

Herbert S. Wilf: 1931-2012

I first met Herb and Ruth Wilf in the summer of 1966 at an AMS three week workshop on entire functions. This was the end of a three year instructorship. At the end of the summer I would move to Penn as an assistant professor. They were the first new colleagues I met – and what a splendid introduction. Their intellectual depth and personal warmth made it clear that I would find a real home at Penn. After 45 years, it continues to be.

Around then Herb shifted his mathematical interest to combinatorics. Albert Nijenhuis, who had also recently moved to Penn (and to combinatorics), shared ideas and insights. Together they wrote a number of papers and one book. It was the beginning of a glorious era of Combinatorics at Penn. Herb's work, often joint with others, put us on the map with results that are both valuable and elegant.

His most celebrated work was with Doron Zeilberger: "Rational functions certify combinatorial identities" for which they were awarded the 1998 AMS Steele Prize. This work was also the heart of the book " $A=B$ ", written together with Marko Petkovsek and Doron Zeilberger. It is amusing that because of its exotic title, for some years this book successfully eluded all attempts in a Google search. Eventually Google learned.

In 2004 Herb received the *Euler Medal for Lifetime Contributions* from the Institute for Combinatorics and its Applications.

We all remember Herb as an extraordinary teacher of undergraduates, graduate students, and colleagues: inspiring and clear. He made everything look easy. But when you tried to reassemble the ideas, you quickly realize how carefully he had developed them. As an example, he once gave me a short one sentence analysis of the Monty Hall Problem. It was delightful: really simple, so simple there was no need to write it down. Alas, despite some effort, I have never been able to recover it. Now it is too late to ask.

In 1973 he received the University of Pennsylvania's Christian and Mary Lindback Award for excellence of undergraduate teaching and in 1996 the Mathematical Association of America's *Deborah and Franklin Tepper Haimo Award for distinguished teaching of mathematics*.

In our Department Herb had 27 Ph.D. students, he served as Chair of the Graduate Group in Applied Mathematics and later as Chair of the Graduate Group in Mathematics. He co-founded two major journals: *The Journal of Algorithms* in 1980 with D. Knuth and the *Electronic Journal of Combinatorics* in 1994 with N. Calkin. He also served as editor of the Mathematical Association of America's journal *The American Mathematical Monthly*.

Many of Herb's books and articles are available to download from his personal web page. Although many mathematicians have such material available, one measure

of how much the mathematics community has valued Herb's contribution is that last year it registered an astonishing 350,000 downloads.

To me, one of Herb's experiences as pilot of his own one engine airplane supplies a memorable parable. He and Ruth suddenly found themselves in a wild thunderstorm. Turbulence. Not fun at all. He contacted air traffic control for guidance. They said something like "Go north northwest and up 500 feet". Soon sunshine and tranquility. I also received similar guidance from him. He will be missed.