

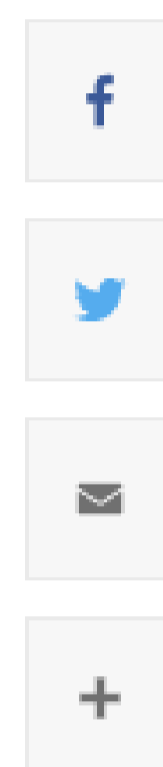
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Klarman fellow blends physics and math to explore string theory

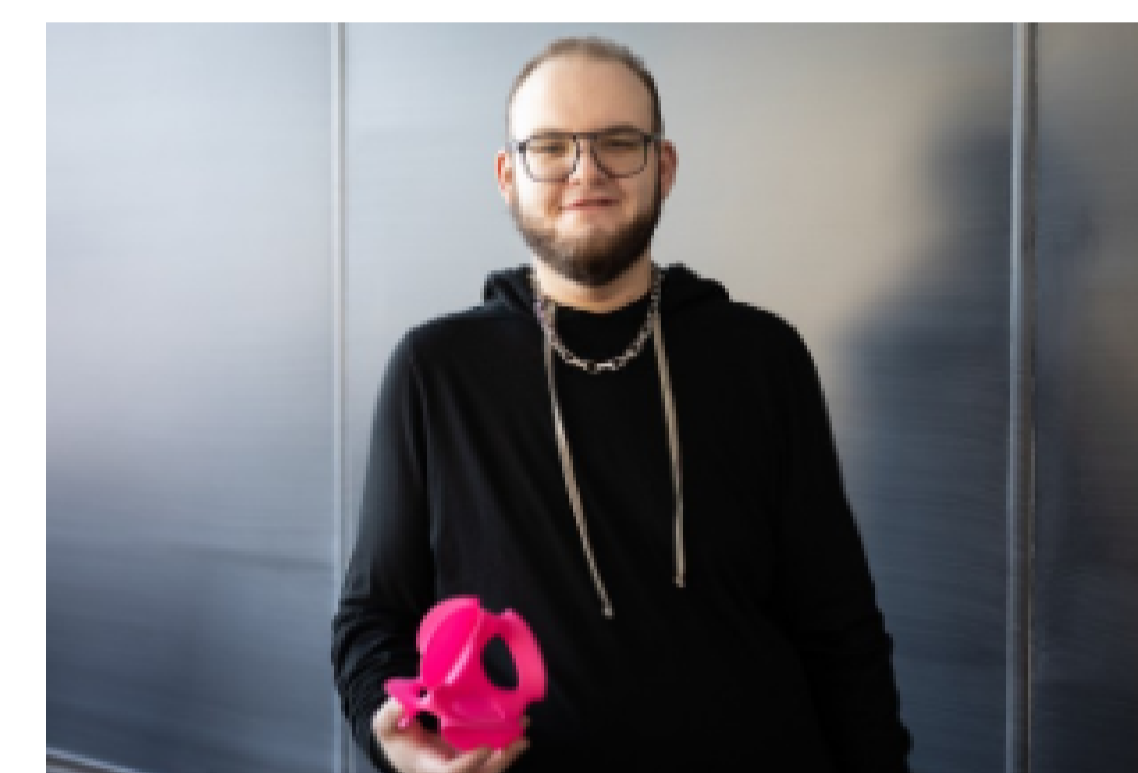
By [Kate Blackwood](#)

March 14, 2022



What does a six-dimensional figure look like? Theoretical physicist Richard Nally can't show you exactly, but he does have a sculpture – a pink shape the size of a grapefruit – that can help you imagine a piece of one.

“It’s called a K3 surface,” said Nally, a [Klarman Fellow](#) in physics in the College of Arts and Sciences (A&S). “Of course, we can’t make sculptures of things that live in six dimensions, but you can take little slices of them to see what they look like. This is a slice of a four-dimensional shape that is really important to the history and practice of string theory.”



Chris Kitchen

Richard Nally

Researchers have known about the shapes in string theory for decades, Nally said. But in the past few years, he and others have started to take the shapes seriously as number theoretic objects and to study them in that framework. Nally will spend his three-year Klarman Postdoctoral Fellowship seeking to understand the mathematical structures at the root of gravity and quantum mechanics.

“We want to find a nice shape that lets us keep the solution to quantum gravity, while getting the features – such as an expanding universe and only having four dimensions – that we see in the world around us,” he said.

[Read the full story on the College of Arts and Sciences website.](#)

Physical Sciences & Engineering

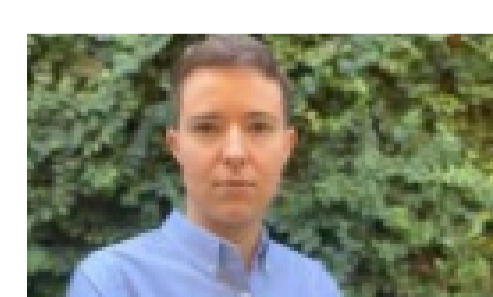
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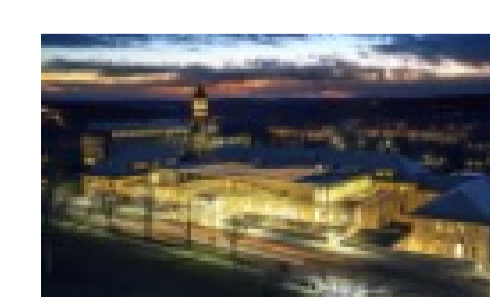
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