

The background of the entire page is a composite of three fluorescence microscopy images of HeLa cells. The left panel shows green fluorescence (GFP) distributed throughout the cells. The middle panel shows red fluorescence (antibody-labeled endoplasmic reticulum) with a similar distribution. The right panel shows the merged image, where the green and red signals overlap, highlighting the localization of the GFP relative to the endoplasmic reticulum.

GRADUATE STUDIES in
BIOLOGICAL SCIENCES

MICROBIOLOGY, IMMUNOLOGY, and INFECTIOUS DISEASES

PURDUE
UNIVERSITY

www.bio.purdue.edu

Image: GFP (green fluorescent protein) expressing HeLa (human epithelial) cells immuno-fluorescently labeled with antibody to detect the endoplasmic reticulum (red); courtesy of Mattoo lab.

The **Microbiology, Immunology, and Infectious Disease Research Area**

conducts innovative basic research in the areas of cellular and molecular mechanisms of infectious disease, as well as the immune response and microbe-host interaction. We seek to understand the biology of microbial signaling systems, exploitation of host cell functions by pathogenic organisms, and mechanisms of protective host immune responses to infections.

The model microorganisms used in our research are important pathogenic agents of humans, animals and plants. Examples include Legionella, Salmonella, E. coli, Agrobacterium, herpesviruses, togaviruses, and flaviviruses.

The group fosters high quality scholarship and provides interdisciplinary undergraduate, predoctoral, and postdoctoral trainings in cellular and molecular mechanisms of infectious diseases and other aspects of microbiology, with numerous collaborative opportunities across the Colleges of Science, Veterinary Medicine, and Agriculture.

Our on-campus involvement includes a variety of centers, such as the Purdue Institute of Inflammation, Immunology, and Infectious Disease (PI4D), the Bindley Bioscience Center, Markey Center for Structural Biology, the Genomics Center and the Energy Center, and with faculty from across campus involved in the Purdue University Life Science (PULSE) graduate program.

Our research is supported by grants from the NIH, the NSF, and other extramural and intramural funding agencies.

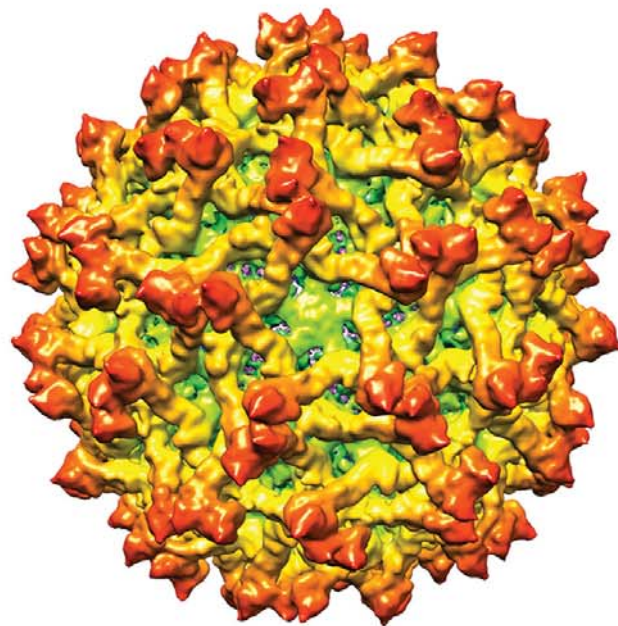


Image: Immature Zika virus structure composite; courtesy of Kuhn and Rossmann labs.