Joseph Timmer

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Research Interests

- Non-commutative Algebra, in particular Hopf Algebras

- Representation Theory

- Theory of Finite Groups

Employment

- **University of Colorado, Boulder**   *Associate Teaching Professor*
  Aug. 2022 - Present

- **University of Colorado, Boulder**   *Instructor*
  Aug. 2016 - Aug. 2022

- **University of Colorado, Boulder**   *Lecturer*
  Aug. 2015 - Aug. 2016

- **Louisiana State University**   *Research Associate*
  Aug. 2014 - May 2015

- **University of Southern California**   *Research Assistant*
  Jan. 2014 - July 2014

- **University of Southern California**   *Teaching Assistant*
  Aug. 2008 - Jan. 2014

- **Michigan State University**   *Teaching Assistant*
  Aug. 2005 - Aug. 2008

Education

- **University of Southern California**   *PhD Pure Mathematics*
  - Advisor: *Susan Montgomery*   2014
  - Title: *Indicators of Bismash Products from Exact Symmetric Group Factorizations*

- **Michigan State University**   *MSc Mathematics*
  2007

- **Michigan State University**   *BSc Mathematics*
  2004

Honors & Awards

- **ASSETT Faculty Fellow**   *University of Colorado, Boulder*
  Facilitating the Quality Teaching Initiative   Spring 2021-Spring 2022

- **ASSETT Faculty Fellow**   *University of Colorado, Boulder*
  Creation of a Faculty Learning Community   Spring 2019-Spring 2020

- **Graduate Teaching Prize**   *University of Southern California*
  Dennis Ray Estes Prize   Spring 2014

- **Outstanding Teaching Assistant**   *Michigan State University*
  For work in the ESP program   Spring 2008

Invited Lectures

- **AMS Special Session on Hopf Algebras and Tensor Categories** *Atlanta, GA*
  Automorphisms of Bismash Products *January, 2017*

- **Hopf Algebras and Actions** *University of Washington*
  Automorphisms of Bismash Products *April, 2016*

- **Ring Theory Seminar** *University of Colorado, Colorado Springs*
  Hopf Algebras and Groups *Oct. 2015*

- **Algebraic Lie Theory Seminar** *University of Colorado, Boulder*
  Group Factorizations and Hopf Algebras *Sept. 2015*

- **AMS Spring Sectional Meeting:Groups and Representations** *Michigan State University*
  Bismash Products and Exact Factorizations of S_n *March 2015*

- **AMS Special Session on Hopf Algebras and Tensor Categories** *San Antonio, TX*
  Bismash Products and Exact Factorizations of S_n *January, 2015*

- **Hopf Algebras and Actions** *University of Washington*
  Bismash Products and Exact Factorizations of S_n *Nov., 2014*

- **Algebra Seminar** *Louisiana State University*
  Bismash Products and Exact Factorizations of S_n *Sept., 2014*

- **Hopf Working Seminar** *University of Southern California*
  Group Theoretical Categories *Oct., 2013*

Math Education Conferences

- **Inquiry Based Learning Workshop** *University of Colorao at Boulder*
  August 2016

- **Inquiry Based Learning Workshop** *Cal. Poly. State Univ.*
  June 2016

General Math Talks

- **CU Math Club** *University of Colorado*
  How to Ruin Fun Games with Math *April, 2022*

- **CU Math Club** *University of Colorado*
  Incongruities of Infinity *January, 2018*

Teaching Experience

- **As Course Coordinator**

  - **Mathematical Analysis in Buisiness (MATH 1112)** *University of Colorado, Boulder*
    Fall 2020 - Spring 2021
  - **Calculus II (MATH 2300)** *University of Colorado, Boulder*
    Spring 2019 - Fall 2019, Fall 2022, Spring 2023
  - **Data and Models (MATH 1212)** *University of Colorado, Boulder*
    Fall 2018, Spring 2020
  - **Calculus III (MATH 2400)** *University of Colorado, Boulder*
    Summer 2017, Summer 2018, Spring 2022, Summer 2022, Fall 2022, Spring 2023, Summer 2023
  - **Introduction to Statistics (MATH 2510)** *University of Colorado, Boulder*
    Spring 2016-Spring 2018

