SCHOOL OF NATURAL SCIENCES

SEMINAR SERIES

Tracing the Cellular Origins of Germline Formation and Regeneration in the Annelid *Platynereis dumerilii*

Germ cells (reproductive cells and their progenitors) give rise to the next generation in sexually reproducing organisms. The loss or removal of germ cells lead to sterility in model organisms such as the fruit fly, nematodes, and mouse. The failure to regenerate germ cells in these organisms reinforced the dogma of germline-soma barrier in which germ cells are set-aside during embryogenesis and cannot be replaced by somatic cells. However, in stark contrast, many animals including segmented worms, hydra, planaria, sea stars, and tunicates can regenerate germ cells. Although germ cell regeneration is widespread, cellular sources that participate in germ cell regeneration and molecular mechanisms underlying this ability remain poorly understood. We study germ cell regeneration in a highly regenerative group of animals called segmented worms (annelids). Adult annelids regenerate germ cells while regenerating their body axis, and after ablation of germ cell progenitors in the embryos. This talk will particularly focus on our studies with the marine annelid *Platynereis dumerilii* using live imaging, transgenics, and molecular approaches to understand the cellular origins of the germ cells during normal development and regeneration.

Tuesday, 5/11/2021	**9:15am - 10:15am**	**To Zoom in, please use this link: https://ucmerced.zoom.us/j/81200209754**	For more information, contact: Professor Mike Cleary at mcleary4@ucmerced.edu

B. Duygu Özpolat

Department of Eugene Bell Center for Regenerative Biology and Tissue Engineering
Marine Biological Laboratory

B. Duygu Özpolat (Duygu is pronounced “do-ee-goo”) is a developmental cell biologist and a Hibbitt Fellow at the Marine Biological Laboratory in Woods Hole, MA. Özpolat earned her Ph.D. in Cell and Molecular Biology from Tulane University in New Orleans, and her B.Sc. in Biology from Middle East Technical University in Ankara, Turkey. Her lab studies germline development and regeneration in segmented worms. More information on Özpolat’s work and publications can be found at http://www.ozpolatlab.org.