

# Valerie M. Hower

March 2008

**Maiden Name:** Cormani

**Date of Birth:** April 10, 1979

**Education:**

2003-2007	University of Georgia	Ph.D. in Mathematics
2001-2002	University of Nebraska–Lincoln	MS in Mathematics
1997-2000	Southwest Texas State University	BS in Mathematics and Psychology, Summa cum laude Graduation

**Professional Experience:**

NIH/NCI Postdoctoral Fellow	Wake Forest University School of Medicine	08/2007–
Visiting Scholar	Virginia Bioinformatics Institute	08/2007 –
Graduate Student	University of Georgia	01/2003–05/2007
Graduate Student	University of Nebraska–Lincoln	01/2001–12/2002

**Research Interests:** geometric combinatorics, systems biology, the interplay between biology and discrete mathematics

**Honors:**

1. Spring 2000 Outstanding Undergraduate in the School of Science
2. Spring 2000 R.H. Bing Award in Mathematics
3. 2001-2001 Othmer Fellowship Recipient
4. 2003-2007 VIGRE Fellowship Recipient
5. Spring 2004 B.J. Ball Scholarship Award
6. Spring 2006 Outstanding Graduate Teaching Assistant Award
7. 2006-2007 University of Georgia TA Mentor

**Professional Society Memberships:**

1. Inducted Spring 1998 Phi Theta Kappa Honors Society
2. Inducted Spring 1999 Psi Chi Honors Society
3. Joined Fall 2001 American Mathematical Society
4. Joined Fall 2001 Association of Women in Mathematics

**Service Activities:**

*Departmental:*

1. Spring 2001, Spring 2002 Mentor for prospective graduate students during recruitment weekend
2. Summer 2002 Graduate Student Assistant for the Nebraska Research Experience for Undergraduates (REU) in Applied Mathematics
3. May 17-June 19, 2004 Graduate Student Assistant for the VIGRE REU in Combinatorial Configuration Spaces at University of Georgia
4. Summer 2005 Organizer of the Summer Student Seminar at University of Georgia
5. October 15, 2005 Volunteer for High School Math Tournament sponsored by the UGA Math Dept. and Math Club
6. November 18, 2006 Volunteer for High School Math Tournament sponsored by the UGA Math Dept. and Math Club

*Campus:*

1. August 16, 2006 Volunteer at the university-wide Orientation for Teaching and Laboratory Assistants

*National:*

1. January 6, 2007 Chair of Contributed Paper Session at National Meeting in New Orleans, LA
2. July 23-August 10 Course Assistant for IMA Summer Graduate Program in Applicable Algebraic Geometry at Texas A&M University

**Talks Presented:**

1. May 2002 Fourth International Conference on Dynamical Systems and Differential Equations at University of North Carolina–Wilmington: Liouville’s formula on time scales, contributed
2. July 2002 Rocky Mountain Mathematics Consortium Summer Conference Dynamic Equations of Time Scales and Their Applications at University of Wyoming: Liouville’s formula on time scales, invited
3. September 9, 2003 VIGRE Seminar at UGA: Triangulations of Polygons
4. October 24, 2003 CATS Seminar at UGA: The size of a triangulation and the minimal length triangulation
5. November 24, 2003 Topology Seminar at UGA: Discrete Morse theory
6. February 21, 2004 Prospective Graduate Student Visitation Day at UGA: Triangulations and f-vectors
7. October 26, 2004 VIGRE Seminar at UGA: Gröbner bases
8. November 19, 2004 CATS Seminar at UGA: How do you make a toric variety from a partially ordered set
9. June 14, 2005 Student Seminar UGA: When is a real toric variety a manifold?
10. January 6, 2007 National Meeting at New Orleans, LA: A counterexample to the maximality of toric varieties, contributed
11. January 29, 2007 Topology Seminar UGA: Comparing the topology of real and complex toric varieties
12. March 26, 2007 Topology Seminar Emory University: Comparing the topology of real and complex toric varieties
13. May 31, 2007 Interactions between Algebraic Geometry and Algebraic Combinatorics Workshop at Centre de Recherches Mathématiques, Montreal Canada:  $Z/2Z$  Hodge spaces of toric varieties

**Posters Presented:**

1. September 24-28, 2007 Deconstructing Biochemical Networks at Centre de Recherches Mathématiques, Montreal Canada: A mathematical model of the iron metabolic network
2. March 3-7, 2008 Organization of Biological Networks at Institute for Mathematics and Applications (IMA), Minneapolis, MN: Using CellDesigner to create the iron metabolic network

**Professional Meetings Attended:**

1. May 28-June 8, 2002 VIGRE Mini-Course on Variational Methods and Nonlinear PDE’s at University of Utah
2. July 20-August 1, 2003 Triangulations of Point Sets Graduate Program at MSRI, Berkeley, CA
3. July 11-31, 2004 PCMI Summer Graduate Program in Geometric Combinatorics
4. November 1-5, 2004 Workshop on Combinatorial Aspects of Hyperplane Arrangements at MSRI, Berkeley, CA
5. August 8-12, 2005 NSF-CBMS Regional Conference on Algebraic and Topological Combinatorics of Partially Ordered Sets at San Francisco State University
6. March 25, 2006 Thomas Banchoff’s Geometry Across the Curriculum Workshop at University of Georgia
7. May 29-June 3, 2006 International Conference on Toric Topology at Osaka City University, Japan
8. October 17-20, 2006 Workshop on Polyhedral Computation at Centre de Recherches Mathématiques, Montréal, Quebec
9. October 24-26, 2007 Mathematical Systems Biology of Cancer II at MSRI, Berkeley, CA

**Publications:**

1. Hodge spaces for real toric varieties, preprint arXiv:0705.0516v1 [math.AG], to appear *Collectanea Mathematica*.
2. A counterexample to the maximality of toric varieties, arXiv:math/0611925v1 [math.AG], to appear *Proceedings of the American Mathematical Society*.
3. V. Cormani, Liouville’s formula on time scales, *Dynamic Systems and Applications*, Vol 12 (2003) 79-86.