

TRAVEL/INVITATION GOALS

Collaboration means a lot to me—most of my papers have been written with other people, and joint projects allow different people to bring different skills to solve problems together. One of my most fruitful collaborations has been with Hugh Thomas, who has recently moved to the Laboratoire de Combinatoire et d'Informatique Mathématique at l'Université du Québec à Montréal. We have several ongoing projects together that always benefit from concentrated in-person writing and brainstorming sessions (for example, we met up at the Joint Mathematical Meetings this year in San Diego, and were able to mostly finish off two projects). With our coauthor Christian Stump, we are looking into the possibility also of organizing a trip to Berlin in the fall of 2018, which would possibly include the research in pairs at Oberwolfach to finish our manuscript on Fuss–Catalan combinatorics (which currently weights in at about 130 pages).

I have three separate ongoing projects with Zachary Hamaker and Oliver Pechenik at the University of Michigan, building out of our paper using techniques developed in the context of K-theoretic Schubert calculus to solve combinatorial problems (which was recently accepted to the International Mathematics Research Notices). I will be visiting the University of Michigan as an invited speaker for Algecom in March, but our projects would benefit from a prolonged visit.

Jim Propp, Tom Roby, Jessica Striker, and I have organized several conferences in the past (including an American Institute of Mathematics workshop and a special session at the Joint Mathematical Meetings this year). Our work has launched a new field of combinatorics that J. Propp has termed “Dynamical Algebraic Combinatorics”, and a number of papers have resulted—many by undergraduate and young graduate students at MIT. It would be good to have travel funds to allow me to continue to be an organizer for our special sessions and a part of this research program.

I would especially like to invite some of the people listed above to visit the University of Texas at Dallas, both to work on our joint research programs and to increase visibility in the department.

My travel plans for this year include the following events that have already been scheduled:

- February 9-11: giving the Texas A&M colloquium, then attending CombinaTexas.
- March 23-25: invited speaker at Algecom at the University of Michigan.
- April 6-8: faculty organizer for the Graduate Student Combinatorics Conference at the University of Texas at Dallas.
- April 10-11: colloquium at North Dakota State University.
- May 13-19: invited participant at an Oberwolfach workshop in combinatorics.
- July 16-20: International conference on Formal Power Series and Algebraic Combinatorics.
- July 23-27: invited speaker at Sage days at ICERM.
- September 24-28: Invited speaker at Algebra and Combinatorics at LaCIM: a Conference for the 50th Anniversary of the CRM

I have also received recent invitations (still unscheduled) to visit Mikhail Mazin at Kansas State University, as well as Brendon Rhoades at the University of California, San Diego.