

The Focal Point

Newsletter for the Indiana Microscopy Society
November 2007 Volume 4, Issue 1

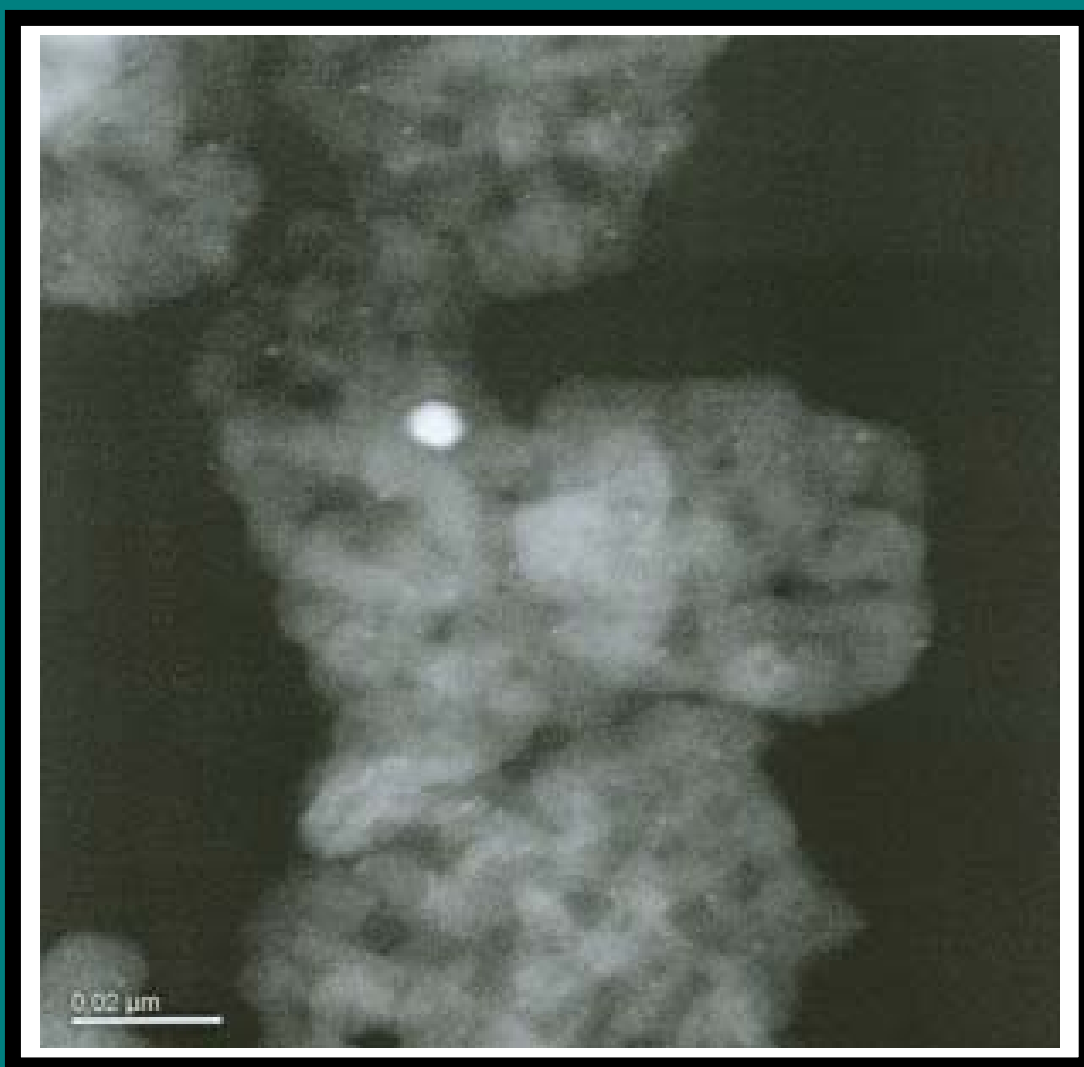


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Physical Science Representative	Robert Walson	rwatson@sbcglobal.net
Student Representative	Pam Young Muriello	payoung@iupui.edu

About the Cover

The cover micrograph was taken by Alan Nicholls from the University of Illinois at Chicago. It is a high angle dark field STEM image of a Pt/SiO₂ catalyst taken with a JEOL JEM-2010F Electron Microscope. The image won first place in the Physical Science Category of the Micrograph Contest at the Spring Meeting.

