

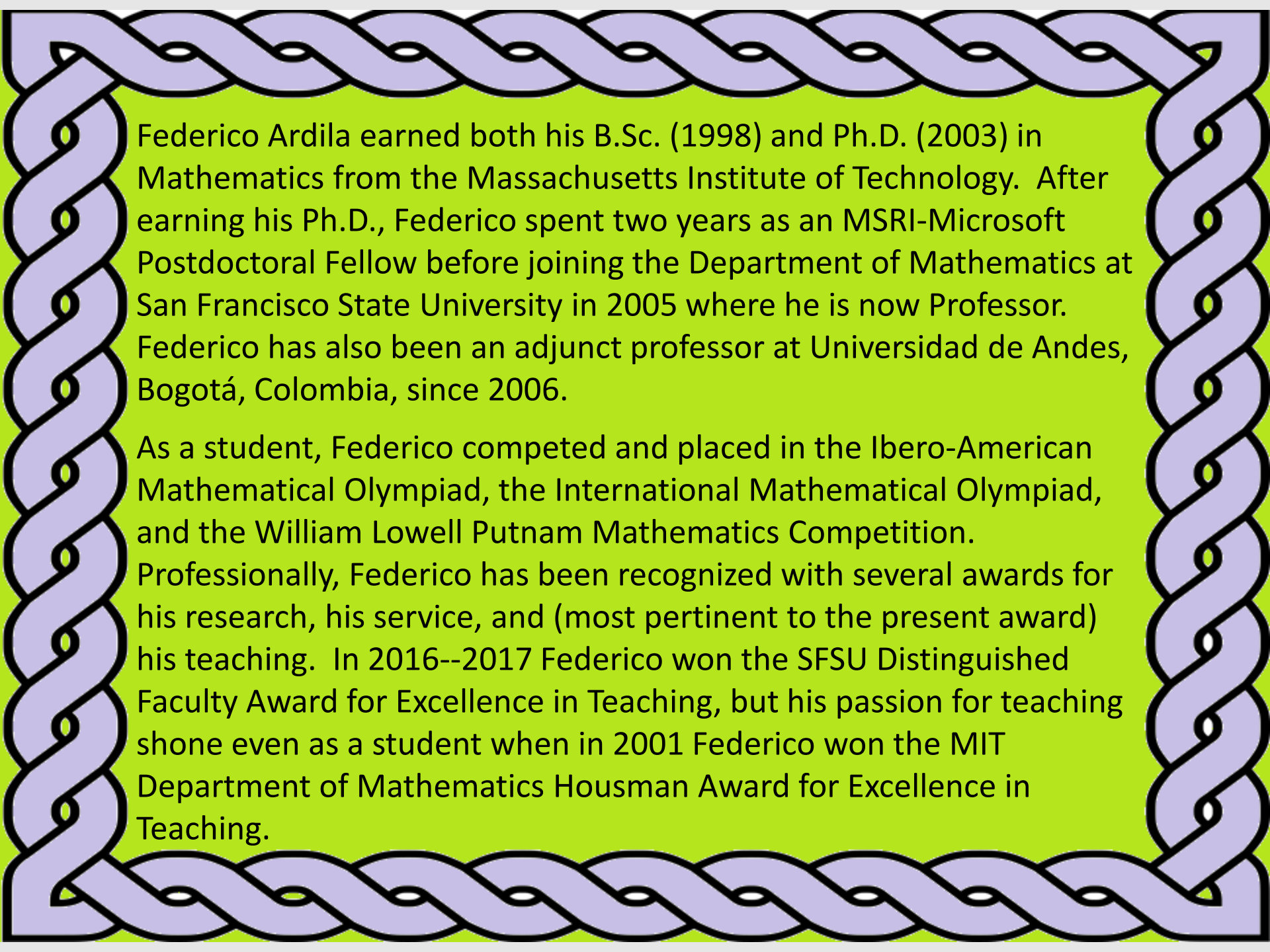


FEBRUARY 23, 2019

AMERICAN INSTITUTE OF MATHEMATICS

“Federico is an exceptional and inspiring teacher and mentor, a prolific scholar, a tireless contributor to the international mathematical community, and a leader in the movement to deepen diversity in research mathematics.”

