



The Math/Stats Colloquium  
Department of Mathematics and Statistics  
San José State University



## Ornella Mattei

San Francisco State Univ.

*The mathematics of rainbows*

WED OCT 12, 2022, MH320

**Abstract:** Are rainbows bridges to heaven? Or bows to shoot arrows of lightning? Is there really a pot of gold at the rainbow's end? "Where does the rainbow end, in your soul or on the horizon?" (Pablo Neruda).

In this talk we will try to address some of these questions about the nature of rainbows by using a mathematical approach. Specifically, we will prove why a rainbow appears at an angle of about 42 degrees with respect to the horizon. Come prepared for engagement and surprise!

*Background:* We will use some tools from geometric optics for which the prerequisites are trigonometry and some basic calculus.

**About the speaker:** Ornella Mattei is an Assistant Professor in the Department of Mathematics at San Francisco State University. She has broad interests in the Mathematics of Materials Science, with special emphasis on electromagnetics and composites.

SNACKS SERVED OUTSIDE BETWEEN MACQUARRIE HALL AND  
SWEENEY HALL AT 2:30PM (WEATHER PERMITTING)  
TALK STARTS AT 3:00PM

For more information, see our full schedule at:

<http://www.timhsu.net/colloq/>