

**The Mathematics Research Center
Beatrice Yormark Distinguished Lecture Series Presents:**



**Professor Gigliola Staffilani
Massachusetts Institute of Technology**

Thursday, January 23rd, 2025, 4:30-5:30 pm – Room 380Y

**Please note there will be a Special Tea preceding this lecture:
3:30 – 4:30 pm, 4th Floor Lounge**

Title: What do I see from my corner of wave turbulence theory?

Abstract: Wave turbulence theory is a vast subject and its goal is to formulate for us a multiscale picture of wave interactions.

Phenomena involving interactions of waves happen at different scales and in different media: from gravitational waves to the waves on the surface of the ocean, from our milk and coffee in the morning to infinitesimal particles that behave like wave packets in quantum physics.

These phenomena are difficult to study in a rigorous mathematical manner, but because of this challenge, mathematicians have developed interdisciplinary approaches that are powerful and beautiful.

I will describe some of these approaches and I will outline along the way questions that remain open in spite of the great progress already made.