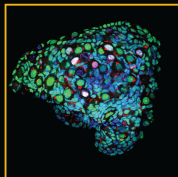




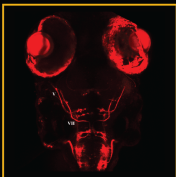
ADVANCED LIGHT MICROSCOPY CORE IMAGE CONTEST 2025

1 Confocal



Dr Edgar Diaz Miranda, Postdoc, Dr Lei Lei's lab
Dept. of OB/GYN & Women's Health
Confocal micrograph of mouse primary oocytes at the primordial follicle stage. Chemotherapy disrupts the Balbiani body (red), leading to overexpression (green-to-blue) and apoptosis (magenta).

2 Confocal



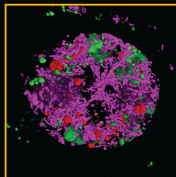
Vimal Arora, Graduate Student, Dr Anand Chandrasekhar's lab
Div. of Biological Sciences
Confocal micrograph of the hindbrain of a 7-day-old zebrafish larva expressing membrane-targeted RFP in the cell bodies and axonal projections of trigeminal (V) and branchiomotor (VII) neurons, driven by the secret promoter.

3 Thunder Stereomicroscope



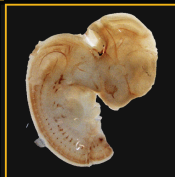
Dr. Soyon Park, Assistant Professor
Div. of Plant Science and Technology
Micrograph of a heterocystic, parasitic plant, 355R/19. Cuscuta campestris (red), growing on a host plant leaf (green). The prong-like structures are parasitic haustoria lacking contact with a host.

4 Confocal & 3D Render



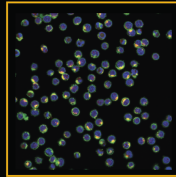
Domitrisa Gendis, Graduate Student, Dr. Roman Ganta's lab
Dept. of Veterinary Pathobiology
3D rendering of confocal micrographs of *E. coli* (chaperonin (red), an obligate bacterial pathogen that secretes effector proteins, such as ETP-2GFP (green), into a host cell cytoplasm. Mitochondria (magenta) are marked with MitoTracker.

5 Thunder Stereomicroscope



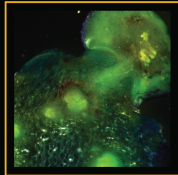
Dr Mihya Nair, Postdoc, Drs. Chris & Monique Lomon's lab
Dept. of Veterinary Pathobiology
Illustrating the latest of the Micrograph of a whole-mount mouse embryo stained to reveal the intricate network of nerves shaping its future.

6 Confocal



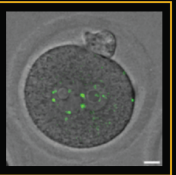
Joshua Shelton, Graduate Student, Dr. Bret Uerry's lab
Dept. of Chemical and Biomedical Engineering & Dept. of Medicine
Confocal micrograph of B-lymphocyte leukemia, which are single-stranded nucleic acid molecules (red) that bind and internalize into Burkitt lymphoma (B-lymphocyte) cells immunostained to mark the cell nucleus (blue) and cell membrane (green).

7 Thunder Stereomicroscope



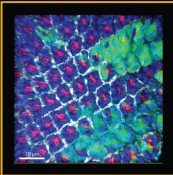
Lydia Phillips, Undergraduate, Dr. Soyon Park's lab
Dept. of Plant Science and Technology
"Squidward" Micrograph of a plant parasite, Cuscuta campestris, that male parasitic plants in both autotrophic and heterotrophic host and parasite. Sample stained with Toluidine blue to differentiate host and parasite.

8 Confocal, Brightfield & Multiphoton



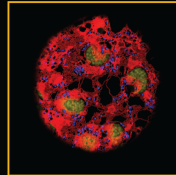
Kate Leary, Graduate Student, Dr. Ahmed Balboul's lab
Div. of Biological Sciences
Confocal micrograph of a live murine embryo at the one cell stage. The male pronucleus (red) on the left and the female on the right. A centrosomal protein, CEP192-eGFP, labels microtubule organizing centers (MTOCs, green). Using a multiphoton laser, MTOCs were ablated, followed by time-lapse imaging.

