

# Curriculum Vitae of Cornelia Yuen

## Contact Information:

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- Profession**      **Assistant Professor**, SUNY Potsdam (2007 - present)  
                      **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 reductions of Ferrers ideals.
- Publications**      *One higher dimensional analog of jet schemes*, arXiv: math.AG/0608633.  
                          *Jet schemes of determinantal varieties*, "Algebra, Geometry and Their Interactions" Contemporary Mathematics, **448** (2007), 261 - 270; a slightly different version is also available at arXiv:math.AG/0608632.  
                          *The multiplicity of jet schemes of a simple normal crossing divisor*", Communications in Algebra, Volume 35, Issue 12 (2007), 3909 - 3911; a slightly different version is also available at arXiv: math.AG/0607638.  
                          *On Igusa zeta functions of monomial ideals* (with J. Howald and M. Mustață), Proc. Amer. Math. Soc. **135** (2007), 425 - 3433; 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**

**Plenary Speaker** at the 10th Annual Nebraska Conference for Undergraduate Women in Mathematics, University of Nebraska, Lincoln, February 2008.

**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**

*A Minimal Reduction of Ferrers Ideals*, Algebra Seminar, Syracuse University, NY, April 2008.

*Jet Schemes of Determinantal Varieties*, AMS Sectional Meeting, Baton Rouge, LA, March 2008.

*A Minimal Reduction of Ferrers Ideals*, Algebraic Geometry Seminar, Queen’s University, Kingston, ON, March 2008.

*Structure of Jet Schemes of Special Schemes*, Algebra Seminar, University of Missouri, Columbia, April 2007.

*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.

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*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**

*Tenth Annual Nebraska Conference for Undergraduate Women in Mathematics*, Lincoln, NE, February 2008.

*Joint Mathematics Meetings and Project NExT sessions*, San Diego, CA, January 2008.

*Route 81 Conference on Commutative Algebra and Algebraic Geometry*, Ithaca, NY, September 2007.

*Advances in Algebra and Geometry*, MSRI, Berkeley, CA, April 2007.

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

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

*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

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**MAA Member**

**Project NExT fellow - sun dot (2007)**

**Golden Key National Honor Society Member**