

# Position Available

## Ph.D. thesis student

- Job Requirements:

Brilliance, deep insight, congenial nature preferred; enthusiasm for mathematics, willingness to work incredibly hard, ability to multitask and assume responsibility for career essential; must tolerate banter. Willing to train the right person.

- Workload: 60-80 hours per week; flexible hours.

- Realities and Caveats: You have three years to shed your persona as a student, and develop one as an independent mathematician and teacher. The process will be very hard, often frustrating, and hopefully on occasion rewarding.

**What can you expect from me?** This varies greatly among advisors.

- Help selecting a problem to start on.
- A willingness to talk to you regularly, hopefully offering some insight, or suggestions for things to try or read. If you think I know how to solve your problem, you are probably wrong, but I have good instincts.
- A willingness to critique your writing. It is not my job to read haphazardly written proofs and find your errors; it is your job to take responsibility for the correctness of your work. On the other hand, my name also appears on the cover of your thesis, and I have high standards, so be prepared for lots of comments.

**What do I expect from you?** Lots!

- You take an active role in your career development. Realize that in three years you are going to ask me for a letter of recommendation. Think of the image you want me to project, and work towards achieving it.
- Your job is to try ideas or approaches — thought of by you, or suggested by me and others — and report back at each meeting about where you have succeeded, or in what precise manner your attempts have failed. Only then can I help you take another step. You will often be frustrated; you will often go down blind alleys. As Harry S. Truman said, “If you can’t stand the heat, get out of the kitchen.” Graduate school is the easy part.

Seeking an enthusiastic collaborator who is willing to take responsibility for, and soon to take the lead in solving, some open research problems. Should be organized, detail-oriented, excited by the prospect of discovering and creating new things, and not discouraged by being stuck half the time. Should be able to keep track of, and TeX up notes on, what you have found and what you are stuck on, and be able to program the computer to test out ideas. Should find learning new systems a fun challenge, and appreciate that being paid to think is a rare privilege indeed in today's world! Should enjoy communicating clearly with others, sharing and explaining ideas. Time management skills are essential, to juggle background reading, pencil-and-paper exploration, and computer experiments. As advisor I will suggest exciting problems (which I believe will impact and impress the wider math community), tactics, resources when stuck, debug your proofs and codes, and meet at least 2 hours per week, answer emails, introduce you to people and ideas that matter, and help you on your career path.