Dear INMS members,

As the fall of 2007 arrives, INMS is moving into its fourth year following its inception. Last year was an incredible year and busy for INMS. We have held a number of elections for the Society officers in the past 12 months. Here let me thank the outgoing officers, Sharon Bledsoe, Sherry Clendenon and Sharon Ashworth for their services at the INMS and welcome the incoming officers, Michail Esterman as President-elect, Michael Goheen as Secretary and Rachel Sindors as Treasurer. In the spring of 2007, INMS hosted a joint meeting of Local Affiliate Societies with five participating societies in the Midwest. It was a large meeting for our society. We had over one hundred registered participants and sixteen vendors attending the meeting. With the enthusiasms and participations of many of our society members, the 2007 spring meeting was quite a success. Thanks go to the program committee members of the INMS Council, especially Vincent Gattone, Caroline Miller and Janice Pennington for their efforts in securing the financial supports and organizations of the meeting, and Indiana Center for Biological Microscopy and its staff for the tour of the state-of-the-art light microscopy facility and in vivo microscopy demonstrations. Also, I would like to acknowledge the generous donations we received from Eli Lilly, FEI and Zeiss EM and grants from American Association of Anatomists and Microscopy Society of America for supporting this event. Most importantly, thanks to all the INMS members who were at the meeting. The continued success of our society needs the support of our members. Your participations and inputs are most valuable to the INMS. Please feel free to contact me or any INMS officers about your suggestions and ideas or any questions you might have. I am looking forward to see you at future INMS meetings or events.

Weiming Yu
President
Phone: 317-278-4481
Email: wmyu@iupui.edu

Joint LAS Spring Meeting “Imaging for Nanotechnology”

The Atrium of the Van Nuys Medical Science Building was the sight of the 3rd Annual Spring Meeting of the Indiana Microscopy Society. This years meeting was a joint meeting with Local Affiliate Societies (LAS) of the Microscopy Society of America (MSA) from surrounding states. Microscopist in attendance came from Indiana Microscopy Society, Central States Microscopy and Microanalysis Society, and Midwest Microscopy and Microanalysis Society.



Atrium of the Van Nuys Medical Science Building. with DNA sculpture by Dale Chihuly in the background.



Vince Gattone welcomes Mike Goheen to the meeting.



Rachel Sinderson and Diane Gattone



Student Traci Miller



Clif Duhn, Peggy Harger-Allen, Helen Jiang, Darryl Ballard, Jeff Hanson



Students Charity Nofziger, Amy Jo Casbon, Pam Muriello, Kim Jackson, Gina Ammerman, Monalisa Muchatuta

Speakers



Invited speakers, left to right: Mike Marko, Richard Landis and Richard Girsky. Weiming Yu, President, Indiana Microscopy Society.



Invited speakers Dale Newbury and James Pawley with Weiming Yu.



INMS platform speakers Don Chernoff, Michail Esterman and Weiming Yu.

Mike Marko – Techniques for Electron Tomography in Biological and Material Sciences, Wadsworth Center for Labs and Research, Albany, NY.

William J. Landis – The Mechanism of Mineral Formation in Vertebrates, Department of Microbiology, Immunology & Biochemistry, Northeastern Ohio University, Rootstown, OH.

Richard Girsky – Tomography and Reconstruction using TEM and or SEM Dual Beam, FEI, Hillsborough, OR.