That was the opening statement in Federico Ardila's nomination for the Section Award for Distinguished College or University Teaching of Mathematics. (Most of this citation, including that sentence, is quoted directly from students' and colleagues' testimonials.)



Federico Ardila earned both his B.Sc. (1998) and Ph.D. (2003) in Mathematics from the Massachusetts Institute of Technology. After earning his Ph.D., Federico spent two years as an MSRI-Microsoft Postdoctoral Fellow before joining the Department of Mathematics at San Francisco State University in 2005 where he is now Professor. Federico has also been an adjunct professor at Universidad de Andes, Bogotá, Colombia, since 2006.

As a student, Federico competed and placed in the Ibero-American Mathematical Olympiad, the International Mathematical Olympiad, and the William Lowell Putnam Mathematics Competition. Professionally, Federico has been recognized with several awards for his research, his service, and (most pertinent to the present award) his teaching. In 2016--2017 Federico won the SFSU Distinguished Faculty Award for Excellence in Teaching, but his passion for teaching shone even as a student when in 2001 Federico won the MIT Department of Mathematics Housman Award for Excellence in Teaching.

Of his many publications, Federico has co-authored at least 13 papers with more than 12 of his students, most of whom were undergraduate or master's students at the time the research was carried out. He is also one of five co-directors of the MSRI Undergraduate Program (MSRI-UP). The emphasis of this program is to help encourage talented students from underrepresented groups to pursue graduate education in mathematics, and indeed it has become a transformational program for diversifying the mathematics profession. In addition to the keen insights he has brought to MSRI-UP, Federico has also worked closely with its teaching assistants and postdocs, mentoring them towards successful completion of their degrees as well as to prestigious academic positions. For example, Anastasia Chavez, who was Federico's graduate student at SFSU and UC Berkeley, served as an MSRI-UP postdoc in 2017 and is now a President's postdoc at UC Davis and also earned an NSF postdoctoral fellowship.

