A New Paper from Every Conference?

Do you like big conferences? As I write this, the Seventh International Congress on Industrial and Applied Mathematics is about to take place, back in North America for the first time in twenty years.

OK, I won't try to pretend. I'm proud of the fact that I've attended every one of the ICIAM meetings. There can't be many people in this category (SIAM's board chair Iain Duff is another), and it helps to have been at an early career stage when they began, in Paris in 1987. Some of the talks that year were by Vladimir Arnol'd, Michael Atiyah, Joe Keller, and Peter Lax. That was a time when computer workstations had only recently arrived on the scene, and I remember Lax marvelling at what Gauss might have done if he'd had one.

FROM THE SIAM PRESIDENT
By Nick Trefethen

You can be sure I'll go to the next ICIAM, in Beijing in 2015. A record like this is an investment to be maintained! When the series started, there were just four founding societies, and China was not much in applied mathematicians' thoughts, but now there are more than 30 member societies and the ICIAM vision circles the globe.

Some people say they don't like big conferences, which can be anonymous and not so well focused. For me, though, a big conference brings a special kind of freedom to pick and choose our encounters, and to meet new people at random. We make our own focus.

I remember Gene Golub once telling me, you should aim to get an idea for a new paper at each conference. I don't think I've quite achieved that, but it's true that a conference conversation or two can really take you places. So can a new thought worked out on a piece of paper during one of the less exciting talks. Here are two exercises you might try next time you're at a conference. At the beginning, think of a couple of problems you're working on and ask yourself, who at this meeting might know a lot about these problems? If you haven't met some of them before, it doesn't matter; just introduce yourself. And at the end of each day ask yourself, what's the most interesting conversation I had today?

My first conference was the SIAM Fall Meeting in Denver in November 1979. Two memories stand out. One was sharing a hotel room with Petter Bjørstad, a Norwegian graduate student, who insisted on leaving the window open all night long during a snowstorm. I discovered that week that Norwegians are supermen, or at least Petter Bjørstad.

The other was a tall and personable Australian who asked me some pointed questions after my talk on Schwarz–Christoffel mapping. He was Ian Sloan, later a president of ICIAM, who became a good friend and hosted one of my sabbaticals.

We all build our mathematical lives partly out of more-or-less arbitrary encounters like these. Threads get picked up and dropped, not always according to plan. One of these is on my mind just now, the *PDE Coffee Table Book* project that Kristine Embree and I coordinated at Oxford ten years ago. We had a good idea, which was to write a colourful book consisting of 100 two-page spreads, each about a different partial differential equation. Each would contain just the right introductory information about why this PDE is interesting, who first worked with it, how its solutions behave, and what the key mathematical issues are. It was a beautiful project, and we collected drafts on all kinds of PDEs from people around Oxford and the world. But getting from one of these drafts to a publication-quality essay proved a very big job. We worked hard but managed to bring only 34 of the pieces to fully polished form, covering equations from old standbys like the heat and wave equations to more exotic hyphenated beasts like Cahn–Hilliard, Kuramoto–Sivashinsky, Gray–Scott, and Perona–Malik. I've been handing out copies in my lectures ever since.

It was a great shame to drop that thread. Lately I've half picked it up again and posted all 34 of those finished PDE pieces on the web for anyone to read or use for teaching. So be our guest at http://www.maths.ox.ac.uk/~trefethen, mine and Kristine's, and check out *The (Unfinished) PDE Coffee Table Book*.