

BCH 252 Seminar Series



**Dr. Irene Chiolo, Associate Professor,
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Seminar Title:

“Highways for heterochromatin repair”

Abstract: Pericentromeric heterochromatin occupies ~30% of fly and human genome, and mostly comprises repeated DNA sequences prone to aberrant recombination. In *Drosophila* cells, ‘safe’ homologous recombination repair of heterochromatic double strand breaks relies on a specialized pathway that relocalizes repair sites to the nuclear periphery before strand invasion. We will discuss our recent discoveries on the molecular mechanisms involved in this pathway, including: i) the role of striking nuclear actin filaments in the directed motion of heterochromatic repair sites to the nuclear periphery; ii) the importance of silencing and transcription in early and late steps of heterochromatin repair; and iii) the unexpected role of nucleoporins ‘off-pore’ in relocalization of repair sites through phase separation. Defects in this pathway result in heterochromatin repair defects and widespread genomic instability, revealing novel components required for genome integrity and cancer suppression.

Tuesday, April 4th, 2023 | 12:00 p.m. - 12:50 p.m. PST

ZOOM Link: <https://ucr.zoom.us/j/92569273073>

Meeting ID: 925 6927 3073

Passcode: 689525

Host: Dr. Maria Ninova