GOLDEN SECTION $\varphi = \frac{1+\sqrt{5}}{2}$ of the MAA

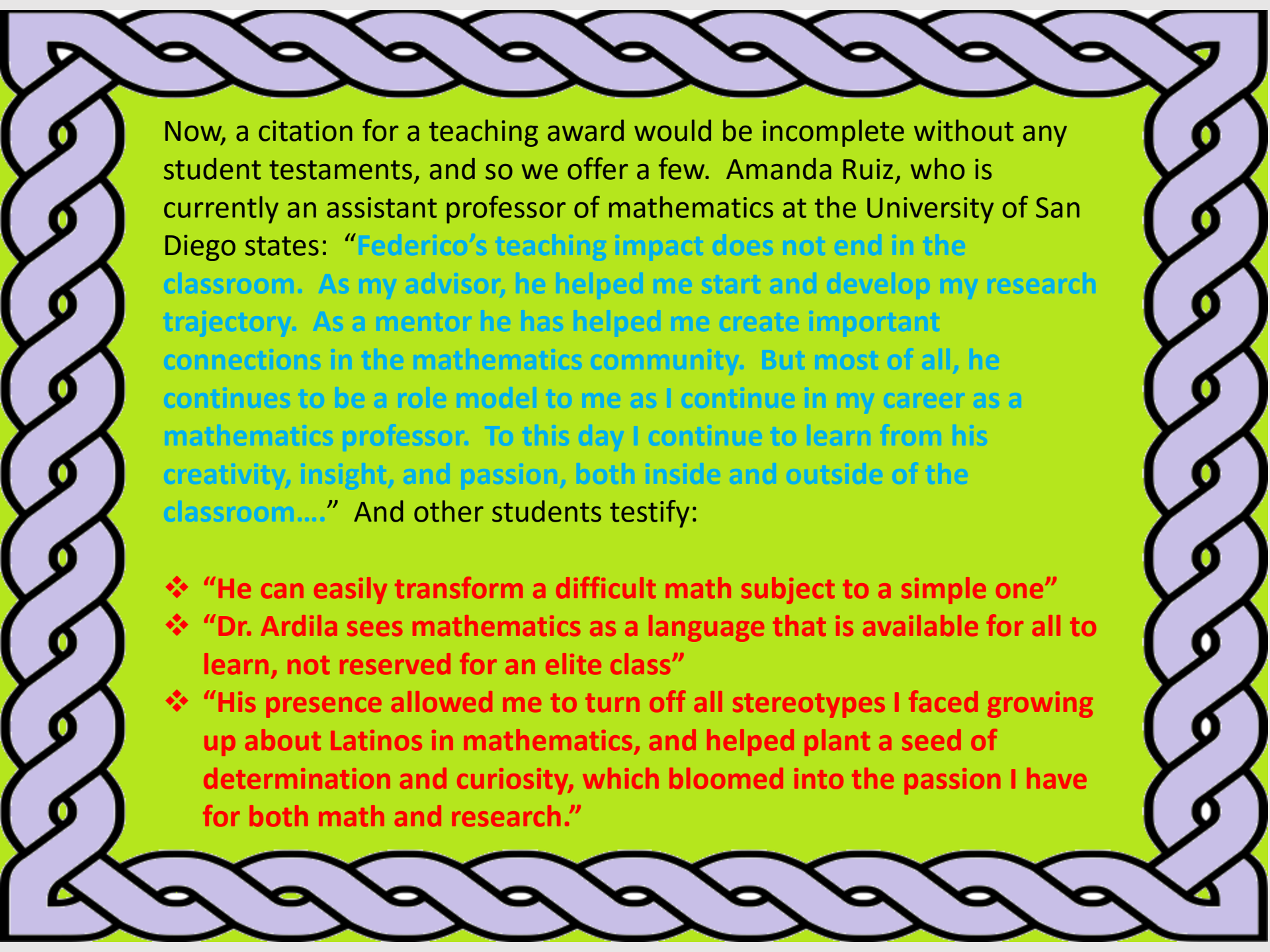
Perhaps one of Federico's most fascinating enterprises has been his SFSU-Colombia Combinatorics Initiative. As part of this initiative, Federico developed several new courses and teaches them jointly between SFSU and Universidad de Los Andes, Bogotá, through a video conference system. The students in both locations not only discuss homework and course material together, but they also collaborate on original research projects. In fact, to date, more than 200 students have officially enrolled in the courses that have been offered through this initiative, and approximately 50 of them have pursued Ph.D.s in the mathematical sciences.

*The mediocre teacher tells.
The good teacher explains.
The superior teacher demonstrates.
The great teacher inspires.*

- William Arthur Ward



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Now, a citation for a teaching award would be incomplete without any student testimonials, and so we offer a few. Amanda Ruiz, who is currently an assistant professor of mathematics at the University of San Diego states: **“Federico’s teaching impact does not end in the classroom. As my advisor, he helped me start and develop my research trajectory. As a mentor he has helped me create important connections in the mathematics community. But most of all, he continues to be a role model to me as I continue in my career as a mathematics professor. To this day I continue to learn from his creativity, insight, and passion, both inside and outside of the classroom....”** And other students testify:

- ❖ **“He can easily transform a difficult math subject to a simple one”**
- ❖ **“Dr. Ardila sees mathematics as a language that is available for all to learn, not reserved for an elite class”**
- ❖ **“His presence allowed me to turn off all stereotypes I faced growing up about Latinos in mathematics, and helped plant a seed of determination and curiosity, which bloomed into the passion I have for both math and research.”**

Finally, if you want to experience Federico's magic for yourself, we invite you look for him on YouTube. He even has his own channel with 1,462 subscribers and hundreds of thousands of total views, including viewers from 155 countries!

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We are proud to present this year's Section Award for Distinguished College or University Teaching of Mathematics to Federico Ardila, an extraordinarily effective and inspiring teacher.