- **As the Instructor**

- Introduction to Discrete Mathematics (MATH 2001)   *University of Colorado, Boulder*
  Spring 2023, Fall 2023
- Euclidean and Non-Euclidean Geometry (MATH 3210)   *University of Colorado, Boulder*
  Spring 2023
- Introduction to Probability (MATH 4510/5510)   *University of Colorado, Boulder*
  Spring 2018-Spring 2020, Summer 2020, Summer 2021, Summer 2023
- Data and Models (MATH 1212)   *University of Colorado, Boulder*
  Spring 2018, Fall 2018
- Calculus I (MATH 1300)   *University of Colorado, Boulder*
  Fall 2017, Summer 2023
- Differential Equations (MATH 3430)   *University of Colorado, Boulder*
  Fall 2017, Fall 2020, Spring 2021, Spring 2022, Spring 2023
- Calculus III (MATH 2400)   *University of Colorado, Boulder*
  Summer 2017, Summer 2018, Spring 2022, Summer 2022, Fall 2022, Summer 2023
- Calculus II (MATH 2300)   *University of Colorado, Boulder*
  Summer 2016, Spring 2017, Spring 2019, Fall 2019
- Math Analysis in Business (MATH 1112)   *University of Colorado, Boulder*
  Spring 2016, Fall 2016, Spring 2020, Fall 2020, Spring 2021, Fall 2023
- Introduction to Statistics (MATH 2510)   *University of Colorado, Boulder*
  Fall 2015 - Spring 2018, Fall 2022, Fall 2023
- Calculus for Social Science (MATH 1080)   *University of Colorado, Boulder*
  Fall 2015
- Quantitative Reasoning (MATH 1012)   *University of Colorado, Boulder*
  Fall 2015
- Calculus II   *Louisiana State University*
  Spring 2015
- Honors Calculus I   *Louisiana State University*
  Fall 2014
- Differential Equations   *Michigan State University*
  Summer 2006, 2008
- Survey of Calculus I   *Michigan State University*
  Summer 2007
- College Algebra   *Michigan State University*
  Fall 2005, Spring 2006

Computer Programming

- Working Knowledge of Computer Algebra Systems

  - **GAP**
    www.gap-system.org
  - **Magma**
    magma.maths.usyd.edu.au/

- Working Knowledge of R

Service

- **As an Administrator**

  - **Director of Lower Division Courses**   *Department of Mathematics*
    Summer 2019 - Present
  - **Chair of Teaching Postdoc Hiring Committee**   *Department of Mathematics*
    Spring 2022

- – Chair of Department Evaluation Commitee for Reappointment/Promotion   *Department of Mathematics*
  Fall 2023

- **As a Committee Member**

  - – Teaching Quality Framework   *Department of Mathematics Committee*
    Fall 2018 - Present
  - – Undergraduate Committee   *Department of Mathematics Committee*
    Fall 2019-Present
  - – MATH 1212 Textbook Selection   *Department of Mathematics Committee*
    Spring 2018
  - – Math Placement Exam   *Department of Mathematics Committee*
    Spring 2018
  - – Diversity Committee   *Department of Mathematics Committee*
    Fall 2016 - Spring 2019
  - – Learning Assistant Hiring   *Department of Mathematics Committee*
    Spring 2016 - Present
  - – Member of Teaching Postdoc Hiring Committee   *Department of Mathematics*
    Spring 2023

- **As a Contributing Faculty Member**

  - – Calculus Sequence Overhaul   *with Kevin Manley, Andrew Meier, Rebekah Jones, Lee Roberson, and Harrison Stalvey*
    Summer 2023
  - – MATH 2510 Course Development   *with Elizabeth Grulke*
    Summer 2023
  - – MATH 1150 Course Overhaul   *with Kevin Manley, Lee Roberson, and Harrison Stalvey*
    Summer 2022
  - – Curriculum Development for MATH 1112   *with Elizabeth Grulke*
    Summer 2021
  - – Curriculum Development for MATH 2300   *Lee Roberson*
    Fall 2019 - Spring 2020
  - – MATH 1212 Course Overhaul   *Sole Contributor*
    Spring 2018
  - – Curriculum Development for MATH 2400   *with Faan Tone Liu and Lee Roberson*
    Spring 2017
  - – IBL Methods of MATH 3430   *Sole Contributor*
    Fall 2017

Preprints and Publications

- **Indicators of Bismash Products from Exact Symmetric Group Factorizations**
  Communications in Algebra, Vol. 45 Issue 10, 4444-4465   2017