

Collaborative Research: Resource of Open Problems for Education (ROPE)

Biographical Sketch

Dana C. Ernst

(a) Professional Preparation

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|-----------------------------------|-------------|-----------|
| George Mason University | Mathematics | BS, 1997 |
| Northern Arizona University | Mathematics | MS, 2000 |
| University of Colorado at Boulder | Mathematics | PhD, 2008 |

(b) Appointments

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| Northern Arizona University, Flagstaff, AZ | |
| Assistant Professor, Mathematics & Statistics Department | To begin Aug 2012 |
| Plymouth State University, Plymouth, NH | |
| Assistant Professor, Mathematics Department | Aug 2008–May 2012 |
| University of Colorado at Boulder, Boulder, CO | |
| Graduate Teaching Instructor, Department of Mathematics | Aug 2003–May 2008 |
| Research Fellow, Thron Fellowship | Summer 2007 |
| Lead Graduate Teacher, Graduate Teacher Program | Aug 2006–May 2007 |
| Front Range Community College, Boulder, CO | |
| Full-time Faculty, Department of Mathematics | Aug 2001–May 2003 |
| Northern Arizona University, Flagstaff, AZ | |
| Full-time Instructor, Department of Mathematics & Statistics | Jun 2000–May 2001 |
| Graduate Teaching Instructor, Department of Mathematics & Statistics | Aug 1997–May 2000 |

(c) Publications

(i) Publications most closely related to project

B. Beaudrie, B. Boschmans, D.C. Ernst. First Semester Experiences in Implementing a Mathematics Emporium Model. In R. McBride & M. Searson (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference*, 2013. New Orleans, LA: AACE.

D.C. Ernst, A. Hodge, A. Schultz. Enhancing Proof Writing via Cross-Institutional Peer Review. Submitted.

D.C. Ernst, A. Hodge. Within ϵ of Independence: An Attempt to Produce Independent Proof-Writers via IBL. Submitted.

(ii) Additional publications

T. Boothby, J. Burkert*, M. Eichwald*, D.C. Ernst, R.M. Green, and M. Macauley. On the Cyclically Fully Commutative Elements of Coxeter Groups. *J. Algebraic Combin.*, 36(1), 2012. [[arXiv:1202.6657](#)]

D.C. Ernst. Non-cancellable elements in type affine C Coxeter groups, *Int. Electron. J. Algebra*, 8, 2010. [[arXiv:0910.0923](#)]

D.C. Ernst. Diagram calculus for a type affine C Temperley–Lieb algebra, I. *J. Pure Appl. Alg.*, 216(11), 2012. [[arXiv:0910.0925](#)]

(d) **Synergistic Activities**

Columnist for “Math Ed Matters” Spring 2013–Present
Monthly column sponsored by the Mathematical Association of America. The column explores topics and current events related to undergraduate mathematics education.

Special Projects Coordinator for Academy of Inquiry-Based Learning Fall 2012–Present
Help organize, promote, and run IBL-related events including workshops, special sessions, and conferences. Mentor for small cohort of mathematics instructors. Includes annual stipend.

Co-organizer for “Inquiry-Based Learning Best Practices” Summer 2012, 2013
MAA Contributed Paper Session, MathFest 2012, University of Wisconsin, Madison, WI.

Co-organizer for “Combinatorics of Coxeter Groups” Spring 2011
AMS Special Session, Spring 2011 Eastern Section Meeting of the AMS, College of the Holy Cross, Worcester, MA.

Plymouth State University Distinguished Professor of Mathematics 2009 & 2011
Teaching award determined by mathematics majors at Plymouth State University.

(e) **Collaborators and Other Affiliations**

(i) **Collaborators & Co-editors**

Tom Boothby (University of Washington)
Jeffrey Burkert* (Harvey Mudd College)
Joseph Cormier* (Plymouth State University)
Ryan Cross* (Plymouth State University)
Morgan Eichwald* (University of Montana)
Selina Gilbertson* (Northern Arizona University)
Richard M. Green (University of Colorado at Boulder)
Zachariah Goldenberg* (Plymouth State University)
Katie Hills-Kimball* (Plymouth State University)
Angie Hodge (University of Nebraska at Omaha)
Dane Jacobson* (Northern Arizona University)
Jessica Kelly* (Plymouth State University)
Matthew Macauley (Clemson University)
Christopher Malbon* (Johns Hopkins)
Christie Quaranta* (George Mason University)
Andrew Schultz (Wellesley College)
Nándor Sieben (Northern Arizona University)
Michael Woodward* (Northern Arizona University)

(ii) **Graduate and Postdoctoral Advisors**

PhD Advisor: Richard M. Green (University of Colorado at Boulder).
MS Advisor: Michael J. Falk (Northern Arizona University).

(iii) **MS Thesis Students**

Kirsten Davis (Northern Arizona University)
Brooke Fox (Northern Arizona University)