

KEVIN TUCKER  
CURRICULUM VITAE  
NOVEMBER 2009

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## PROFESSIONAL PREPARATION

- 2004 - Present     **University of Michigan (Ann Arbor)**  
Doctor of Philosophy, Mathematics, anticipated completion May 2010  
Dissertation: *Jumping Number Contribution on Complex Algebraic Surfaces and its Applications*  
Advisor: Professor Karen E. Smith
- 2004                **University of Chicago**  
Bachelor of Science, Mathematics

## AWARDS

### Graduate Fellowships:

- Rackham Graduate School Predoctoral Fellowship 2009.
- RTG Fellowships in Winter 2007, Fall 2007, Winter 2008, and Fall 2009.
- VIGRE Graduate Fellowships in Fall 2004, Winter 2005.

### Undergraduate Honors:

- 2004 Paul R. Cohen Memorial Prize (University of Chicago award for excellence in the completion of an undergraduate degree in mathematics).
- Inducted into Phi Beta Kappa in 2003, and Sigma Xi in 2004.
- Chosen as a student marshall of the university from 2003 to 2004.

## RESEARCH INTERESTS

Singularities and invariants arising in birational complex algebraic geometry (including multiplier ideals and jumping numbers) and positive characteristic commutative algebra (such as test ideals).

## PUBLICATIONS

1. K. SCHWEDE AND K. TUCKER: *On the behavior of test ideals under generically étale finite morphisms*, in preparation, 2009.
2. K. SCHWEDE AND K. TUCKER: *On the number of compatibly frobenius split subvarieties, prime  $F$ -ideals, and log canonical centers*, to appear in *Annales de L'Institut Fourier* (Grenoble), arXiv:0903.4112v2 [math.AG], 2009.
3. K. TUCKER: *Integrally closed ideals on log terminal surfaces are multiplier ideals*, to appear in *Mathematical Research Letters*, arXiv:0809.3043v1 [math.AC], 2009.
4. K. TUCKER: *Jumping numbers on algebraic surfaces with rational singularities*, to appear in *Transactions of the AMS*, arXiv:0801.0734v2 [math.AG], 2009.

## PROFESSIONAL ACTIVITIES

### Invited Speaker:

- AMS Special Session on Commutative Algebra at the Joint Mathematics Meetings, San Francisco, CA, scheduled January 2010.
- Algebraic Geometry Seminar, Rice University, March 2008.
- Student Algebraic Geometry Seminar, Stanford University, March 2008.

### Seminar Organizer:

- University of Michigan Student Algebraic Geometry Seminar during the Fall 2007, Winter 2008, and Fall 2009 semesters.
- Graduate Student Seminar at the Winter 2009 program in Algebraic Geometry at the Mathematical Sciences Research Institute (MSRI).

### Selected Conferences:

- Poster contributor at the Pan-American Advanced Study Institute (PASI) 2009 conference in Commutative Algebra and its Connections to Geometry, Olinda, Brazil.
- Participant in the 2008 Park City Mathematics Institute (PCMI) / Institute for Advanced Study (IAS) program titled “Analytic and Algebraic Geometry: Common Problems - Different Methods.”
- Attended the 2008 Summer School and Conference on the “Aspects of Moduli” at the De Giorgi Center of the Scuola Normale Superiore in Pisa, Italy.
- Attended the 2007 Summer School “Geometry of Complex Projective Varieties and the Minimal Model Program” at the Fourier Institute, Grenoble, France.
- Participant in the University of Chicago Research Experiences for Undergraduates (REU) in the summer of both 2002 and 2003.

## TEACHING EXPERIENCE

<b>Graduate Student Instructor</b> University of Michigan	Courses: Math 115, Calculus I, Fall 2005 Math 116, Calculus II, Winter 2006 Math 116, Calculus II, Fall 2006
<b>Course Grader &amp; Assistant</b> University of Michigan	Courses: Math 631, Algebraic Geometry I, Fall 2006 Math 631, Algebraic Geometry I, Fall 2007 Math 632, Algebraic Geometry II, Winter 2008 Math 631, Algebraic Geometry I, Fall 2009
<b>VIGRE Course Assistant</b> University of Michigan	Course: Math 513, Linear Algebra, Fall 2004
<b>Grader &amp; Assistant</b> University of Chicago	Courses: Math 161-163, Honors Calculus I - III, 2003-2004

## OUTREACH PROGRAMS

- Graduate assistant for the MMSS (Michigan Math and Science Scholars) program for high school students in the summer of 2006.
- Counselor in the YSP (Young Scholars Program) at the University of Chicago in the summer of both 2002 and 2004, working with children from grades 7 through 12.
- Course assistant in the SESAME (Seminars for Endorsement of Science and Mathematics Educators) program at the University of Chicago in the summer of both 2003 and 2004, a continuing education and recertification program for middle school mathematics teachers.