

Narrator: Welcome to Featured Faculty, a podcast series about Anderson University professors, and their lives both in and out of the classroom.

Maria Neathery: My name is Maria Neathery, and my guest today is Dr. Kimberly Lyle Ippolito, Professor of Biology and Chair of the Department of Biology at Anderson University.

Maria Neathery: Dr. Lyle Ippolito, you've been teaching here at Anderson since 2000, going on 20 years now as we record this. What has your experience here been like over the past two decades?

Dr. Ippolito: Actually, I've had a pretty fabulous experience.

Dr. Ippolito: I came here off of a really horrible divorce. I hated all men everywhere, but I met my future husband here. We got married in 2002. Last year, we celebrated our 15th wedding anniversary by having our wedding blessed in the Catholic church with all our family and friends around. It's been pretty sweet, and that was just on the personal side.

Dr. Ippolito: The professional side has been very good. I've gotten two Nicholson Awards. I got the Outstanding Professor of the Year award two years ago. I think I've enjoyed this place. It's been good to me.

Maria Neathery: That's really great to hear, actually, because I know a lot of students around campus, not even just in the biology department, but other students, like me, who have had you, who have really just enjoyed you a lot.

Dr. Ippolito: I love teaching, and I love my students, and I love my discipline. I think biology is really, really cool. It's very pertinent, so I think people should be excited about it.

Maria Neathery: Definitely. Okay, like we mentioned, you teach in the biology department, and so does your husband, Dr. Dana Ippolito.

Dr. Ippolito: Yes.

Maria Neathery: What's it like being married to one of your faculty colleagues?

Dr. Ippolito: That's a little weird sometimes. When we were dating, we had to go talk to the Dean about getting married. Then, when they made me Chair, I'm officially his boss, so that's a little awkward. People are all time saying, oh, boss at home, boss at work. Not exactly.

Dr. Ippolito: We have different reporting. He has to report to Dr. Wallace, who is the Dean instead of to me, but I can still do the schedules and all that sort of thing.

Dr. Ippolito: I'm glad I get to see him at work. We share a lot. We know the same students, we can talk about those. We can brainstorm, we can dream for the department. We can take a long car ride, and we can talk about what would we like to see in the biology department in five years, and we can spend the whole time just dreaming about that. That's very exciting.

Maria Neathery: What is your favorite part about teaching biology?

Dr. Ippolito: I think my favorite part is working with the seniors on their senior research projects. Then, seeing them accomplish it, understand it, really gain not only knowledge, but skills. Then, when they come with their acceptance letter and say, I got in to this medical school, or this graduate school, then it's all worth it, then it really is fabulous.

Maria Neathery: What is your favorite class, and why?

Dr. Ippolito: I have two favorite classes.

Dr. Ippolito: I like to teach the nursing microbiology class. It's microbes and disease. Nurses are a little uptight. They're very frightened about having to get certain averages. It's a stressful program. They work so hard, and microbiology is not rocket science. There's a lot of memorization, but the concepts aren't real difficult to understand. So, they do well. I like to give them a boost to their self confidence. You can do this! I enjoy that, because I enjoy seeing them succeed.

Dr. Ippolito: The class I probably like to teach the most is molecular genetics. That's because there is no requirement for content in that class. It's not like they're going to see this information on the MCATs or the GREs, or nursing students NCLEX. I don't have to cover a certain content.

Maria Neathery: What is CRISPR?

Dr. Ippolito: CRISPR is a technique for modifying editing, if you will, genomes.

Dr. Ippolito: I gave a talk on it in the science and engineering lecture a couple of years ago because I thought it was scary. As we can see, as of last November, some fears that I talked about in that lecture have come true.

Dr. Ippolito: CRISPR stands for clusters of regularly interspersed short palindromic repeats, which is more than you need to know. It's the acronym, CRISPR, is really was discovered as an immune system in bacteria. It was a way that bacteria could remember and protect themselves against viruses.

Dr. Ippolito: What it does is, it remembers a specific sequence, a viral sequence, and when it sees that sequence another time, a second time, it has a nuclear, something that chops up DNA, that goes in there and cuts up that sequence. What researchers did, the discoverers, found that they could tell it what sequences to cut, and in that way, remove specific sequences from any genome they wanted. They could inactivate a gene just by telling the CRISPR, this is the sequence I want you to go find and destroy.