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

James Pawley – Developments in Multi-photon excitation microscopy; techniques for performing 3D fluorescent microscopy with living cells, University of Wisconsin, Madison, WI.

Don Chernoff – Nanoscale Calibration and Measurement for the Entertainment Industry, Advanced Surface Microscopy, Inc., Indianapolis, IN.

Mike Esterman – Seeing is Believing: Optical Microscopy Imaging for Drug Discovery, retired Eli Lilly, Indianapolis, IN.

Weiming Yu – Imaging Atherosclerotic Plaque in vivo Using Two-Photon Excitation and Second Harmonic Generation Microscopy, Mark Rekhter¹, Julian Braz¹, Ashley M. Dutton² and Weiming Yu², ¹Lilly Research Laboratories, Eli Lilly and Company and ²Department of Medicine, Indiana University School of Medicine, Indianapolis, IN.

Student Platform Awards



Student platform winners Pam Muriello, Amy Jo Casbon, and Kim Jackson pictured with Weiming Yu.

First Place: Pam Muriello

Improvement to Signal at Depth in Multiphoton Microscopy using a Correction Collar. Pam Muriello, Division of Nephrology, Indiana University School of Medicine, Indianapolis, IN.

Second Place: Amy Jo Casbon

Fluorescent tagged chimeras reveal heterodimer formation (and not individual subunits) of Cytochrome *b* regulates trafficking to the plasma membrane and the recycling endosome. Amy Jo Casbon, Department of Microbiology and Immunology, IU School of Medicine and Herman B. Wells Center for Pediatric Research, Indianapolis, IN.

Third Place: Kim Jackson

TPLSM Quantification of Intact Heart Sympathetic Innervation. Kim Jackson and Michael Rubart, Herman B. Wells Center for Pediatric Research, B, Indiana University School of Medicine, Indianapolis, IN.

Student Poster Awards

Biological

First Place: Monalisa Muchatuta

Functional Analysis of Ion Transport in Liver Cyst Epithelia Combined with Proteomic Analysis of Cyst Fluid Isolated from the BALB/c-cpk/+ Mouse Model of Polycystic Kidney Disease. Monalisa Muchatuta, Frank Witzmann, Vince Gattone and Bonnie Blazer-Yost, Department of Biological Sciences, IUPUI and Department of Anatomy and Cell Biology, Indiana University School of Medicine, Indianapolis, IN.

2nd Place: Sumit Garg

Effect of Actin-Biomembrane Interactions on Biomembrane Organization. Sumit Garg¹, Jay X. Tang², Karin Ludtke³, Rainer Jordan³, christoph A. Naumann*¹. ¹Indiana University Purdue University Indianapolis, Indianapolis, IN, USA, ², Brown University, Providence, RI, USA, ³Technische Universität München, Garching, Germany

3rd, Honorable Mention: Guixue Bu

Optical Recording of Action Potentials from Isolated Perfused Mouse Hearts with Cellular Resolution. Guixue Bu¹, Edward Berbari², and Michael Rubart³, ¹Purdue University, West Lafayette, Indiana and ²Indiana University Purdue University Indianapolis, Indianapolis, Indiana.

4th, Honorable Mention: Paul Mantz

Immunofluorescence Microscopy Analysis of The *Panaeus vanna* Hepatopancreatic. Paul S. Mantz, Ryan W. Bauernfeind and Robert K. Pope, Department of Biology, Indiana University, South Bend.

Physical

First Place: Daniel Minner

Design of quantum dot-conjugated phospholipids and membrane proteins for single molecule tracking studies in model membranes and on cell surfaces. Daniel Minner, Michael J. Murcia, Christoph A. Naumann, Kyungsoo Oh, and Kenneth Ritchie, Department of Chemistry, Purdue School of Science, IUPUI, Indianapolis, IN.

