

The Focal Point

Newsletter for the Indiana Microscopy Society
April 2007 **Vol. 3 Issue 2**

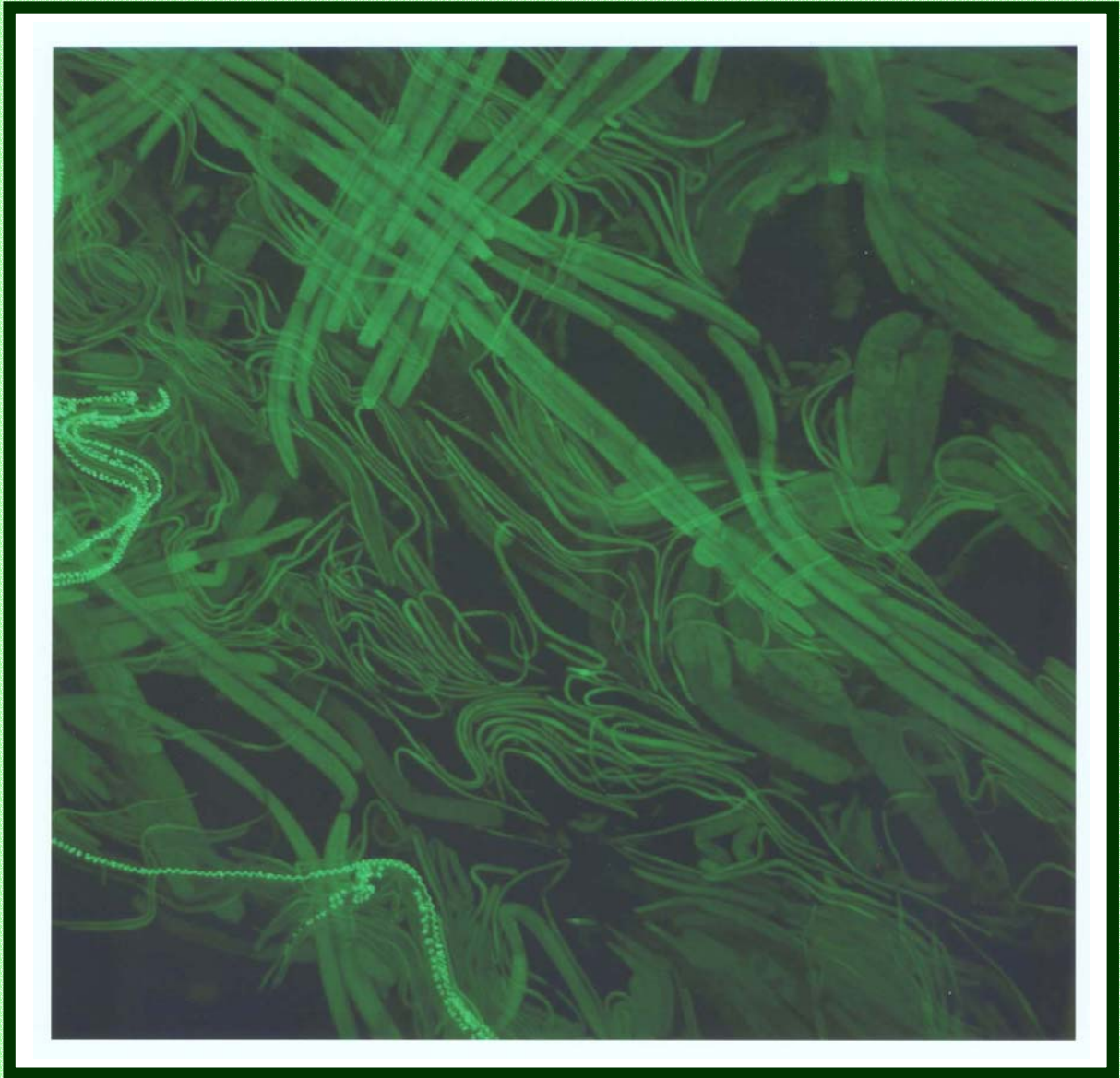


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About the Cover

This is an image of the stigmas of the understory herb, *Hydrophyllum appendiculatum*, that were stained with the aniline blue to reveal glowing pollen tubes. The image was captured on a Zeiss Axioskop Fluorescent Microscope by Melissa Marshall a student in the Department of Biology at Indiana University, South Bend.

