

Stanford



Nicole M. Martinez

Assistant Professor of Chemical and Systems Biology and of Developmental Biology

Bio

ACADEMIC APPOINTMENTS

- Assistant Professor, Chemical and Systems Biology
- Assistant Professor, Developmental Biology
- Institute Scholar, Sarafan ChEM-H

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our lab is broadly interested in RNA-based mechanisms of gene regulation. Precise control of gene expression at the level of messenger RNA processing is necessary for organismal development, required for response to environmental cues and its dysregulation is the basis of many diseases. We are keen to uncover mechanisms that control alternative mRNA processing and their downstream consequences on gene expression and cell physiology. Eukaryotic mRNA are extensively modified with non-canonical bases that have the potential to regulate pre-mRNA processing steps such as splicing and 3' end processing. Dysregulation of RNA-modifying enzymes cause a wide range of human diseases, underscoring the need to elucidate this exciting new layer of gene regulation. Our current research studies mechanisms and functions of RNA modifications in pre-mRNA processing and their roles in development and disease through a combination of molecular biology, biochemistry, genomics, genetics, and systems biology.

Teaching

COURSES

2023-24

- Research Seminar: CSB 270 (Aut, Win, Spr)

2022-23

- Research Seminar: CSB 270 (Aut, Win, Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Usman Enam, Egan Peltan, Abby Thurm, Eric Wong

Postdoctoral Faculty Sponsor

Matias Montes Serey

Doctoral Dissertation Advisor (AC)

Janie Kim, Nicolas Robalin, Becca Rodell, Wendy Trieu