

Applied Math Seminar

THE UNIVERSIDAD NACIONAL DE COLOMBIA-MANIZALES and THE CLAREMONT CENTER FOR THE MATHEMATICAL SCIENCES invite you to join us to our weekly seminar on applied mathematics during the first semester of 2024.

Speaker: Ami Radunskaya

Lingurn H. Burkhead Professor of Mathematics

Pomona College

Date: March 25 th 2024

Time in California: 4:15 pm

Time in Colombia: 6:15 pm

CAN A FUNCTION TELL US HOW IMMUNE CELLS KILL?

Abstract

The immune system is able to fight cancer by mustering and training an army of effector “killer” cells. Mathematical models of tumor-immune interactions must describe the proliferation, recruiting and killing rates of immune cells. Earlier work surprisingly showed that the functions describing the kill rates distinguish between two types of immune cells. The mechanisms behind these differences have been a mystery, however. In an attempt to unravel this mystery, we have created a cell-based fixed-lattice model that simulates immune cell and tumor cell interaction involving tumor recognition and two killing mechanisms. These mechanisms play a big role in the effectiveness of many cancer immunotherapies. Results from model simulations, along with theories developed by ecologists, can help to illuminate which mechanisms are at work in different conditions.

VENUE:

- ▶ Emmy Noether Room, Estella 1021, Pomona College 610 N. College Ave. Claremont, CA 91711 United States
- ▶ Zoom: <https://pomonacollege.zoom.us/my/radzoom>

ORGANIZERS:

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Minciencias



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