All registered students were sponsored by a grant give by the American Association of Anatomists. This allowed students to attend the meeting and the Friday night banquet at the White River Gardens for free!

Thank you American Association of Anatomists!

General Poster Awards

Biological

First Place: Sharmon Knecht

Correlated Confocal and Serial Section Electron Microscopy of Developmental Synapse Loss, Sharmon Knecht and Derron Bishop, Indiana University School of Medicine – Muncie, IN.

Second Place: Robert Pope

Environmental Scanning Electron Microscopy and Energy Dispersive X-Ray Spectroscopy Analysis of Wine Stones from the Alsace Region of France. ¹Robert K. Pope, ¹Richard D. Riley, ²Jeannie T. B. Collins, ³Jean-Herve Lignot, ¹Indiana University South Bend, South Bend, Indiana, ²University of Southern Indiana, Evansville, Indiana, and ³Centre de la Recherche Scientifique, Strasbourg, France.

Micrograph Contest Awards

Biological Sciences

1st place Janice Pennington

Material Sciences

Material Sciences 1st Place Tie Elaine Shumacher

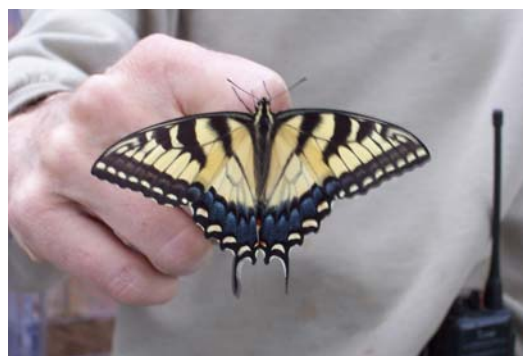
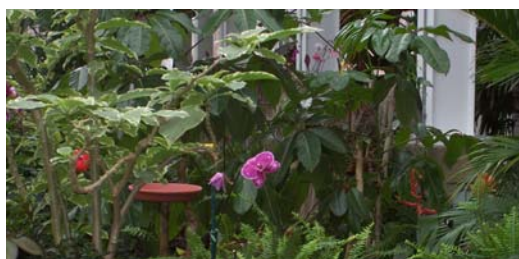
and Alan Nichols (Cover Micrograph)

Friday Night Banquet at the White River Gardens

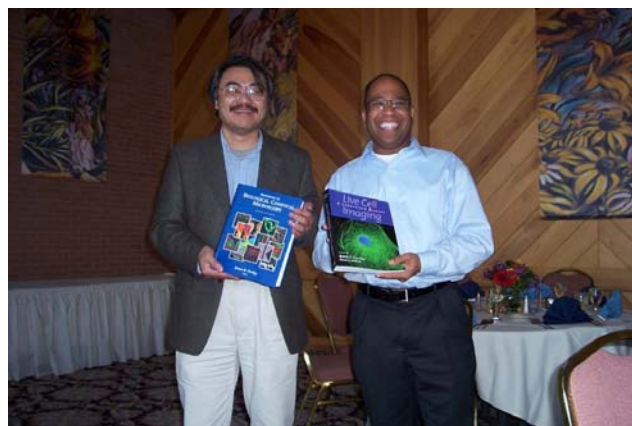
Graciously Sponsored by

**FEI,
Eli Lilly
Zeiss SMT Inc.**

The Friday night banquet was held at the White River Gardens Hilbert Conservatory at the Indianapolis Zoo. Guest enjoyed cocktails in the atrium and then strolled through the conservatory which contained lush tropical plants and butterflies. The cocktail hour was followed by the banquet and then awards were announced by Past President Vince Gattone.



Vince Gattone and President Elect Michail Esterman draw tickets for the I-Pod Nano and two I-Pod Shuffles. Clif Duhn accepts the I-Pod Nano generously donated by **Mager Scientific**. James McAteer and Jane Landis won the I-Pod Shuffles.



