

Erich C. Jauch | Curriculum Vitæ

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Education

Iowa State University <i>Doctorate of Philosophy in Mathematics</i>	Ames, IA 2016–2020
The University of North Dakota <i>Masters of Science in Mathematics</i>	Grand Forks, ND 2014–2016
The University of Illinois at Urbana–Champaign <i>Bachelors of Science</i>	Champaign, IL 2012–2014
Illinois Valley Community College <i>Associates of Science, Thomas J. McCormack Scholar</i>	Oglesby, IL 2010–2012

Dissertation

Title: *A study of Galois and flag orders*

Advisor: Jonas T. Harwig

Description: This dissertation had three main focuses. Firstly, describing an alternating analogue of $U(\mathfrak{gl}_n)$ and its representations. Second, a technique for converting a Galois ring to a Galois order via localization. Finally, it described maps between different standard flag orders with related data.

Masters Thesis

Title: *Galois Embeddings*

Supervisor: Anthony Bevelacqua

Description: This thesis focused on extending Galois extensions to new Galois extensions that remained Galois over the original field. In particular, it focused on quadratic extensions over \mathbb{Q} .

Research

Papers.....

[1]: *An Alternating Analogue of $U(\mathfrak{gl}_n)$ and Its Representations*, Submitted August 2019 to *Journal of Algebra*. arXiv:1907.13254

Presentations.....

[11]: Invited talk at University of Iowa in their algebra seminar, *October 2019*

[10]: Invited talk at University of Texas – Arlington in their AGANT (Algebraic Geometry, Algebra, and Number Theory) seminar, *October 2019*

[9]: Invited talk at University of South Alabama in their colloquium series, *October 2019*

[8]: Invited talk at St. Olaf College in their Research Seminar, *September 2019*

[7]: Talk at the AMS Central Fall Sectional in the Contributed Papers Session on Algebra, Geometry, and Lie Theory, *September 2019*

[6]: Talk at Iowa State Algebra and Geometry Seminar Seminar, *September 2019*

[5]: Invited talk at the AMS Southeastern Spring Sectional in the Special Session on Geometric and Combinatorial

Aspects of Representation Theory, *March 2019*

[4]: Talk at the Iowa State Algebra and Geometry Seminar, *March 2019*

[3]: Poster at Escolá de Algebra in Campinas, São Paulo, Brasil, *December 2018*

[2]: Talk at Iowa State Combinatorics/Algebra Seminar, *November 2018*

[1]: Talk at Iowa State Combinatorics/Algebra Seminar, *March 2017*

Conferences & Workshops.....

Tianyuan Mathematical Center in Southwest China **Chengdu, China**
*Conference on Lie and Jordan Algebras, Their Representations and Applications- IX, **Funded** January 2020*

University of Wisconsin **Madison, WI**
AMS Fall Central Sectional Meeting September 2019

MSRI **Berkley, CA**
*MSRI Summer School 850 – Representation Stability, **Funded** June 2019 – July 2019*
Selected to participate in a two-week intensive research school at MSRI conducted by experts in the area of representation stability.

Auburn University **Auburn, AL**
AMS Southeastern Spring Sectional Meeting March 2019

Atlantic Algebra Centre – Memorial University **St. John's, Newfoundland**
*Representations of simple finite-dimensional and affine Lie algebras, **Funded** January 2019*
A week long mini-course covering topics in the study of representations of Lie algebras.

Instituto de Matemática – Universidade Estadual de Campinas **Campinas, São Paulo**
*XXV Escolá de Algebra, **Funded** December 2018*
The largest conference dedicated to algebra held biannually in Brasil.

Ohio State University **Columbus, OH**
AMS Spring Central Sectional Meeting March 2018

Experience

Vocational.....

Visiting Assistant Professor **Eau Claire, WI**
UNIVERSITY OF WISCONSIN – EAU CLAIRE *2020–Current*

Lead Teaching Assistant **Ames, IA**
IOWA STATE UNIVERSITY *2019–2020*
Scheduled graduate student teaching assignments, organized first-year teaching orientation, observed the first-years' teaching to provide feedback, and served as the coordinator of the Math Department Computer Lab.

Graduate Teaching Assistant **Ames, IA**
IOWA STATE UNIVERSITY *2016–2020*
Provided instruction in various recitation and stand-alone courses.

Math Learning Center Instructor **Oglesby, IL**
ILLINOIS VALLEY COMMUNITY COLLEGE *Summer 2016*
Provided instruction for several remedial mathematics courses at IVCC.

Professional Tutor **Oglesby, IL**
ILLINOIS VALLEY COMMUNITY COLLEGE *Summer 2016*
Tutored mathematics students at IVCC.

