

# Jennifer Vandebussche

2167 Heritage Trace Drive  
Marietta, GA 30062  
Cell: 678-431-3897  
jarobin1@math.uiuc.edu

## Research Interests

A wide variety of problems in Extremal Graph Theory, including coloring problems, matching problems, and independence number.

## Education

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN, URBANA, IL.  
Ph.D. in Mathematics, in progress (3.93/4.0).  
Estimated Completion: Spring 2008.  
Advisor: Douglas West.

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN, URBANA, IL.  
M.A. in Mathematics, 2005 (3.91/4.0).

UNIVERSITY OF GEORGIA, ATHENS, GA.  
Graduate work in mathematics, 2002-2003 (4.0/4.0).

STATE UNIVERSITY OF NEW YORK AT POTSDAM, POTSDAM, NY.  
B.M. in Music Education and Mathematics, 2000 (3.99/4.0).

## Professional Experience

ADJUNCT INSTRUCTOR

DEPARTMENT OF MATHEMATICS  
SOUTHERN POLYTECHNIC STATE UNIVERSITY  
2007 – PRESENT

- Fall 2007, Instructor, Discrete Mathematics.  
*Responsible for all aspects of the course. Prepare lectures, write exams and quizzes, assign homework, write worksheets, facilitate group work during class, assign grades.*

RESEARCH FELLOW

DEPARTMENT OF MATHEMATICS  
UNIVERSITY OF ILLINOIS  
2006 – 2007

- Conducted thesis research under the guidance of my advisor.

TEACHING ASSISTANT

DEPARTMENT OF MATHEMATICS  
UNIVERSITY OF ILLINOIS  
2003 – 2006

- Spring 2006 and Fall 2005, Primary Instructor, A Mathematical World.  
*Mathematics course for liberal arts majors. Prepared and delivered daily lectures, held office hours, wrote exams and quizzes, assigned homework, assigned grades, wrote supplemental worksheets.*
- Spring 2005, Primary Instructor, Calculus II Merit Workshop.  
*Active learning format. Prepared daily worksheets to guide students through material, wrote study guides to assist with textbook reading, held office hours, wrote exams and quizzes, assigned homework, assigned grades.*
- Fall 2003 - Fall 2004, Teaching Assistant, Business Calculus, Calculus I, and Theory of Arithmetic.  
*Led discussion sections, held office hours, graded exams and quizzes, wrote supplemental notes.*

RESEARCH ASSISTANT

DEPARTMENT OF MATHEMATICS  
UNIVERSITY OF ILLINOIS  
SUMMER 2004, SUMMER 2005

- Active member of organized research group in Combinatorics.  
*Researched and presented open problems, participated in small- and large-group research discussions.  
Research resulted in two papers (one submitted, one working paper).*

RESEARCH FELLOW

DEPARTMENT OF MATHEMATICS  
UNIVERSITY OF GEORGIA  
FALL 2002 – SPRING 2003

TEACHER

SCHOHARIE CENTRAL SCHOOL  
SCHOHARIE, NY  
FALL 2000 – SPRING 2002

- Taught elementary general music, elementary choir, and instrumental music at all levels.
- Calculus II instructor for 2001-2002 school year.
- Wrote Calculus and General Music curricula.

RESEARCH ASSISTANT

RESEARCH EXPERIENCE FOR EDUCATORS  
SUNY POTSDAM  
SUMMER 2000

- Participant in sister program to REU.  
*Took two-week course in knot theory from Prof. Louis Kauffman. Researched open problems in the field of knot theory. Prepared lesson plans in knot theory intended for high school mathematics classes.*

**Submitted Research Publications and Working Papers**

- S. Hartke, J. Vandenbussche, and P. Wenger: “Further results on bar  $k$ -visibility graphs,” *SIAM Journal of Discrete Math*, 21 (2007), no. 2, 523–531 (electronic).
- S. Hartke and J. Vandenbussche: “On a question of Sos about 3-uniform hypergraphs,” submitted.
- A. Asratian, C.J. Casselgran, J. Vandenbussche, and D. West, “Proper path-factors and interval edge-coloring of  $(3, 4)$ -biregular bigraphs,” submitted.
- J. Vandenbussche, D. West, and G. Yu: “Bookthickness of  $k$ -trees,” working paper.
- J. Vandenbussche, D. West: “2-factor plus triangles graphs,” working paper.
- D. Cranston, N. Korula, T. LeSaulnier, K. Milans, C. Stocker, J. Vandenbussche, and D. West: “Overlap number of graphs,” working paper.