Dr. Ippolito: Basically, we can use CRISPR to edit, replace, destroy any gene that we want in any organism. I think the world knows that in November of last year, a researcher from China used this on embryos, human embryos, and then implanted them into a woman. She had twin baby girls. He knocked out the co receptor for HIV. He destroyed the co receptor for

HIV, with the idea that these girls would now be resistant to HIV, they could never be infected.

Dr. Ippolito: He has gotten a lot of condemnation, condemnation from the scientific community. He's been fired from the university he worked at in China. Governments, regulatory agencies have all come out against what he's done.

Dr. Ippolito: These two little girls are going to be genetically modified as experimental guinea pigs for the rest of their lives. My fears that I talked about in the lecture, that we could edit the human embryo, edit the human genome, it's been done now.

Maria Neathery: Wow. What are the ethical questions about this topic, and about what this man did?

Dr. Ippolito: I'm Catholic, and very strongly pro life, and so part of this is just, human embryos should be respected. They bear the human species. They're human.

Dr. Ippolito: We can argue about whether they have the image of God before they implant, whatever. I would rather air on the side that when an egg and a sperm come together and form an embryo, that is potentially a baby and should be respected.

Dr. Ippolito: Even the thought of growing that in dishes in the lab, then killing them for experiments, I just don't think I can accept that. Taking it further ... I think this is similar to what Dr. Mengele did, with children during World War Two in the concentration camps, and the Nazi death camps. We're experimenting with lives.

Dr. Ippolito: All humans, whether you're physically able to talk and protect yourself or whatever, even if you're just a couple of cells, they have the right to go how God intended them, which is to develop into whatever it is God had in mind for them.

Maria Neathery: Jumping back to your time here at AU, and teaching biology, how would you say you've incorporated your faith and beliefs into biology and science?

Dr. Ippolito: Actually, that's one of the reasons I came here. I enjoy having students over. The molecular class, I will have them over four times this semester. We will do our test reviews at my house, after we've all had dinner. I think that part of relationship is one of the value added parts you get at AU. I know my students. They have my cell phone number. If there's a problem in the lab, they can text me, and they do.

Dr. Ippolito: As far as the faith goes, I'm a good scientist, and I enjoy teaching, but I think, more importantly, I love females. I love girls. I want them to know that God loves them. I think that's really critical. It may be more critical than getting a Bachelor's degree in biology, and getting into medical school.

Dr. Ippolito: If the females in the sciences can know, beyond a shadow of a doubt, that they are worth something not tied to their grades, not tied to what they look like, not tied to any behavior. If they know that in God's eyes, they're loved, and there's nothing they can do to make Him love them any more, and there's nothing they can do to make Him love them any less, then I will have succeeded. I did not have that. I had a very low period after my divorce in which I felt totally worthless. It's taken a while to build that back up.

Dr. Ippolito: Even if the students here don't get it here, maybe when they get in that situation where they need it, my voice will come back. They'll hear, Dr. Lyle said, God loves me. To me, that's one of the wonderful reasons I work here.

Maria Neathery: Wrapping this up with a lighthearted question, what do you work toward in your free time?

Dr. Ippolito: Oh, I bake. I am a bread baker. I like to bake cakes for people, and bake bread for people.

Maria Neathery: Do you bring them to classes?

Dr. Ippolito: Sometimes I do bring them to classes, yes. I really love to cook. Sometimes I think when I retire, I will go into cooking. Maybe work in bakery? I don't know.

Maria Neathery: I could see you doing that.

Dr. Ippolito: I'm a grandmother. Grandmothers should bake. I think that's part of being a grandmother. My grandmothers baked. So, I'm following in their footsteps.

Maria Neathery: Oh my goodness. Thank you so much for coming and joining me today, I really appreciate it.

Dr. Ippolito: Thank you, Maria.

Narrator: This podcast is a production of The Andersonian, the student newspaper of Anderson University. For more in this series of faculty interview, please visit andersonian.com.