Faculty Spotlight with Dr. Wingler

Our tenth faculty spotlight comes from the lovely Dr. Wingler, Assistant Chair of our lovely department. Although he is an analyst, he likes a lot of areas of math. He is doing some work with linear algebra right now and has done work on separate and joint continuity in the past, as well as some work in integer programming. His thesis was on operator theory, and he likes the field because it uses a diverse range of mathematics, including real and complex analysis, linear algebra (in higher dimensions), and even a little bit of abstract algebra. He jokingly said that he could be said to study "soft analysis" because of this.

When asked what his daily job as a professor was, Dr. Wingler immediately quipped "Besides goof off?" He was actually in the middle of grading exams when we met, and he said that that definitely takes up some time. He also spends a lot of time preparing for lectures, as he is a perfectionist who wants his lectures to be well-done with interesting and insightful examples, so he spends a significant amount of time exploring potential problems and ways to present the material to his students. Even with lower-division classes, such as calculus, there are always new ways to present the material and, even if for nothing else, he likes doing it for his own sake. In addition to all of this, he also spends time giving advice to students and helping them get into the right classes.

As for why Dr. Wingler chose math, he said that he had an interview with the chair of the mathematics department at Eastern Illinois University (where he went to undergrad) and was convinced, but he also said that he didn't remember what the chair said to convince him. After thinking about it a little more, he realized that he always had an interest in the subject and maybe the interview was more of a tipping point. He liked physics and chemistry, as well as electronics a lot – he may have even pursued an electronics field if he did not choose math (his uncle was a TV repairman, which gave him early exposure, and it's just neat stuff). He recalls during 7^{th} or 8^{th} grade when his sister's boyfriend gave him a book called *New Mathematics* that featured group theory, which peaked his interest. He also had a math teacher during his senior year of high school that gave him a journal called the *Mathematics Teacher*, which also intrigued him. Dr. Wingler remembers asking his teachers questions that they didn't know the answer to, and he even had an independent study for an atomic physics class, which required him to self-study calculus. So really, Dr. Wingler had a lot of exposure to math early on and Eastern Illinois just set him on his way.

After graduating from Eastern Illinois, where he also got his master's degree (his mom worked there and he was able to commute easily because of this), he applied to one school for his PhD, the University of Illinois, where he was accepted. He felt pretty confident about his application and didn't care about traveling across the country, so it seemed like a good decision. Dr. Wingler said that he found out about YSU through an announcement in a journal that said they were looking for positions. He thinks that he had two places he could go to, the other maybe being in South Carolina, but he chose YSU because he liked the climate – he recognizes that a lot of people prefer the warmth, but he enjoys experiencing all the seasons.

As for hobbies, Dr. Wingler finds lots of creative ways to entertain himself (especially since he doesn't own a TV). He is a musical man, as he plays piano, whistle, mandolin, the sax (in the past), and even a dulcimer. He even pulled out his own hand-made dulcimer (in a bag his wife made) and played some classical tunes! Needless to say, it was pretty cool. He also enjoys bicycling, which you can see him do around campus, and recently started making English muffins, which made him recall a funny story. He was buying English muffins at Giant Eagle and liked them, but then one day they were out, so he inquired with the staff about it. They said that they never sold them. Perplexed by this outcome, Dr. Wingler decided that he must learn how to make his own. When he lived in an apartment, he used to make soap from leftover fat and grease since you can't flush it down the drain, but his chemistry days are behind him. (He even joked that he went into math instead of chemistry because math was where the money was at – he realized this was not the case, especially since chemists can make a lot of money from patents.)

One of Dr. Wingler's current goals is to finish the paper he is working on. He also reads a lot of math texts, as he likes to learn and is still learning a lot. He says that it is a misconception that once you get a PhD, you suddenly can read any math text. "Once I get my PhD, I'll understand this, right? No." There are still some articles or papers he will look at and not have any idea what it means. Getting a PhD lets you know how little you really know. It is also difficult because a lot of the easy problems are gone, so you have to go digging in obscure areas to find problems to solve. But regardless, he likes learning as it keeps his mind active.

When asked what his favorite part of his job was, he said working through problems with people and teaching through lectures, especially in proof-based courses (although he likes to throw in some proofs in his calculus classes). He is not really a fan of grading, but nobody seems to be. Writing letters of recommendation is sometimes challenging, as he doesn't always know what to say, but sometimes it's interesting to put a spin on things. For example, if a student didn't show up to class, but earned a stellar grade, he might say something along the lines of "This student is really good with independent work," which is a pretty cool way of looking at it.

When it comes to advice for those applying to graduate school and dealing with the whole process, he said that he likes to not give any advice because it depends so much on the student. For example, some people say to apply to a lot of schools, but that costs a lot of money, and it worked out for him to only apply to one, which was just the state school. However, he did say that it is a good idea to check the faculty of the places you are planning on applying to, to make sure they are also interested in what you are. If you are less sure of your interests, picking a program with a wide variety is a good idea, as they are bound to have someone you could work with. He didn't even know about his area (aside from seeing it in passing) until grad school.

The last topic that Dr. Wingler mentioned was a funny story. Over the years, he has learned some cool tricks for multiplying large numbers, and it is a misconception (from people who have not

studied much math) that people who get PhDs in the subject can just multiply really large numbers very quickly. Well, learning some nifty tricks over the years, he was able to perform such a computation rather quickly on the spot. He said the person next to him dropped their mouth in awe, and Wingler thought “I just confirmed this student’s perception of what we do in math.”

That about covers our interview with Dr. Wingler. It was a great time and we thank him for participating!