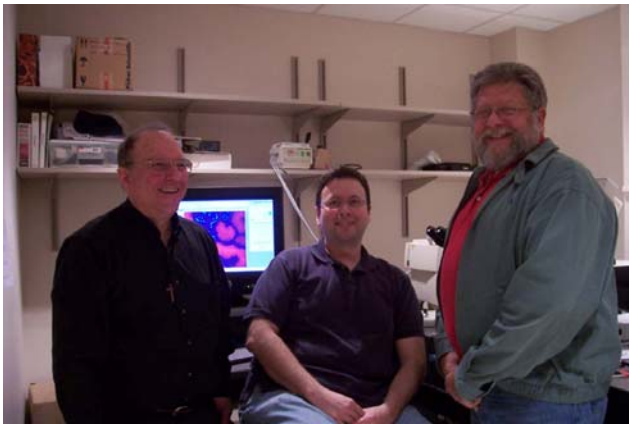
Weiming Yu won the Handbook of Biological Microscopy donated by **Springer Science** while Darryl Ballard won Live Cell Imaging: A Laboratory Manual donated by **Cold Spring Harbor Press**.

Saturday Morning Events:

Education Committee Breakfast- INMS members and area high school teachers interested in k-12 education met for breakfast in the Nephrology conference room with Education Committee Chair Bob Walson. Bob spoke briefly about his work with area high schools and **Bugscope** (<http://bugscope.beckman.uiuc.edu><<http://bugscope.beckman.uiuc.edu/>>). Bugscope is an educational outreach program from the Beckman Institute's<<http://www.beckman.uiuc.edu/>> Imaging Technology Group<<http://www.itg.uiuc.edu/>> at the University of Illinois. Bob is working through Butler University and is scheduled for a virtual session on Wed. November 28, 2007 at 9:00 AM. Check it out! Guests are always welcome on the Bugscope Sections for any school on their website.

Workshop: "Spectral Imaging Data Mining" presented by Dale Newbury from the NIST, Gaithersburg, MD. Dr. Newbury instructed workshop participants on how to get the most information from their EDS and WDS spectra.

Tour of the Indiana Center for Biological Microscopy, Division of Nephrology, IU School of Medicine

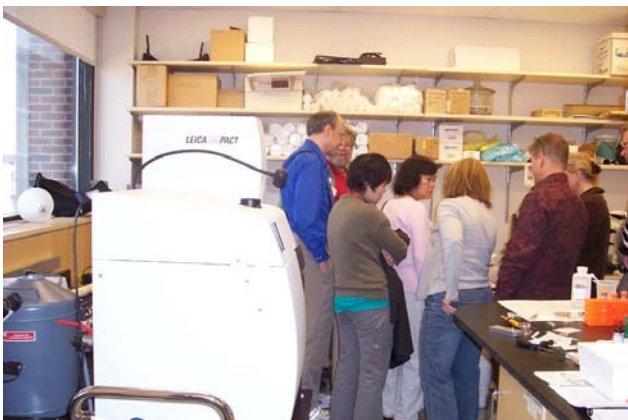


Ruben Sandoval (center) from the Division of Nephrology demonstrated live animal confocal imaging.



Jeff Clendenon (center) demonstrated Voxx 3D imaging. Live animal confocal images taken by Ruben were reconstructed into 3 dimensional images by Jeff.

Tour of the Electron Microscopy Center in the Department of Anatomy and Cell Biology, IU School of Medicine



Caroline Miller discusses the benefits of High Pressure Freezing with the Leica EMPACT to a tour group. The group also saw demonstrations of the Transmission and Scanning Electron microscopes.

**THANKS TO ALL OF OUR CORPORATE MEMBERS
AND SPONSORS FOR THEIR CONTRIBUTIONS
TO THE INMS SPRING MEETING**

Corporate Members

BioProducts	CarlZeiss SMT Inc.	IXRF
Electron Microscopy Sciences	FEI	Fryer, Inc.,
Thermo Fisher Scientific	Mager Scientific	JEOL
Hitachi	ISS	Olympus
Leica Microsystems	Ted Pella, Inc.	
Nanoprobes, Inc.	W. Nuhsbaum, Inc.	

