

## Twenty Years of MAA Student Paper Sessions

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The printed program of the Summer 1987 meeting of the Mathematical Association of America at the University of Utah contained a small note: “Experimental Student Paper Session.” Four undergraduate students gave talks there, to an audience of about seventy meeting participants. Everyone agreed that the students had performed admirably, and that the sessions should continue at future meetings. And so the MAA Undergraduate Student Paper Sessions were born.

From a vantage point twenty years later, it is remarkable that the notion of undergraduate research was so unusual, and that only four students could be found as pioneers for this inaugural session. Undergraduate research, and the conference talks associated with it, have become an accepted part of many conferences, but especially of MathFest, the summer meeting of the MAA. In fact, even in years when the MAA did not hold an official summer meeting, undergraduate students gathered to talk about mathematics: Robert Smith recalls the first-ever joint MAA-Pi Mu Epsilon student conference in the Summer of 1992. Over one hundred students and their advisors met at Miami University to listen to lectures, attend workshops, and give talks on their own research. At that meeting, 20 MAA students (and 20 PME students) presented papers, and the winners of the Mathematical Contest in Modeling spoke about their solutions.

Since that first experimental session, the number of student talks has grown almost exponentially. Students report on research they have done as projects in mathematics classes and as independent studies, at their home institutions and in summer REUs, alone and as part of a collaborative research group. They come from small liberal arts colleges and large state universities. Their topics range from pure to applied mathematics, including its history and pedagogy. There are usually eight to ten different MAA student paper sessions over the course of two afternoons at MathFest, in addition to separate Pi Mu Epsilon paper sessions and modeling contest presentations. Prizes are given for the most outstanding talks in each session; in addition, special prizes are awarded by SIAM, by the Environmental Mathematics SIGMAA, and by the Council on Undergraduate Research.

To illustrate the breadth and depth of the mathematics undertaken by these young people, we list the titles of some of last year’s prize-winners:

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*Magic Squares and Elliptic Curves;*  
*Centers and Eccentricities of Finite Simple Graphs;*  
*Shaping Things Up: The Smallest Enclosing Ellipsoid of Random Knots;*  
*Optimal Resource Allocation to Deter a Terrorist;*  
*Peopling of America with Logistic-Diffusion Simulations.*

The impact of REUs on the summer paper sessions cannot be over-emphasized. As more and more students participate in these summer programs, they are eager to communicate their results to their peers and to the mathematical community at large – and the summer meeting of the MAA is a natural place for them to do that. In Boulder in 2003, for example, half of the MAA student sessions in the program contained a note such as, “The last five speakers in this session are students of Prof. X in an REU at Y College.” There were 55 MAA student talks at that meeting; two years later, in Albuquerque, there were 67. Space and time for student talks was becoming scarce; we had become victims of our own success.

And so a current issue facing the MAA is how to accommodate the ever-increasing number of students engaged in undergraduate research and to find ways for them to share their results. An undergraduate poster session at the Joint Mathematics Meetings in January is also bursting at the seams. One REU sponsors its own paper session at MathFest; others are investigating ways to include all of their young investigators in some way at the summer meetings.

We have come a long way from our 1987 experiment; our only problem now is dealing with too much success.

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