Elementary Mathematics Summer Camp Instructor **Oglesby, IL**
ILLINOIS VALLEY COMMUNITY COLLEGE *Summer 2016*
Provided instruction for a select group of 4th grade students a preparatory course for the next school year.

Graduate Teaching Assistant

UNIVERSITY OF NORTH DAKOTA

Served as the instructor of record for courses in College Algebra.

Grand Forks, ND

2014–2016

Part-Time Instructor

UNIVERSITY OF NORTH DAKOTA

Provided instruction for Calculus I.

Grand Forks, ND

Summer 2015

Math Learning Center Instructor

ILLINOIS VALLEY COMMUNITY COLLEGE

Provided instruction for several remedial mathematics courses at IVCC.

Oglesby, IL

Summer 2014

Mathematics Student Worker

UNIVERSITY OF ILLINOIS AT URBANA–CHAMPAIGN

Served as a grader and provided additional instruction during help hours.

Champaign, IL

2012–2013

Math Learning Center Student Worker

ILLINOIS VALLEY COMMUNITY COLLEGE

Assisted in the instruction for several remedial mathematics courses at IVCC.

Oglesby, IL

2010–2012

Additional Experience**Summer Internship**

ILLINOIS DEPARTMENT OF TRANSPORTATION

Worked drafting road repaving plans using CAD software, and computed material quantities and costs.

Ottawa, IL

Summer 2014

Summer Internship

ILLINOIS DEPARTMENT OF TRANSPORTATION

Worked drafting bridge repainting and maintenance plans using CAD software, and computed material quantities and costs.

Ottawa, IL

Summer 2013

Courses Taught**Instructor of Record Courses****[3]:** High School Algebra**[2]:** Calculus I (x2)**[1]:** College Algebra (x8)**Teaching Assistant Courses****[2]:** Calculus II (Team-Based Learning Course)**[1]:** College Algebra**Lab Courses****[4]:** Intermediate Algebra – Foundations of STEM Math**[3]:** Foundations of Algebra**[2]:** Intermediate Algebra**[1]:** Basic Algebra**Grading Courses****[7]:** Calculus III**[6]:** Calculus I**[5]:** Intermediate Abstract Algebra *I also assisted in leading a problem discussion session associated with this course.***[4]:** Graduate Abstract Algebra II**[3]:** Graduate Abstract Algebra I *I also organized and lead a qualifying exam prep course associated with this course.***[2]:** Discrete Mathematics for Business and Social Sciences**[1]:** Calculus for Business and Social Sciences

Awards and Honors

Awards.....

2019: Aggie Ho Teaching Award *The highest teaching award a math graduate student can receive at Iowa State.*

2018: Iowa State University Teaching Excellence Award *Awarded for outstanding teaching accomplishments in a graduate program*

2015: Ronald C. & Ann C. Bzoch Scholarship *Issued to students of exceptional caliber in mathematics at the University of North Dakota*

2012: Thomas J. McCormack Scholar *Highest honor a student can receive at Illinois Valley Community College*

2012: Paul Simon Student Essay Contest Winner *Winner reads their essay at that years commencement for Illinois Valley Community College*

Honor Societies.....

2013: Phi Sigma Theta *National Honor Society for Undergraduates*

2013: Tau Sigma *National Honor Society for Transfer Students*

2011: Sigma Kappa Delta *National English Honor Society for Two-Year College Students*

2011: Phi Theta Kappa *National Honor Society for Two-Year College Students*

Service

Tutor for Student Veterans **Ames, IA**
MATHEMATICS DEPARTMENT, *Iowa State University* *Fall 2019*

President **Ames, IA**
MATHEMATICS GRADUATE STUDENT ORGANIZATION, *Iowa State University* *2018-2019 Term*

Communications Officer **Ames, IA**
MATHEMATICS GRADUATE STUDENT ORGANIZATION, *Iowa State University* *2017-2018 Term*
Handled the majority of communication based duties including: organizing the speakers for Math Career Day, distributing meeting minutes, and keeping the webpage up to date. I handled a major remodel of the webpage during this time.

Chair of the Outreach Committee **Ames, IA**
ASSOCIATION FOR WOMEN IN MATHEMATICS STUDENT CHAPTER, *Iowa State University* *Spring 2018*

Student Representative **Grand Forks, ND**
ESSENTIAL STUDIES COMMITTEE, *Univeristy of North Dakota* *2015-2016 Term*
Worked with a committee of faculty members to evaluate the general education requirements. I additionally served on a subcommittee to restructure general education requirements for the university.

Computer skills

Advance: Adobe Acrobat, \LaTeX , Microsoft Windows

Intermediate: ALEKS, JAVA, MacOS, MyMathLab

Basic: SAGE, Adobe Illustrator