**Presentations**

- “Using colors to schedule conferences,” *Mathematics Colloquium*, Southern Polytechnic State University, Fall 2007.
- “Friendship in Combinatorics,” *Seminar for Women in Mathematics*, UIUC, Fall 2006.
- “Results on bar  $k$ -visibility graphs,” *SIAM Conference on Discrete Mathematics*, University of Victoria, Summer 2006.
- “The pagenumber of  $k$ -trees is  $k + 1$ ,” *Graduate Student Combinatorics Conference*, University of Wisconsin-Madison, Spring 2006.
- “Results on bar  $k$ -visibility graphs,” *Combinatorics Seminar*, UIUC, Fall 2005.
- “The bookthickness of  $k$ -trees,” *Combinatorics Seminar*, UIUC, Fall 2004.

### Teaching-Related Awards and Activities

- Winner, Brahana TA Instructional Award, University of Illinois, 2005.  
*Award given to most outstanding Teaching Assistant in mathematics at UIUC based on student feedback, portfolio submission, and classroom observation.*
- Chair, Mathematics Graduate Teaching Awards Committee, 2006.  
*Led committee consisting of undergraduates, graduate students, and faculty responsible for handing out departmental teaching awards to graduate students.*
- Mentor for new Teaching Assistants, 2005.  
*Met with new TA's to answer questions about teaching; observed mentees in the classroom and provided feedback; helped lead seminars aimed at improving instructional effectiveness.*
- Appeared in "UIUC Incomplete List of Instructors Ranked as Excellent."  
*Based on student feedback; appeared five different semesters.*

### Academic Honors and Awards

- Departmental Fellowship recipient, University of Illinois, Spring 2006.
- VIGRE Fellowship recipient, University of Illinois, Summer 2004, Summer 2005, Fall 2006.
- Winner, Graduate School Assistantship, University of Georgia, 2002.
- Academic Honoree for Highest GPA, SUNY Potsdam, 2000.
- C.F. Stephens Mathematics Scholarship Winner (awarded to most outstanding junior-level mathematics student), SUNY Potsdam, 1999.

### Additional University Service

- Organizer, Seminar for Women in Mathematics, 2006.
- Panel Discussion Member, Orientation for Women in Math, Science, and Engineering living-learning community, 2005.

### Additional Service and Memberships

- Referee for Journal of Graph Theory and Algorithms and Discrete Mathematics.
- American Mathematical Society (AMS), member, 1999-present.
- Association for Women in Mathematics (AWM), member, 2005-present.
- Society for Industrial and Applied Mathematics (SIAM), member, 2006-present.
- Mathematical Association of America (MAA), member, 2006-present.
- Pi Mu Epsilon Honorary Math Society

### References

Douglas B. West, Professor  
Department of Mathematics, University of Illinois at Urbana-Champaign  
Urbana, IL 61801-2975  
(217) 333-1863  
west@math.uiuc.edu

Alison Ahlgren, Coordinator: Quantitative Reasoning Courses  
Department of Mathematics, University of Illinois at Urbana-Champaign  
Urbana, IL 61801-2975  
(217)244-2361  
aahlgren@uiuc.edu

Alexandr V. Kostochka, Professor  
Department of Mathematics, University of Illinois at Urbana-Champaign  
Urbana, IL 61801-2975  
(217) 265-8037  
kostochk@math.uiuc.edu

Zoltan Furedi, Professor  
Department of Mathematics, University of Illinois at Urbana-Champaign  
Urbana, IL 61801-2975  
(217) 333-3355  
z-furedi@math.uiuc.edu

Jozsef Balogh, Professor  
Department of Mathematics, University of Illinois at Urbana-Champaign  
Urbana, IL 61801-2975  
(217) 244-1918  
jobal@math.uiuc.edu