#IamPhysSci - Jennifer Pi, Ph.D., Mathematics

Pi likes to play with “toys” to solve vexing math problems.

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Perhaps the thing Pi loved most about her years at UCI was getting to work on various problems with friends and colleagues in the Department of Mathematics.

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Lucas Van Wyk Joel / UCI

Jennifer Pi likes to play with toys – just not the kinds of toys you might first imagine. As a theoretical mathematician and Ph.D. student working under Professor Isaac Goldbring in the UC Irvine Department of Mathematics, Pi finds joy in tinkering with math problems using abstract, invisible tools. “It’s like when you’re a little kid and you get the kids’ menu at the restaurant and you draw on it with crayons,” said Pi of what it’s like for her to tackle a new math problem.

And the best part for Pi is that she gets to work on problems with other people in the department, like her advisor and fellow graduate students. “You both have some kind of idea where you’d like things to go, and you know how to get there, and sometimes your friend shows up and they’re like, ‘Ah! I noticed this really cool thing!”

For Pi, doing math with others in such a collaborative way feels like musicians coming together to play a song – only the musicians are busy getting to the bottom of existential-sounding questions like “When are two things that look different actually the same thing? It’s like how a string pulled straight is the same thing as a string with a loop in the middle,” said Pi, who, when she isn’t busy with her doctoral research, can be found watching horror movies or trying out different soup recipes.

“My work combines a lot of very different areas of math. People always think of the branches of math as separate, like algebra and calculus, but in this field, you do a lot of everything, and I like to get to play around with all the options.” Come August, Pi plans to try out different mathematical toys once she starts as a postdoctoral fellow at Oxford University in the U.K.

“I just like to play,” Pi said.

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