Leo S. Herr
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ABOUT ME

My research is in Gromov-Witten Theory, Log Geometry, and Deformation Theory. I'm currently a Post-Doctoral Researcher at the University of Utah

EMPLOYMENT

Wylie Assistant Professor (Postdoc), University of Utah (2019–) Mentor: Y.P. Lee

EDUCATION

Doctorate in Mathematics, CU Boulder (2014 – 8/22/2019). Advisor: Jonathan Wise

Masters' in Mathematics, CU Boulder (2014 – 8/22/2019). Obtained concurrently with PhD. Advisor: Jonathan Wise

Bachelors' in Mathematics and Philosophy, Stony Brook University (2011-2014)

The Clarkson School Early College Program, Clarkson University (2010-2011) Transferred.

RESEARCH

LOG GEOMETRY AND GROMOV-WITTEN THEORY

- *The log product formula.* [arXiv link](#).
- *The log product formula in quantum K theory.* [arXiv link](#).
- *Costello's pushforward formula: errata and generalization.* [arXiv link](#).

NUMBER THEORY

- *The scheme of monogenic generators and its twists.* [arXiv link](#).

DEFORMATION THEORY

- *Deformations of modules through butterflies and gerbes.* Journal of Pure and Applied Algebra. [arXiv link](#). [Published version](#).

TEACHING

University of Utah:

Primary Instructor Linear Algebra: Fall 2021, Modern Algebra 2 (rings, fields, and modules): Spring 2021, Intro to Number Theory: Fall 2020, Calculus 3: 2 Sections Spring 2020 (transitioned to online teaching due to Covid-19)

University of Colorado Boulder:

Primary Instructor Calculus 2: Fall 2018, Spring 2019; Calculus 1 : Fall 2015, Spring 2016, Spring 2017, Spring 2018

Assistant Teacher Calculus 2 : Fall 2016; Calculus 1 : Spring 2015; Finite Math : Fall 2014; Precalculus : Fall 2017

STUDENTS

Ph.D. Students You-Cheng Chou – co-advised with Y.P. Lee.

SEMINARS LED

Organizer for:

Log Geometry Research Seminar with Y.P. Lee and You-Cheng Chou (Fall 2019- U of U)

Log Geometry and \mathcal{D} -modules Graduate student reading seminar (Spring 2020 – ended early due to Covid-19)

Mirror Symmetry Graduate student seminar (Fall 2019 U of U)

∞ -Categories reading Jacob Lurie’s *Higher Topos Theory*. (Spring 2016 CU)

LEADERSHIP INITIATIVES

Founding President of the local chapter of the AMS at CU Boulder. (2016-2018)

Co-ran study session series for graduate students to pass the Algebra Prelim (Fall 2014)

Teaching weekly high school and undergraduate extracurricular advanced math courses. Associated with Boulder Valley School District Mentor Program. Topics: Topology, Algebra, Differential Geometry, Category Theory, some Analysis. (Fall 2015 - Present)

Participated in the “[Portal to the Public](#)” Program, coordinated by [CU Science Discovery](#). (Fall 2017)

GRANTS, AWARDS

Partial Postdoctoral Support from NSF RTG Grant #1840190 (Fall 2019 -)

Sieglinde Haller Scholarship (Summers 2017, 2018)

Pre-Doctoral Fellowship (Fall 2017)

Frances C. Stribic Scholarship (Summer 2016)

Research Experience for Graduates Summer Research (Summer 2015)

INVITED TALKS

Log Geometry and the Product Formula

- Young Researcher's Conference on Non-Archimedean and Tropical Geometry 2019. Universität Regensburg, Germany – forty-five minute talk
- MAA General Contributed Paper Session on Algebra, Joint Mathematics Meetings (JMM) 2019. Baltimore, MD – Ten-minute talk
- AMS Special Session in Algebraic Geometry 2018. San Francisco, CA – Twenty-minute talk
- FRAGmeNT 2018, Colorado State University. Fort Collins, CO – Two-hour talk

Deformations of Modules and Butterflies

- Topological Approaches in Algebraic Geometry (TAAAG) Fall 2016. Athens, GA – Ten-minute talk

Other

- *Euler Characteristic in Pictures* – Seminar Spring 2017 – Talk for graduate students in various STEM disciplines
- *Topological André-Quillen Cohomology* – Talbot Summer 2017; CU Boulder Topology Research Seminar – Topological Enhancements of Deformation-Theoretic Tools

SKILLS

Latex Proficiency

Experience with Python, Flask, C++, Javascript, HTML/CSS, etc.

Conversational German, some Dutch and French, minimal Spanish and Japanese.

REFERENCES

Available upon request.