Sponsors

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JEOL
W. Nuhsbaum, Inc.
Leica Microsystems

Silver

BioProducts
Fryer, Inc.
Nanoprobes, Inc.

Grants

American Association of Anatomists
Eli Lilly
Microscopy Society of America

Donated Items

Springer Science: Handbook of Biological Confocal Microscopy 3rd Edition 2006. Pawley, J.B. (Ed.)

Cold Springs Harbor Press: Live Cell Imaging: A Laboratory Manual, Goldman, 2005. R.D. and Spector, D. L., (Eds.)

Mager Scientific: One Nano I-Pod and Two I-Pod Shuffles

**Microscopy and Microanalysis 2007
Ft. Lauderdale Florida**

**Message from MSA Liaison:
Caroline Miller**

While at the annual M & M meeting in Ft. Lauderdale in August of this year I attended the LAS breakfast as the INMS representative. We were congratulated by Lou Ross the National LAS Director for hosting such an excellent Spring Meeting.

The main topic of discussion was how to acquire new members not only for the local societies but also for MSA. A problem facing all societies at the present time. MSA would like to encourage any LAS member to also become a MSA member. There is still money to be had for local meetings like the Grant-in-aid we utilized and the group worked on a new list of LAS sponsored speakers for next year. The new speakers added to the group will include Kent McDonald, UC-Berkley, Biological EM in the 21st century, Frank Platek, FDA, Light and Scanning Microscopy Applications in Forensic Science and Richard Superfine, UNC, Electromechanical studies of CNT's.

I also attended the luncheon for MAS the Microbeam Analysis Society. This society is for members who work with or have an active interest in microbeam instrumentation. Microbeam instrumentation includes, but is not limited to, instruments utilizing electron, ion, or photon beams to characterize any material, organic, inorganic, or biological. Dr. Dale Newbury, one of our quest speakers for the spring meeting spoke very highly of our society and how well the meeting went. MAS would like us to also become a local affiliate of their national society. To do so we would need least 4 INMS members to be members of MAS. We would be gaining additional four speakers.

Treasurer's Report

7-1-06 through 6-30-07

Assets as of July 1, 2006:

Checking:	\$1,244.22	
Savings:	\$601.25	

Total:	\$1,845.47	\$1,845.47
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Receipts 2006/2007:

Corporate Membership Dues 06/07	\$1,600.00	
Corporate Membership Dues 07/08	\$100.00	
Regular Membership Dues	\$400.00	
Interest Savings	\$34.71	

Income Spring Meeting:

Corporate Donations	\$6,210.00	
Other Donations:		
Eli Lily	\$2,000.00	
Am. Asso. of Anatomists	\$1,500.00	
MSA Grant in Aid	\$650.00	
Meeting and Banquet Reg.	\$2,055.00	
Travelers Check/Newbury Room	\$100.00	

Total:	\$14,649.71	\$14,649.71
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Total Receipts:

\$16,495.18

Expenses 2006/2007:

Small Business Fee	\$26.76	
Bank Error	\$792.24	

Expenses Fall Meeting:

Food	\$268.73	
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Expenses Spring Meeting:

Banquet	\$4,938.71	
General Meeting	\$3,747.95	

Other:

Pizza	\$11.94	
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Total Expenses:	\$9,786.33	\$9,786.33
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Total Assets:

\$6,708.85

Total Assets by Account

Checking 2006/2007	\$5,552.89	
Savings 2006/2007	\$1,155.96	

Total Assets as of 6/30/07	\$6,708.85	
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Fall Meeting and Social Indiana Microscopy Society

November 7th 2007

4:00pm-8:00pm

Clarian Pathology Laboratory Building (CPL)

Auditorium Room # 6007

350 West 11th St.

Indianapolis, IN

This will be a regional meeting devoted to microscopy and related techniques. The meeting also provides a tremendous forum for students, technicians, and faculty to get together from various disciplines to talk about microscopy.

