

Sander Mack-Crane

Department of Mathematics
University of California, Berkeley
Berkeley, CA 94720 USA

sander@berkeley.edu
math.berkeley.edu/~sander

EDUCATION PhD, Mathematics In Progress
University of California, Berkeley, CA

BS, Mathematics, *summa cum laude* May 2015
Case Western Reserve University, Cleveland, OH

Visiting Undergraduate Fall 2014—Spring 2015
Columbia University, New York, NY

**PUBLICATIONS
& PREPRINTS** John F. R. Duncan and Sander Mack-Crane. Derived equivalences of K3 surfaces and twined elliptic genera. *Res. Math. Sci.*, 3:3:1, 2016. [open access](#)

John F. R. Duncan and Sander Mack-Crane. The moonshine module for Conway's group. *Forum of Mathematics, Sigma*, 3, 2015. [open access](#)

Peihong Jiang, Anna Kirkpatrick, S. Loepp, Sander Mack-Crane, and S. Tripp. Controlling the generic formal fiber of local domains and their polynomial rings. *J. Commut. Algebra*, 7(2):241–264, 06 2015. [pdf](#)

**FELLOWSHIPS
& AWARDS** NSF Graduate Research Fellowship, 2016-2021

Max Morris Prize, CWRU, 2014 & 2015
for an outstanding undergraduate student in mathematics

Case Alumni Association Junior/Senior Scholarship, 2013

Webster Godman Simon Mathematics Award, CWRU, 2012
for excellence in mathematics

Michelson Morley Scholarship, CWRU, 2011

TALKS *Borel-Serre compactification and reduction to liftability*. Number Theory Seminar, University of California, Berkeley CA, 21 September 2016.

L-functions and Class Numbers. Student Number Theory Seminar, University of California, Berkeley CA, 24 September 2015.

Basics on Modular Curves. Number Theory Seminar, University of California, Berkeley CA, 2 September 2015.

The Moonshine Module for Conway's Group. AMS Session on Number Theory, Joint Mathematics Meetings, San Antonio, TX, 2015.

Local Generic Formal Fibers of Excellent Rings, with Samuel Tripp. AMS Session on Undergraduate Research in Algebra, Combinatorics, and Number Theory, Joint Mathematics Meetings, Baltimore, MD, 2014.

Local Rings and Completions, with Anna Kirkpatrick. MAA Student Paper Session, MathFest, Hartford, CT, 2013.

TEACHING

UC Berkeley, DeCal Facilitator
MATH 198: The Beauty of Math, Fall 2016

UC Berkeley, Graduate Student Instructor
MATH 16B: Analytic Geometry and Calculus, Spring 2016
MATH 1A: Calculus, Fall 2015

**RESEARCH
PROGRAMS &
WORKSHOPS**

Arizona Winter School: Perfectoid Spaces Spring 2017
University of Arizona

Undergraduate Summer School: Moduli Spaces and Rep Theory Summer 2015
Park City Mathematics Institute

Summer Matrix Analysis REU Summer 2014
Department of Mathematics, College of William & Mary
Advisor: Charles R. Johnson

PIMS Undergraduate Workshop on Supersymmetry Summer 2014
Pacific Institute for the Mathematical Sciences at the University of British Columbia

SMALL REU Commutative Algebra Group Summer 2013
Department of Mathematics and Statistics, Williams College
Advisor: Susan Loepf

LANGUAGES

English (native), French
Python, HTML & CSS, Mathematica, L^AT_EX