Late Fall Meeting of the Indiana Microscopy Society At the IU School of Medicine, Indianapolis, IN

The Fall Meeting of the Indiana Microscopy Society was held in the Department of Anatomy and Cell Biology on December 1, 2006. Dr. Jim Williams from the Department of Anatomy and Cell Biology spoke on Computed Tomographic X-ray Imaging of Biological Structures using Micro CT. Dr. Jay Seigel, From the School of Science and Director of the Forensic and Investigative Sciences Program, spoke on the Spectrophotometer and the Microscope: A Marriage made in Forensic Heaven.



INMS President, Dr. Weiming Yu is pictured with Dr. Jim Williams on the left and Dr. Jay Seigel on the right.



Attendees visited with each other and enjoyed Bazbeaux Pizza during the meeting.

Joint LAS Spring Meeting
"Imaging for Nanotechnology"
Hosted by the Indiana Microscopy Society

Participating Local Affiliate Societies (LAS) of the Microscopy Society of America (MSA)
Central States Microscopy & Microanalysis Society (CSMMS)
Midwest Microscopy & Microanalysis Society (MMMS)
Iowa Microscopy Society (IMS)
and Michigan Microscopy & Microanalysis Society (MMMS)

April 20th from 8:00 AM-5:45 PM
On the campus of IUPUI
Atrium of the Van Nuys Medical Science Building
Indiana University School of Medicine, Indianapolis, IN

8:30 AM Dr. Michael Marko, Wadsworth Center for Labs & Research, Albany, NY
MSA archivist, Program Chair of Microscopy & Microanalysis, 2007
"Techniques for Electron Tomography in Biological and Materials Science"

9:30 AM Dr. William Landis, Department of Microbiology, Immunology & Biochemistry, North-eastern Ohio Universities (NEOUCOM), Rootstown, OH
"The Mechanism of Mineral Formation in Vertebrates"

10:15 AM Richard Gursky, FEI, Senior Applications Engineer, Hillsboro, OR
"Tomography and Reconstruction using TEM and/or SEM Dual Beam"

2:00 PM Dr. James Pawley, LAS/MSA Tour Speaker, University of Wisconsin, Madison, WI
"Developments in Multi-photon excitation microscopy; techniques for performing 3D fluorescent microscopy with living cells"

4:00 PM Dr. Dale Newbury, National Institute of Science and Technology, Gaithersburg, MD
"New Developments and Old Problems in Energy Dispersive X-ray Spectrometry (EDS): Silicon Drift Detectors (SDD) and Peak Identification Blunders."

6:30 PM Dinner at The White River Gardens

April 21st from 8:00 AM-1:00 PM
Van Nuys Medical Science Building and R2 Research Center

Tours, Demonstrations & Workshops at the Electron Microscopy Center or Indiana Center for Biological Microscopy: High Pressure Freezing, Live Animal Imaging using 2 photon microscopy, Voxx 3D Imaging, Spectral Imaging Data Mining and Table Top SEM

Breakfast and Lunch provided with registration

Registration for both days, \$40.00 for members of any LAS, \$50.00 for non-members

An additional \$30.00 if attending reception/dinner Friday evening

Students can apply for a fellowship which would cover their registration and Friday reception/dinner.

For Complete details check out the Indiana Microscopy Web site, www.indianamicroscopy.org
Or Caroline Miller, Program Chair, camiller@anatomy.iupui.edu

**Conference Registration for the
 Joint Spring Meeting, "Imaging for Nanotechnology"
 hosted by the Indiana Microscopy Society (INMS),
 with participating societies: Iowa Microscopy Society (IMS),
 Central States Microscopy & Microanalysis Society (CSMMS),
 Midwest Microscopy & Microanalysis Society (MMMS)
 and Michigan Microscopy & Microanalysis Society (MMMS)
 Indianapolis, Indiana
 April 20th and 21st, 2007**

Name _____
 Address _____
 Affiliation _____
 Phone Number _____
 Email Address _____

Member ___ INMS ___ IMS ___ CSMMS ___ MMMS (Midwest) ___ MMMS (Michigan)
 Non-member _____
 Faculty/Staff _____ Teachers (\$5) for Saturday only _____
 Student _____ Student Fellowship _____

Conference Registration Fee (s), on or before, March 15, prepayment required to be registered. Students can apply for a limited number of fellowships on or before March 15, which would cover the cost of registration and Friday's social event.