4:00-5:00	Meet and Greet
5:00-6:00	Dinner provided by Qdoba
6:00-6:30	Short Business Meeting
6:30-8:00	Guest Speakers

Guest Speakers:

Tuli Mukhopadhyay, Ph.D. Assistant Professor, Department of Biology, Indiana University, Bloomington, IN:

**“How to Assemble a Virus: Microscopes Required”
Cryo-high resolution electron microscopy**

James F. Leary, Ph.D. SVM Professor of Nanomedicine, Professor of Basic Medical Sciences and Biomedical Engineering, Purdue University, West Lafayette, IN:

**“High Speed Interactive Molecular Imaging with Laser Opto-injection of
Macromolecules and Cell Sorting”**

No charge for dinner or meeting with paid 2007-08 INMS membership.

RSVP to Mike Goheen, (317) 491-6479, mgoheen@iupui.edu

With RSVP you will receive a map with directions to the meeting location and parking.

Check the INMS website for the membership forms. You can now pay for your membership using PayPal.

www.indianamicroscopy.org

Indiana Microscopy Society
Membership Application Form
7/1/2007– 6/30/2008

Thank you for your interest in the Indiana Microscopy Society.

Please print the application and submit it with payment, by check or money order - No Cash, PLEASE!

Make check or money order payable to Indiana Microscopy Society

Mail to:
Michael Goheen
Clarian Pathology Laboratory
Room 4014
350 West 11th Street
Indianapolis, IN 46202-4018

Title: _____ First Name: _____ Middle Initial: _____ Last Name: _____

Address Line 1: _____

Address Line 2: _____

Address Line 3: _____

City: _____ State: _____ Zip Code: _____

Address Location: Home Office/ Lab

Phone: _____ Fax: _____

E-mail Address: _____

Are You a Member of Microscopy Society of America? Yes No

Type of Membership Applying for:

Regular Membership \$10 Student Membership \$0 Corporate membership \$100

If you are applying for a Student Membership Are you a full time Student? Yes No

What Program are you enrolled in? _____ What Institution? _____

Major Interest: _____

Fields of Microscopy / Microanalysis you use in your work: _____

Dear INMS Members,

It is hard to believe that our Local Affiliate Society is now four years old! I have enjoyed meeting microscopists from around the state and hope that more faculty, staff and students will become a part of our growing society. If you know of anyone interested in microscopy, please tell them about our society. The INMS is a great benefit to students who want to broaden their knowledge of microscopy, network with other microscopist or practice their speaking skills in front of a small supportive group. Besides faculty and students, this is also a forum for technical staff to get involved by presenting a paper, poster or getting involved as an officer in the society.

To join INMS, fill out the application in this newsletter or visit our web site at (www.indianamicroscopy.org). You may also pay your dues online using PayPal at the INMS website.

The INMS benefits from the quality faculty that can be found in our own state. Don't miss our Fall Meeting next week on November 7th, when Dr. Tuli Mukhopadhyay from IU, Bloomington and Dr. James F. Leary from Purdue University will be the speakers at our Fall Meeting. This will be a short evening meeting after work with catering from Qdoba. This meeting (food) is free with membership! Please RSVP to Mike Goheen (mgoheen@iupui.edu). I hope to see you there!

Sincerely,
Janice G. Pennington
Newsletter Editor
Indiana Microscopy Society



Left to Right: Weiming Yu, Richard Landis, Mike Marko, James Pawley, Dale Newbury, Richard Girsky, and Don Chernoff at the White River Gardens

“Imaging for Nanotechnology”
INMS Spring Meeting
April 20, 2007