

# Curriculum Vitae of Cornelia Yuen

## Contact Information:

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**Profession**      **University Research Postdoctoral Fellow**, University of Kentucky (2006 - 2007)

**Education**      **University of Michigan, Ann Arbor** (2001 - 2006)  
Ph.D. in Mathematics, August 2006  
Thesis Advisor: Karen Smith  
Thesis Title: Jet Schemes and Truncated Wedge Schemes

**University of California, Berkeley** (1999 - 2001)  
B.A. in Mathematics, May 2001

**Pasadena City College, CA** (1997 - 1999)

**Research interests**      Commutative algebra and algebraic geometry. Structure of jet schemes and wedge schemes (higher dimensional analogs of jet schemes) of combinatorial defined schemes, including those defined by monomials and determinantal varieties. A beginner on adjoint ideals and reductions.

**Publications**      *One higher dimensional analog of jet schemes*, arXiv: math.AG/0608633.  
*Jet schemes of determinantal varieties*, arXiv: math.AG/0608632.  
*Multiplicity of jet schemes of monomial schemes*", to appear in Communications in Algebra, also available at arXiv: math.AG/0607638.  
*On Igusa zeta functions of monomial ideals* (with J. Howald and M. Mustața), to appear in Proceedings of the AMS, also available at arXiv: math.AG/0509243.  
*Polynomial Knots of Degree Five* (with P. Kim and L. Stemkoski), MIT Undergraduate Journal of Mathematics, Volume 3 (2001), 125–135.

**Teaching Experience**      **Graduate Student Instructor**  
University of Michigan, 2001 - 2003  
Taught sections of Calculus I and Calculus II, and led discussion sections and labs for multi-variable calculus.

**Teaching Assistant**  
Pasadena City College, Fall 1998  
Assisted instructor Christine Loritsch in instruction of College Algebra.

**Other Experience**      **Teaching Assistant** for the beginning lecture course of the Women and Mathematics program (Zeta functions all the way) at IAS, May 2006

**Mentor** of a first year graduate student at University of Michigan, Fall 2005

**Seminar Co-organizer**

Student Commutative Algebra/Algebraic Geometry Seminar, University of Michigan, Fall 2004–Fall 2005

**REU Participant**

Participated at a Mount Holyoke 2000 REU project directed by Professor Alan Durfee and Professor Donal O’Shea. Together with two other students, we investigated knots in three-dimensional space parametrized by polynomials and found the topological structure of the space of these knots in degree five.

**Tutor** at the Math Resource Center, Pasadena City College, 1998 - 1999

**Presentations**      *Jets and Wedges of Monomial Schemes*, Algebraic Geometry Seminar, University of Ohio, Columbus, January 2007.

*Is a Jet an Aeroplane?*, Algebra/Discrete Math Seminar, University of Kentucky, October 2006.

*Jet Schemes of Monomial Schemes and Determinantal Varieties*, Workshop on Computational and Combinatorial Commutative Algebra, Fields Institute, Toronto, August 2006.

*Jet Schemes of Monomial Schemes and Determinantal Varieties*, Algebraic Geometry Seminar, University of Minnesota, February 2006.

*Jet Schemes*, AWM Workshop for Women Graduate Students and Postdoctoral Mathematicians (Poster) – Joint Mathematics Meetings, San Antonio, TX, January 2006.

*Jet Schemes of Monomial Schemes and Determinantal Varieties*, Algebraic Geometry Student Talks, University of Michigan, December 2005.

*Codes on The Klein Quartic*, Student Seminar, University of Michigan, February 2005.

*Rational Singularities and F-rational Type*, Student Seminar, University of Michigan, November 2004.

*Vanishing Theorems and Seshadri Constants*, Student Seminar, University of Michigan, October 2003.

*An Ode to Polynomial Knots*, AIM Student Seminar, University of Michigan, February 2003.

*An Ode to Polynomial Knots*, Boston University Masterclass Series, Boston, MA, March 2001.

*Polynomial Knots of Fifth Degree*, Nebraska Conference for Undergraduate Women in Math, Lincoln, NE, February 2001.

*Polynomial Knots of Degree Five*, Poster Session – Joint Mathematics Meetings, New Orleans, LA, January 2001.

**Selected Conferences and Workshops**      *ARCC Workshop on Integral Closure, Multiplier Ideals and Cores*, Palo Alto, CA, December 2006.

*UIC-Purdue Workshop on Algebraic Geometry and Commutative Algebra*, Lafayette, IN, December 2006.

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*Workshop on Computational and Combinatorial Commutative Algebra*, Fields Institute, Toronto, August 2006.

*Fields Institute Summer School and Conference on Valuation Theory and Integral Closures in Commutative Algebra*, Ottawa, July 2006.

*IAS Women and Mathematics program (Zeta functions all the way)*, Princeton, NY, May 2006.

*Joint Mathematics Meetings*, San Antonio, TX, January 2006.

*Midwest Algebra, Geometry and their Interactions Conference (MAGIC)*, Notre Dame, IN, October 2005.

*Graduate Student Warm-Up Workshop for AMS Summer Research Institute in Algebraic Geometry*, Seattle, WA, July 2005.

*Mini-course on Arc Spaces and Motivic Integration*, Salt Lake City, UT, May 2005.

*UM-OSU Algebraic Geometry Workshop*, Ann Arbor, MI and Columbus, OH, 2003 - 2006.

*Commutative Algebra: Presentations by Young Researchers*, Snowbird, UT, July 2003.

*Joint Mathematics Meetings*, New Orleans, LA, January 2001.

**Awards,  
Scholarships  
and Mem-  
berships**

**AWM Workshop Grant**

Joint Mathematics Meeting, San Antonio, TX, September 2005

**Rackham Predoctoral Fellowship Nominee**

University of Michigan, 2005

**Dean's Honor**

University of California, Berkeley, Fall 2000

**AMATYC Student Math League Team Champion**

Pasadena City College, 1999

**Faculty Senate Scholarship, William W. Olsen Scholarship and Edna Plummer Scholarship**

Pasadena City College, Spring 1999

**AMS Member**

**Golden Key National Honor Society Member**