

Edward L. Richmond

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Education:

- University of North Carolina - Chapel Hill, NC
Ph.D, Mathematics (May 2008)
Advisor: Prakash Belkale
Thesis title: Recursive structures in the cohomology of flag varieties
 - Colgate University - Hamilton, NY
BA, Mathematics, with honors (May 2000)
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Research Interests:

I am interested in algebraic geometry, representation theory, Lie theory and combinatorics. In particular, I work with geometric and algebraic aspects of Schubert calculus to study flag varieties.

Employment:

- Visiting Assistant Professor, University of Oregon - Eugene, OR (2008 - present)
 - Teaching Fellow, UNC - Chapel Hill, NC (2002 - 2008)
 - Math Help Center Director, UNC - Chapel Hill, NC (Fall 2006, Spring 2007)
 - Computer Administrator, Christen & Sack Consulting Engineers - Syracuse, NY (2000-2002)
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Papers and preprints:

- *Branching Schubert calculus and the Belkale-Kumar product on cohomology* (with N. Ressayre, preprint).
 - *A multiplicative formula for structure constants in the cohomology of flag varieties* (submitted).
 - *A partial Horn recursion in the cohomology of flag varieties* (*J. Algebr Comb.*, 30: 1-17, 2009).
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Talks:

- *Decomposing structure constants for the Belkale-Kumar product in the cohomology of flag varieties*
AMS Southeastern Sectional Meeting, North Carolina State University - Raleigh, NC, April 2009.
- *A multiplicative formula for structure constants in the cohomology of flag varieties.*
AMS Southeastern Sectional Meeting, North Carolina State University - Raleigh, NC, April 2009.
Algebra Seminar, University of Oregon - Eugene, OR, October 2008.
- *The eigenvalue problem on sums of Hermitian matrices.*
Basic Notions Seminar, University of Oregon - Eugene, OR, November 2008.
Graduate Mathematics Association Seminar, UNC - Chapel Hill, NC, November 2006.

- *Recursive structures in the cohomology of flag varieties.*
AMS Western Sectional Meeting, UBC - Vancouver, Canada, October 2008.
Graduate Mathematics Association Seminar, UNC - Chapel Hill, NC, March 2008.
John Millson's Birthday Conference, University of Maryland - College Park, MD, March 2008.
Special Seminar, North Carolina State University - Raleigh, NC, February 2008.
- *Necessary conditions in branching Schubert calculus.*
Geometric Methods in Representation Theory Seminar, UNC - Chapel Hill, NC, April 2008
- *Polynomial Equations and Group Theory.*
Job talk, Campbell University - Buies Creek, NC, April 2008.
- *Horn Recursion for a new product in the cohomology of partial flag varieties SL_n/P .*
AMS Southeastern Sectional Meeting, Middle Tennessee State University - Murfreesboro, TN, November 2007.
- *The restriction problem for representation theory.*
Graduate Mathematics Association Seminar, UNC - Chapel Hill, NC, September 2007.
- *A comparison of the algebraic and geometric structures of flag varieties.*
Graduate Mathematics Association Seminar, UNC - Chapel Hill, NC, October 2006.
- *The Littlewood-Richardson rule and applications to Schubert calculus.*
Graduate Mathematics Association Seminar, UNC - Chapel Hill, NC, February 2006.

Conferences and workshops attended:

- *FRG meeting on "Eigenvalue and Saturation Problems for Reductive Groups"*, UNC - Chapel Hill, NC, May 2009.
- *Combinatorial, Enumerative and Toric Geometry Workshop*, MSRI, Berkeley, CA, March 2009.
- *Lie Theory and Geometry, The Mathematical Legacy of Bertram Kostant*, UBC, Vancouver, Canada, May 2008.
- *23rd Annual Geometry Festival*, Duke University, Durham, NC, April 2008.
- *Western Algebraic Geometry Seminar*, Colorado State University, Fort Collins, CO, October 2007.
- *AMS Eastern Section Conference*, Rutgers University, New Brunswick, NJ, October 2007.
- *Workshop on Schubert Calculus and Schubert Geometry*, BIRS, Banff, Canada, March 2007.
- *AMS Southeastern Section Conference*, Davidson College, NC, March 2007.

Teaching Experience at the University of Oregon:

- Discrete Mathematics I (Math 231) - Fall 2008
- Discrete Mathematics II (Math 232)- Winter 2009
- Discrete Mathematics III (Math 233)- Spring 2009
- Calculus I (Math 251) - Fall 2008
- Linear Algebra (Math 341) - Winter 2009

Teaching Experience at UNC-CH:

- Business Calculus (Math 152) - Spring 2003, Fall 2003

- Pre-Calculus (Math 130) - Summer 2005
 - Calculus I (Math 231) - Spring 2004
 - Calculus II (Math 232) - Fall 2004, Spring 2005, Fall 2005 (two sections), Spring 2006, Summer 2006
 - Multi-variable Calculus (Math 233) - Fall 2007
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Grants and Awards:

- Partially funded by NSF FRG Grant DMS-05-54349, Fall 2006, Spring 2007, Summer 2007.
 - UNC Graduate School Transportation Grant, Fall 2007.
 - Nominated for the J. Burton Linker Award for Excellence in Teaching, 2008
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Professional Associations:

American Mathematical Society, 2002-Present