

"We had not fully realized that what we had built was an incipient community ready to interact, ready to support itself, and it just needed a tiny push to get it going full strength."

A Serendipitous Sisterhood

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We're not sure when it happened. It probably wasn't between the minestrone and the Caesar salad, though it may have been. In fact it must have been there all along, growing stronger, but we didn't notice until it hit with full force at dinner one night in January 2005 at the Joint Mathematics Meetings in Atlanta, Georgia.

We had planned a reunion of the former participants from the first nine years of the Carleton College Summer Mathematics Program (SMP). Participants in our selective program are young women finishing their first or second years at a U.S. college or university who are interested in, and have shown talent in, mathematics. Our program was designed as an intense mathematical experience to give them the impetus they need, along with the support and encouragement, to go on to advanced degrees in mathematics. It's a four-week summer program, and we encourage the participants to keep in touch with each other via e-mail after they leave. We had had small reunions at the Joint Meetings before—four or five of us gathered after the day's talks for conversation over drinks. That January, though, there were going to be twenty-five former participants and nine former instructors and teaching assistants at the meeting, so we planned a nice dinner out, not as nine individual SMP class reunions from the nine summer programs we'd run, but as one big group.

When we arrived, most of the SMPers were already there, and the natural thing was happening. They were talking to each other. Women at different points in their careers, from different parts of the country, from colleges and from universities, some undergraduates, some graduate students, some professors. What they had in common was a love of mathematics and a summer spent in a rural Midwestern town, but that was enough. We didn't need to do any introductions; in fact, we couldn't have because no one could talk over the roar of conversation. The hubbub washed over us—we heard them talking about choosing graduate schools, choosing advisors, doing research, figuring out how to fit a family into a career, and whether to choose the pasta primavera or the grilled shrimp.

Over the years we've heard from SMP graduates who have attended a conference or visited a graduate school and bumped

into an SMP graduate from a different year. They have enjoyed the "small world" phenomenon and dropped us a line to report. We had not fully realized, until this dinner in Atlanta, that over the years what we had actually built was an incipient community ready to interact, ready to support itself, and it just needed a tiny push to get it going full strength.

Carleton Summer Mathematics Program for Women

This year marks the eleventh year of our program. Each year eighteen talented women from across the country live at Carleton College for one month and study mathematics in a friendly but intense environment. The students take two classes taught by dedicated and inspiring instructors, in topics they would not normally see as undergraduates. They attend panel discussions on making the most of their undergraduate career; applying, surviving, and succeeding at graduate school; careers using mathematics; and being a woman in mathematics. They also attend colloquia on a variety of mathematical topics (operations research, epidemiology, graph theory, history). Woven around and through all of these activities are picnics and long walks and canoeing and movies and retro-clothing parties.

The mathematics may be at the core of the summer program, but what makes it work is the relationships that build between these women. Women from Harvard and Grinnell, from Spring Hill College and Williams, from Dakota Wesleyan and Caltech come together and do math. Sharing the challenges and the intellectual adventure of learning mathematics forms long-lasting bonds. They celebrate each other's accomplishments, both during the program, and long after it has ended. They realize that some of the insecurities they may have in mathematics are shared by so many talented folks that maybe they aren't really valid. They realize that they, too, can go on to advanced degrees in mathematics; nearly two-thirds of alumnae have or are pursuing graduate degrees.

Starting in 2005, in support of this nascent community, we started the annual SMPposium, where former participants of the program, now holding PhDs in mathematics, return to talk about the research that they do, to share the experiences that

they've had, and to mentor the current participants in life in mathematics. This community of women mathematicians that has formed over the years, now 198 strong, has taken on a life of its own. The young PhDs give back by offering advice and support and friendship to the women still in school; the graduate students offer advice to the undergraduates trying to decide where to go; the older undergraduates write to their friends recommending REUs and good restaurants in Budapest. We couldn't be any more happy about our serendipitous sisterhood of mathematicians.

From the blog of Raena Bryant, a former participant:

It has been an extremely busy, frustrating, exciting, empowering, four weeks, and today is the final day. I have learned so much math and so much about math it is truly amazing. The whole secret world of mathematicians is one that I never really knew about, but now want to be a part of.

These four weeks I have learned that $2+3$ is not $3+2$, a circle and a triangle are the same thing, a sphere is a two-dimensional object, and that the more useless the problem, the more mathematicians like it. I have also learned how to draw four dimensional objects on paper, yet still can barely draw two dimensional objects. My brain has been turned upside down, and I am excited to know that it will probably never be returned to its original orientation.



Photograph courtesy of Tom Roster.

The friends I have made here are ones I hope to never forget. It is amazing how strongly people can bond so quickly by spending hours discussing math. It is going to be hard to have to leave the people I met here, because I feel some connection to every one of them.

For more information on the Carleton Summer Mathematics Program, visit the website at www.math.carleton.edu/smp. ■



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