

# Joseph Timmer

University of Colorado, Boulder  
Campus Box 395  
Boulder, Colorado 80309-0395

joseph.timmer@colorado.edu

## 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*  
– Title: *Indicators of Bismash Products from Exact Symmetric Group Factorizations*  
2014
- **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 Colorado 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 Business (MATH 1112)** *University of Colorado, Boulder*  
Fall 2020 - Spring 2021
  - **Calculus II (MATH 2300)** *University of Colorado, Boulder*  
Spring 2019 - Fall 2019, Fall 2022
  - **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
  - **Introduction to Statistics (MATH 2510)** *University of Colorado, Boulder*  
Spring 2016-Spring 2018
- **As the Instructor**
  - **Introduction to Probability (MATH 4510/5510)** *University of Colorado, Boulder*  
Spring 2018-Spring 2020, Summer 2020, Summer 2021

- Data and Models (MATH 1212) *University of Colorado, Boulder*  
Spring 2018, Fall 2018
- Calculus I (MATH 1300) *University of Colorado, Boulder*  
Fall 2017
- Differential Equations (MATH 3430) *University of Colorado, Boulder*  
Fall 2017, Fall 2020, Spring 2021, Spring 2022
- Calculus III (MATH 2400) *University of Colorado, Boulder*  
Summer 2017, Summer 2018, Spring 2022, Summer 2022, Fall 2022
- 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
- Introduction to Statistics (MATH 2510) *University of Colorado, Boulder*  
Fall 2015 - Spring 2018, Fall 2022
- 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](http://www.gap-system.org)
  - Magma  
[magma.maths.usyd.edu.au/](http://magma.maths.usyd.edu.au/)

### 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
- 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  
Spring 2018 *Department of Mathematics Committee*
- Diversity Committee  
Fall 2016 - Spring 2019 *Department of Mathematics Committee*
- Learning Assistant Hiring  
Spring 2016 - Present *Department of Mathematics Committee*

- As a Contributing Faculty Member

- 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