On or Before March 15:	After March 15:
Member _____ \$30	Member _____ \$40
Non-member _____ \$40	Non-member _____ \$50
Friday's Social Event _____ \$20	Friday's Social Event _____ \$30
Student Fellow _____ \$0	Student _____ \$25
Guest Social Event _____ \$20	Guest Social Event _____ \$30

Friday's reception/dinner will be at the White River Gardens with the Butterfly Garden included, please let us know if you have a special dietary requirement.

Faculty/Staff Poster Presentation _____
 Student Poster Presentation _____
 Faculty/Staff Platform Presentation _____
 Student Platform Presentation _____
 Micrograph for Competition _____

Please include title and abstract, on all presentations specify Biological or Physical Science and student or general

Saturday, April 21st

8:00 AM-12:00 PM Breakfast, Workshops or Demos and tours, attend as many as you like, coffee break included.

Saturday's Events:

Workshop

8:30 -9:45 AM

Dr. D. Newbury & his Workshop on X-ray Spectrum Imaging Analysis with NIST LISPIX, participants are asked to bring their own lap tops. Conference Room, Van Nuys Medical Science Building, 5th Floor, Rm. 5035

Demonstrations:

9:00-9:30 AM

Two-photon intravital microscopy of kidney tissue in a living rat. Labeling will include Hoechst to label the nuclei, 500K green dextran to label the vasculature and 3K red dextran to label endosomal uptake in the proximal tubule. Indiana Center for Biological Microscopy

9:30-10:00 AM

Three dimensional image processing using Voxx Software to understand complex 3D biological structure. Volume rendering will include image datasets acquired during 9:00-9:30 live animal. Indiana Center for Biological Microscopy

9:00-10:00 AM

1) Demonstration of Leica High Pressure Freezer. Compact and Mobile, works with standard electrical supply. Because of the high pressure this instrument allows you to freeze a sample without significant ice crystal damage to a depth of 500 microns. Very reproducible results.

2) Table Top SEM

3) Tours of the facility, all three at the Electron Microscopy Center, Van Nuys Medical Science Building, 5th Floor, Rm. 5065

Demonstrations Repeated:

10:00-10:30 AM

Two-photon intravital microscopy of kidney tissue in a living rat.

10:30-11:00 AM

Three dimensional image processing using Voxx Software to understand complex 3D biological structure.

10:00-12:00 PM

1) Demonstration of Leica High Pressure Freezer.

2) Table Top SEM

3) Tours of the facility, all three at the Electron Microscopy Center, Van Nuys Medical Science Building, MS 5065

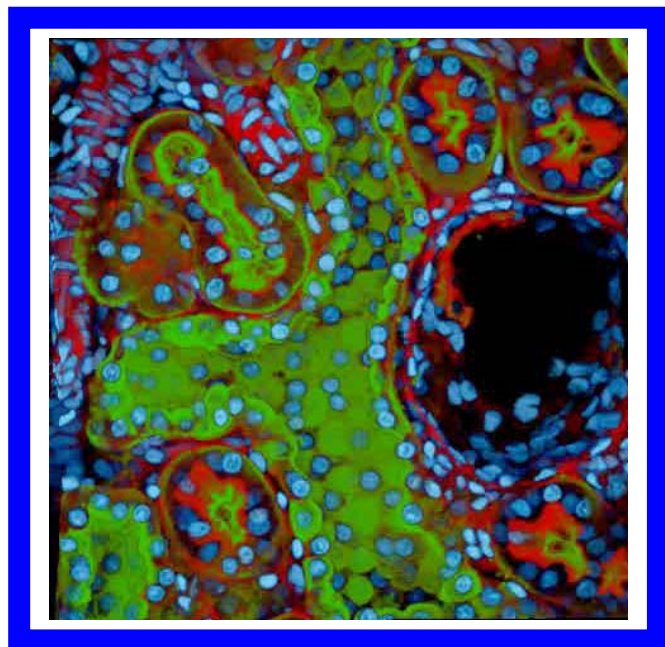
The Indiana Microscopy Society

would like to invite interested

Middle School and High School Teachers

to joins us on Saturday morning April 21, 2007

8 AM – 12 PM at IUPUI



The Indiana Center for Biological Microscopy Research 2 Bldg., RM 201

Demonstrations:

Two-photon intravital microscopy of kidney tissue in a living rat.

