

Attention Junior (and other underclass) Math Majors!

Information Session about the Senior Writing Requirement in Mathematics

On **Thursday, March 4** at **1:20-2:15pm**, the math department will be holding an informal Zoom forum on how to satisfy the Senior Writing Requirement (WS) in the math department. There will be a panel of math faculty and students who have experience with senior theses and/or the senior writing seminar (MTH-487). Come hear about some of the exciting thesis topics that will be offered next year, and also what the writing seminar is all about. This could help you decide how you would like to satisfy the WS requirement. And, plenty of time will be reserved for a Question-and-Answer period. For the Zoom link, please send an email to mathchair@union.edu

The Importance of Conferences: Union Math Conference Helps Make Connections, Start a New Field of Mathematics

While we are adjusting to learning and sharing mathematics online, and recognizing there are some advantages to this relatively new modality, it is hard to replace good old face-to-face learning encounters. This is highlighted in recent article in Quanta Magazine with a beautiful anecdote from a world-renowned mathematician about his profoundly memorable experience at a math conference held almost 30 years ago ... at Union College! The opening paragraphs of this article are below. Click [here](#) for the full article.

*Joseph Silverman remembers when he began connecting the dots that would ultimately lead to a new branch of mathematics: April 25, 1992, at a conference at **Union College in Schenectady, New York.***

It happened by accident while he was at a talk by the decorated mathematician John Milnor. Milnor's subject was a field called complex dynamics, which Silverman knew little about. But as Milnor introduced some basic ideas, Silverman started to see a striking resemblance to the field of number theory where he was an expert.

"If you just change a couple of the words, there's an analogous sort of problem," he remembers thinking to himself.

Silverman, a mathematician at Brown University, left the room inspired. He asked Milnor some follow-up questions over breakfast the next day and then set to work pursuing the analogy. His goal was to create a dictionary that would translate between dynamical systems and number theory.

At first glance, the two look like unrelated branches of mathematics. But Silverman recognized that they complement each other in a particular way. While number theory looks for patterns in sequences of numbers, dynamical systems actually produce sequences of numbers — like the sequence that defines a planet's position in space at regular intervals of time. The two merge when mathematicians look for number-theoretic patterns hidden in those sequences.

In the decades since Silverman attended Milnor's talk, mathematicians have dramatically expanded the connections between the two branches of math and built the foundations of an entirely new field: arithmetic dynamics.

Mark your Calendar: Undergraduate Math Conference, HRUMC – April 10

This year's Hudson River Undergraduate Mathematics Conference (HRUMC) is scheduled for **Saturday, April 10**. Due to ongoing COVID-19 restrictions, the conference will be held virtually over Zoom. Stay tuned to this newsletter for more announcements as conference day approaches

Math Club: Next meeting – Thursday, March 4 at 5:30 via Zoom.

Email club president, Lily Dong (dongl@union.edu) for the Zoom link and to get on the mailing list.