WINTER SEMESTER 2023/2024

RTG 2756 CYTAC SEMINAR SERIES

TUESDAY, FEBRUARY 20
17:15 IN HS5

CYTAC
RTG 2756

PROF. DR. MOHAN BALASUBRAMANIAN

University of Warwick

RECONSTITUTING AND POWERING CYTOKINESIS

Two trillion cells divide every day in the human body, each one requiring a force-generating contractile actomyosin ring. CAR-based cytokinesis occurs widely in metazoans, fungi, and amoeba. The CAR assembles between segregated chromosomes and its constriction actuates division of one cell into two. The CAR is a highly dynamic device, with its core built from ~250,000 protein molecules (~100 different proteins), assembled precisely before cytokinesis and disassembled concomitantly with CAR constriction. In my talk, I will discuss the questions of what powers cell division, how the CAR contributes to force generation, and how CAR constriction drives PM ingression and division septum assembly. I will also discuss competing models for cytokinetic force generation.