Faculty Spotlight with Dr. Prieto

On October 9, 2020, we interviewed Dr. Prieto. Dr. Prieto loves to solve problems, and as a result, has a myriad of different research interests. While she has done a great deal of work in applied biological math such as working with fungi, she also has been working in math education. A recent project that she has been working on involves COVID modeling. With this she is hoping to build a simulation of how the pandemic spreads and the conditions that have sped up or slowed this down with the idea that in the event of any future pandemics (hopefully nature keeps these at a minimum), we would be able to better understand how they spread and have more information on how to keep ourselves safe. As you can see, Dr. Prieto has widespread interests which stem from her love of solving problems. When it comes to finding new problems she wants to solve, "it's like a kid in a candy store!"

Dr. Prieto's journey into math is not what one might expect from a math professor. When she was about 12, going from 6^{th} to 7^{th} grade, she was not particularly good at math. To help catch up with everyone else, she received some special instruction. During these special instructions was how she got introduced to mathematics competitions. Now they did not hand a 12-year-old a mathematical modeling problem, but the problem she was given was similar to mathematical modeling, at least enough that it was something that was able to spark her interest. As one may expect of someone who does a significant amount of work in bio-mathematics, before deciding math was the career choice she wanted to pursue, she wanted to be a medical doctor! But alas, she was unable to fit that path into her schedule when deciding what to go to school for, so she went for engineering.

Her story for attending grad school is certainly unique, if nothing else. But let us start with her undergrad. As many of you may (or may not) know, Dr. Prieto is from Mexico, and as such, she attended university for 3 years in Mexico, then 1 year in Texas. When the time came for figuring out what to do next after completing her undergrad, a friend of hers asked her to get ice cream. Little did she know that she was being kidnapped. Dr. Prieto was kidnapped under the ruse of ice cream and taken to a grad school. At this point she met her advisor and thus began her graduate career in mathematics. One can't help but wonder if she ever got that ice cream.

After the completion of grad school, she needed to do something. She was interested in looking for a post doc or a professor position. This prompted her to apply to 350 jobs and 20 post docs! (I have trouble applying to 10 grad schools, I couldn't imagine almost 400 applications.) YSU was one of those schools that had the sense to call and invite her. When she came to YSU, she was picked up from her hotel and driven to the campus and along the way the driver, not paying attention, drove through some of the not-so-good parts of Youngstown. Many would think this would scare her away, but Dr. Prieto loved it! It reminded her of home and she loved the idea of being able to come to a community and help it.

Now that she is here, her daily work consists mostly of what the other professors have said they do. She attends a lot of meetings, prepares for classes, replies to emails, applies for grants – the usual stuff. However, when she needs to think, whether it be about a research problem or something else, she often goes for a run and thinks about the problems she is trying to solve. She

did say that her favorite part about her job is working with the students. Going as far as to say if she could remove everything from her job and only continue with one aspect of it, it would be to work with students. The worst part about her days are unproductive meetings. Many professors have said their least favorite part is grading; while not high on the list, grading isn't a waste of everyone's time, such as these useless meetings.

Dr. Prieto is a big advocate that students have hobbies and passions outside of mathematics. With this she shares a couple of her hobbies, which include running, as seen earlier, and solving puzzles. When she was little, she loved to solve puzzles, but over the years has become busy and unable to work on them as much. But recently, she has taken the opportunity to work on some puzzles; during the interview, she showed us she was currently working on a puzzle of an atlas of the whole world!

This year has been a difficult year for everyone, but Dr. Prieto has set some goals for herself. Her research goals for this year are the continuation of the pandemic simulation that was mentioned earlier. She would like to get to a point where precautions for a pandemic are similar to earthquake precautions in California, in that when one does occur, everyone knows exactly what to do to protect themselves and the people around them.

Lastly, we asked her about any advice she had for students when it comes to applying to grad school. Her first piece of advice was to keep an open mind. Often when people go to grad school, or are getting ready for it, they forget to live. She encourages students to experiment in life, find fun activities, search for what makes them happy, and not to stress. Everything will work out and you will find something that is right for you. She also recommends emailing grad students about their experience and what it's like where they are. Email professors and ask if they are currently taking students. Professors want to get promotions and often a way to do that is to have students, like you, work under them. The worst thing that happens is they don't reply; the best thing is you get great advice or find a possible advisor!

We are thankful to Dr. Prieto for taking the time to share her experience with us and we are honored to have her here at YSU.