9 Confocal, & 3D Render



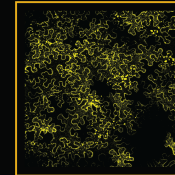
Mar Quezada Pastor, Graduate Student, Dr. Yee Chabai's lab
Div. of Biological Sciences
3D rendering of confocal micrographs of mosaic tissue within a developing embryo. Cells that lack the cell adhesion molecule Neuglia are labeled in green. Neuglia (red) and Cuscuta (cyan) are immunostained.

10 Confocal



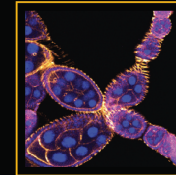
Dr Varun Dewvedi, Postdoc, Dr. Craig Schoch's lab
Dept. of Botany
Confocal micrograph of an Arabidopsis protoplast expressing tomato RedCherry2-eGFP. Confocal micrograph of the endoplasmic reticulum (red) and chloroplasts (yellow).

11 Confocal



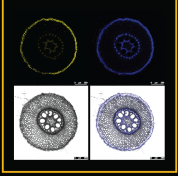
Dr Shin-Ichi Agaki, Visiting Scholar, Dr Gary Stacey Lab's
Div. of Plant Science and Technology
"Galaxy of Receptor Kinase Protein" Confocal micrograph illustrating protein-protein interactions on the plasma membrane and cytosolic domains in *Nicotiana benthamiana* using the bimolecular fluorescence complementation system. Green: GFP-RFP and GFP-RFP-eYFP are overexpressed.

12 Confocal



Sahel Ghazvini-Zadeh, Graduate Student, A. Eljaili, Elfrapoulos, Undergraduate, Dr. Dan Bergshteyn & Dr. Tara Fawcett's Lab's
Div. of Biological Sciences
Confocal micrograph of a *Drosophila melanogaster* fruit fly ovary showing different stages of egg chamber development. Immunostaining of DNA (blue), F-actin (orange) and a protein of interest (magenta).

13 Vibratome, Brightfield & Confocal



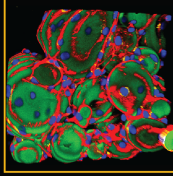
Dr Priya Voththakura, Research Scientist
Div. of Plant Science and Technology
Micrographs of a transverse section 105 µm of a maize root nodal growth under water deficit. The suberin layer (yellow) acts as a water-proofing layer protecting the root from losing water and enabling maintenance of growth. Counter-staining with uridine blue quenches autofluorescence of cell walls.

14 Confocal



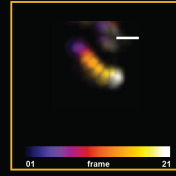
Evan Ooi, Graduate Student, Dr. Dan Bergshteyn & Dr. Tara Fawcett's lab
Div. of Biological Sciences
Confocal micrograph of the ovary of a *Drosophila melanogaster* fruit fly immunostained for F-actin (yellow), the protein of interest, as well as F-actin (magenta), and DNA (cyan).

15 Confocal & 3D Render



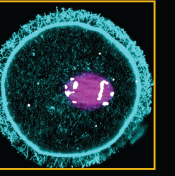
Yingqi Li, Graduate Student, Dr. Xiaohua Liu's
Department of Chemical and Biomedical Engineering
"3D GaMD Microsphere Networks" 3D rendering of confocal micrographs of 3D GaMD Microsphere Networks. 3D rendering of confocal micrographs of 3D GaMD Microsphere Networks. 3D rendering of confocal micrographs of 3D GaMD Microsphere Networks. 3D rendering of confocal micrographs of 3D GaMD Microsphere Networks.

16 Spinning disk confocal & super-resolution



Dr Dan Bergshteyn, Associate Professor
Div. of Biological Sciences
Spinning disk confocal micrograph of a single molecule of the microtubule and binding protein EB1-GFP in cultured *Drosophila melanogaster* S2 cells over a time course. Image is an overlay of the molecules of EB1 over time (the LUT), illustrating its movement. Scale bar = 1 µm.

17 Confocal



Edgar Soto-Moreno, Graduate Student, Dr. Ahmed Balboul's lab
Div. of Biological Sciences
Confocal micrograph of a mouse oocyte immunostained for F-actin (cyan), microtubules (magenta), and a microtubule organizing center marker (white).

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