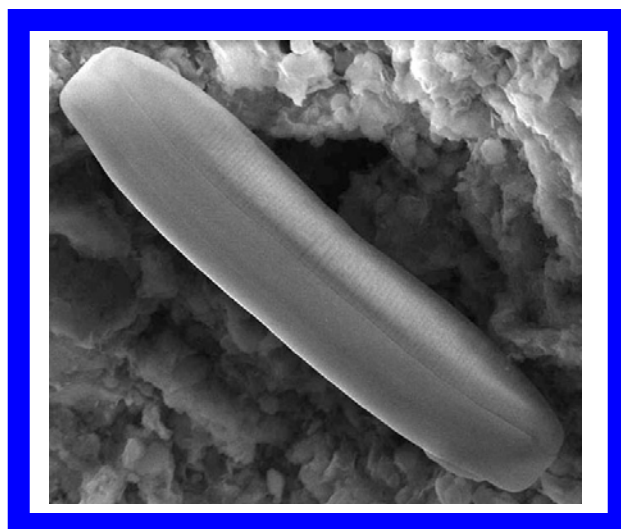
Three dimensional image processing with Voxx Software to understand 3D biological structure.

The Electron Microscopy Center Van Nuys Medical Science Bldg., RM 5065

Demonstrations:

Leica EMPACT High Pressure Freezer. The EMPACT quickly freezes tissue without the use of chemicals.

Hitachi Table Top SEM – The SEM will be demonstrated and participants will get hands on use of the instrument.



INMS website <http://www.indianamicroscopy.org>

Campus Map <http://www.iupui.edu/maps/campusmap.htm>

Parking available at Vermont Street Garage \$2-\$5

RSVP to Janice Pennington

jgpennin@iupui.edu

Cost: \$5.00 per person

Student Poster Contest

- Must be a registered student at a college or university in Indiana
- Send your poster abstract to Caroline Miller, camiller@anatomy.iupui.edu
- Poster may be new or may have been presented at a previous meeting
- Will be judged by popular vote
- Winner will receive \$50 and be recognized in the society newsletter
- Easels and pints for the posters will be provided

General Poster Contest

- Send your poster abstract to Caroline Miller, camiller@anatomy.iupui.edu
- Will be judged by popular vote
- Winner in each category, Biological and Physical Sciences will receive \$50.00 and be recognized in the society newsletter.

Image Contest

- Bring your favorite image in a printed 8 x 10 format for all to enjoy
- Name and contact information must be on the back of the image
- Will be judged by popular vote
- \$25 each for best biological and physical science image

Photos from the Old Days

Bring a photo of yourself doing microscopy from the old days, or the old, old, days. We will display them on a board and we can reminisce about when we had hair, were thin, or were otherwise free of infirmities.

Dear INMS Members,

It is time once again for the Spring Meeting of the Indiana Microscopy Society. Program Chair, Carole Miller has worked hard to provide us with a program full of interesting topics from speakers who are working on the cutting edge in microscopy. Featured speakers include Dr. Mark Marko from the Wadsworth Center in New York and Richard Girskey from FEI who will speak on the latest techniques in electron tomography and Dr. James Pawley will speak on 3D confocal microscopy in living cells. Dale Newbury from the National Institute of Standards and Technology will shed light on the problems of Energy Dispersive X-Ray spectroscopy peak identification and Dr. William Landis an expert on formation of minerals in bone; will round out the list of invited speakers.

Dr. Weiming Yu, President of INMS and Dr. Michail Esterman, President Elect, INMS as well as Kenny Whitherspoon from IXRF will give platform presentations. Several students will give platform and poster presentations, with prizes being awarded for the best student poster and platform presentations.

The Friday evening social will be held at the beautiful White River Gardens at the Indianapolis Zoo. During the first part of the evening attendees will be able to stroll through the Hilbert Conservatory Butterfly Garden among butterflies native to North America as well as species from Africa and Central America. These butterflies are raised by the conservatory staff from April through September.

The meeting will continue Saturday morning, with demonstrations in the Indiana Center for Biological Microscopy and the Electron Microscopy Center. Interested High School Teachers from the surrounding Indianapolis area have been invited to participate.

I hope that everyone will find something of interest at the meeting or just take the time to meet and talk with fellow microscopists. I look forward to seeing everyone there.

Sincerely,
Janice G. Pennington
Newsletter Editor
Indiana Microscopy Society