Spring Semester 2015 Veterinary Pathobiology 8452
Cell and Molecular Electron Microscopy
Mondays 9:00-11:50 am

Tommi White, Ph.D.
EMC Associate Director & Assistant Research Professor in Biochemistry
whiteto@missouri.edu

Martin Schauflinger, Ph.D.
Research Specialist in Biological Sample Preparation
schauflingerm@missouri.edu

Hour Demonstrations various EM methods (Mondays 10:45-11:50pm)
01-26-15 EMC Tour: EMC staff, contact information, policies & instrumentation
02-02-15 No demo
02-09-15 SEM sample preparation (critical point drying, sputter coating)
02-16-15 SEM demo (Hitachi S-4700 & Quanta 600 FEG)
02-23-15 No demo
03-02-15 TEM sample preparation (Traditional biological TEM sample prep)
03-09-15 No demo
03-16-15 Ultramicrotomy (2 um thick and 75 nm thin sectioning)
03-23-15 Spring break - No Demo
03-30-15 Negative staining, high pressure and plunge freezing vitrification
04-06-15 TEM demo (JEOL JEM 1400 & and FEI F30 Twin)

Deadlines
03-20-15 Project discussions with EMC staff completed
04-10-15 Samples submitted to EMC for processing
04-24-15 Imaging with EMC staff completed
Electron Microscopy Core Policies

Spring Semester 2015 Veterinary Pathobiology 8452

1. Must attend weekly demos as they are during regular scheduled class time. If you do not attend the demo of which you would like to do your project, EM staff will image your sample (NO hands on experience with the electron microscopes - many students take this course for that very purpose, Electron Microscopy is a useful research tool). No exceptions unless presented to EM staff before 2-3-2015

2. Students may submit samples for SEM or TEM (Scanning Electron microscopy & Transmission Electron microscopy)
   a. Available machinery:
      i. SEM: Hitachi S-4700 FESEM or FEI Quanta 600F Environmental SEM
      ii. TEM: JEOL JEM 1400 or Tecnai F30 G2 Twin

3. Scope time can only be scheduled in increments of 1 hour

4. Training on the scopes varies from person to person...usually takes 2-4 hours

5. Sample preparation can take up to 4 weeks, you will get a better idea after your individual project discussions (deadline 3-20-2015)
   a. Make sure to submit your samples earlier rather than later (deadline for sample preparation 04-10-2015)
   b. Each individual may submit up to 10 samples for sample preparation (minimum of two, must have a control)
      i. If this limitation is problematic, bring it up during your project discussion.

6. You can finish your project early if you would like - must still attend demos and discuss project with EM staff
   a. make sure to submit your samples  earlier rather than later (deadline to finish project 04-24-2015)

7. When samples are completed you will be notified and you can schedule time on a microscope...
   a. go to http://emc.missouri.edu
   b. select the “calendars” link. This will take you to “FOM”, the appointment reservation system.
   c. Log in with pawprint and password.
   d. Select the electron microscope you wish to use.
   e. Reserve desired time and select manager assistance to be trained.
   f. Please provide 24 business hours notice if you cannot utilize the microscope