

## Faculty Spotlight with Dr. Flowers

Our first Faculty Spotlight of the semester was conducted with the legendary Dr. Flowers! Like our previous interviewees Dr. Madsen and Dr. Wakefield, Dr. Flowers is an algebraist, although his specialty is group theory – he and Dr. Wakefield actually published a paper on twisted cyclic groups in 2019! While Dr. Flowers loves group theory research, he doesn't pursue it as much anymore because he is older and close to retiring, although there are some problems he would like to solve before he does retire, but he needs help from others and doesn't think there is enough time left, and he is very excited about retirement.

When Dr. Flowers was in high school, he took a precalculus class and upon completing his first trigonometric identity proof, he was sold on mathematics. He said that proving those “meant something” to him and that it “freaked [him] out” that he could prove something. Before this, math was mainly a computational subject for him, but this was different. He remembers calling a friend and trying to explain this newfound passion of his, although he doesn't think his friend really understood him.

With his love of math pushing him forward, he entered Michigan State University (he is from Detroit) as an undergrad and took math class after math class, piling in as many as he could. He took his first abstract algebra course as a sophomore when he was around 18 or 19 and said it was ridiculously hard, being his first proof-based class in college, but he loved it nonetheless (although he is shocked at how he managed to pass). He eventually graduated and went to earn his Master's in Mathematics at Temple University in Philadelphia, as his sister went there. He was not a huge fan of the area and began to miss home and being at MSU, so he pursued his PhD in Mathematics with a focus on group theory there.

After earning his PhD, he sent out 25 job applications, all of which were looking for group theorists; he got 3 responses. The first was from a college in New York that asked him for a phone interview. He participated, but then never heard back. The next was from Richard Stockton College of New Jersey, which flew him there for an interview and tour, and he eventually received an offer. His final place was, of course, from YSU. He chose YSU over Stockton because we had a Master's program, which meant that he was more likely to teach more upper-level courses focusing on topics like group and Galois theory, and he also thinks that the Math Department here is great. Everybody likes everybody and nobody is trying to outdo someone else, and we have a strong orientation on students learning mathematics, as well as good programs like PME (hooray!).

Nowadays, his daily job as a professor typically begins with him coming to the office and looking over things for class, sometimes typing a homework set. Again, he is not as active in research, but he does teach four classes this semester, all in-person/traditional, which he is very happy about, stating that “It feels good.” His favorite classes to teach are of course the ones focusing on group theory, but he does enjoy mixing with calculus and more computational courses. He described those courses as being a nice “return to Earth,” whereas the more abstract

courses are like flying and being up in the air – going back and forth between those is very satisfying to him. One of his current goals this year is to cover what Galois (the famed mathematician) did in his Galois Theory course (which most of the PME officers are taking). There's a lot of material to cover, but he thinks that if they avoid side material that isn't necessary, he can do it. And Galois is definitely his favorite mathematician, which makes it all the more exciting.

Dr. Flowers' favorite part about his job is talking to people about math, just communicating mathematics with other people. He also loves seeing people go into mathematics, especially grad school, as a result of what they saw at YSU, even more so if it is group theory. He says it is a really good feeling when that happens. His least favorite part is the "quantitative" stuff, like giving tests and grades, although he doesn't mind homework as much and admits that tests help to reassure him that his students have a satisfactory understanding of the material.

While Dr. Flowers does have hobbies outside of the mathematical realm, he doesn't have as many as he used to due to his age. He liked playing sports when he was younger, but his heart has always been with cars. He said, "I like cars, like a lot." He loved them when he was younger, but due to the complications of life, they fell out of his life. However, over the past five or so years the interest has sparked up again. He enjoys driving them, getting newer models, and watching YouTube videos about them. In fact, if he were not pursuing mathematics, he would have loved to be a Formula One race car driver.

Dr. Flowers also loves spending time with his dog and cat. Just being with them and hanging out is really nice, and he used to enjoy taking them to the dog park everyday before COVID hit. Most days, he won't go home until he knows he is staying home because he doesn't want to make his pets all excited, only to leave them again. He said "I won't do that to them. I don't do that to them." The exception to this rule is if he really needs something, like milk from the grocery store, in which case he will put them in the car with him and drive to the store. His dog, Sonny, is about eight years old, while his unnamed cat is probably three or four. The cat is unnamed because even though Dr. Flowers thought he was a stray at first, he was so well-behaved and trained (using a litter box "like a pro") that Dr. Flowers believes he ran away from home and thus the cat did not get a new name. Dr. Flowers wasn't planning on keeping the cat, but after the cat followed him home and got along very well with Sonny (even playing together sometimes), they kept him.

Some other interests of his include chess, as well as music from musicians like Thelonious Monk (a famed jazz player) and the recently-deceased guitarist Eddie Van Halen (famed for his double-tapping technique and just being an all-around superb guitarist). He listened to rap as well while an undergrad, as he liked the stories they told, but he doesn't listen to it as much nowadays because he doesn't like the direction it has gone. And although he is not much of a reader, he does like the Xanth book series, which he read as an undergrad. He recalled when he first got interested in the series after a friend recommended it, and he got sucked into it during finals

week. He couldn't study because he was so interested in continuing the books and thought "Dude, I'm gonna fail." Thankfully, that didn't happen.

His advice for students applying to grad schools is to apply to as many as you can – "like 10" – which is the painful part (both in terms of time and money). Also, pick a school where they have what you are interested in, with at least 2 faculty members in that area, in case you don't like what one of them is doing.

After retiring, Dr. Flowers wants to get a new Mustang (an upgrade from his current one), move to a warmer climate with his pets, continue pursuing his hobbies, and maybe do some math every now and then in his spare time. He says he only has two-to-three more years left, so he is excited. We here at PME will be sad to see him go, but we wish him the best and thank him very much for participating in this interview. Learning more about him was a treat!