

# Know Your Wisconsin Mathematician

Interview with Steffen Lempp, UW-Madison, by Thomas Drucker



## **Where did you grow up?**

I was born in Freudenstadt, Germany, and moved with my family to Weinheim, Germany, when I was three.

## **Was there a time in your life when you discovered that mathematics was what you wanted to do?**

I started as a computer science major at the University of Karlsruhe, Germany, in my first (undergraduate) semester, but switched to math at the end of that semester since CS was “not theoretical enough” for me.

## **Where did you go as an undergraduate?**

I spent two years in Karlsruhe and one year in Bonn before I got a Fulbright scholarship to become a college student-at-large at the University of Chicago. During my first year there, I was offered admission to graduate school there, without ever getting an undergraduate degree.

## **How did you choose logic as an area for specialization?**

When I arrived at Chicago, I was undecided between algebra and logic. It was taking Bob Soare’s class in computability theory that I became truly interested in that area.

## **What was the influence of your family on your education?**

My parents always encouraged to pursue me whatever interests I had.

## **Are there any teachers who had influenced you to become a mathematician?**

I had two very good math teachers around 8<sup>th</sup> to 11<sup>th</sup> grade who taught me precision. The rest of the class hated one of them especially, but he was great for me.

## **How did you end up at the University of Wisconsin?**

I applied nationwide, and it was the best job that was offered to me.

## **Can you please talk about what students have meant to you as a teacher and mathematician?**

Students are sometimes great in that they let you explore a new area that you might not want to spend as much time learning yourself. I had a few of these. Other students teach you things you would never have thought of yourself. Those students are the most interesting!

## **What courses do you like to teach?**

Apart from logic courses, I like to teach linear algebra and algebra, bridge proof courses, and elementary education math courses.

## **Over the years, did you find that teaching of mathematics changed?**

I have become more interactive (and less embarrassed when I make a mistake).

## **Where do you think mathematics is going, and then closely allied to that, where do you think it should go?**

It is very hard to predict where a field is going. Some directions I see take off (like randomness) I find less interesting and so stay away from more. Others I love (like computable model theory). Now that I don’t depend on NSF support any more, I feel freer in choosing what I want to work on.

**What do you think is the best part of being a mathematician?**

Being able to choose what problems to work on, and the freedom to travel to many places (since you have colleagues worldwide, and since you have a lot of free time).

**What was the worst part of teaching mathematics?**

Students complaining about their grades, and grading exams.

**How would you describe what you did when you were talking to somebody outside of mathematics?**

Mathematics is about abstract structures that we explore using precise tools.

**What of your work do you like the best? What are you most proud of?**

There are some papers I feel were the best work I did; some were long ago, some more recent. My longest paper was 144 pages for a single proof. It filled an entire issue of Advances in Math.

**What is your advice to college students and new teachers?**

If you want to pursue research in mathematics, you need not only talent but total dedication; it will be very hard and frustrating most of the time.

**Do you have any other comments?**

On balance, being a research mathematician is a great career!

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| Who is a Wisconsin Mathematician that you would like to know? Send suggestions for the next KYWM to Ben Collins, <a href="mailto:collinbe@uwplatt.edu">collinbe@uwplatt.edu</a> . |
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