Newsletter
Of the
New York Microscopical Society

1 Prospect Village Plaza
(66F Mt. Prospect Avenue)
Clifton, New Jersey 07013-1918
GPS: Latitude 40.8648N, Longitude 74.1540W

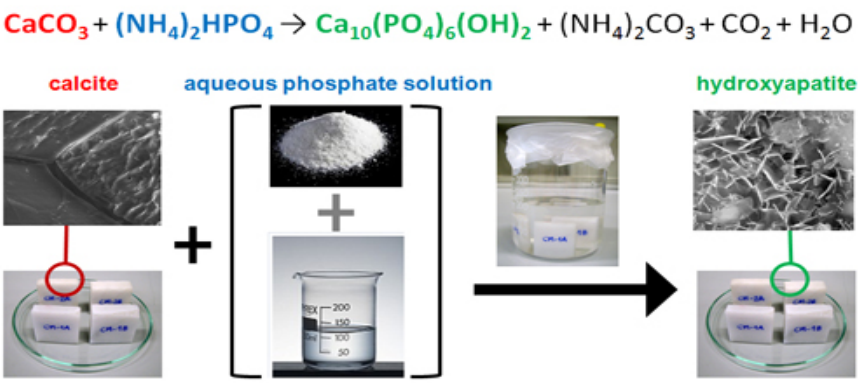
Feb 2017 | **Editor: (201) 791-9826** | **Volume 11 (31) Number2**

New York Microscopical Society: Members Lecture Meeting 2pm Doors Open at Noon. Saturday, February 25th, 2017 At NYMS in Clifton, NJ

FOCUSED ION BEAM MICROSCOPY (FIB-SEM) PROVIDES NEW INSIGHTS ON INORGANIC TREATMENTS USED FOR CONSERVATION OF MARBLE ARTWORKS by Dr. Enrico Sassoni, Ph.D.

Marble has been used in architecture and sculpture since antiquity. In spite of being apparently very durable, marble is highly sensitive to dissolution in rain because of the relatively high solubility of calcite in water. The protective products that are currently available are not fully satisfactory, so we are developing an innovative treatment based on hydroxyapatite (the mineral constituting our teeth and bones). The idea is that, by forming a layer of hydroxyapatite over marble surface, marble can be protected from dissolution in rain, thanks to the very solubility of hydroxyapatite. The hydroxyapatite layer can be formed by reacting marble with an aqueous phosphate solution. However, for a protective treatment to be effective, the newly formed coating needs to uniformly cover the substrate, to be crack-free and non-porous. While the coverage of marble surface and the possible presence of cracks can be assessed by traditional scanning electron microscopy (SEM), the evaluation of the coating porosity requires observation of cross sections as unaltered as possible. We used a focused ion beam (FIB) microscope to obtain cross sections of the hydroxyapatite layer, thus being able to assess the presence of pores and the adhesion between the coating and the substrate. This was the key to significantly improve our treatment, as we were able to prove that adding alcohol to the aqueous solution used to form hydroxyapatite allows a remarkable reduction in the layer porosity. Furthermore, we also assessed that marble surface roughness strongly influences the microstructure of the hydroxyapatite coating. Thanks to the indications obtained by FIB-SEM, we were able to develop a coating with improved protecting ability.

After being awarded his **PhD in Materials Engineering** in 2011 and working as a postdoc at the University of Bologna from 2011 to 2015, in 2015 Dr. Enrico Sassoni was granted a 3-year **Marie Skłodowska-Curie fellowship**, funded within H2020 ("**HAP4MARBLE**" project, grant amount 244'000 €).
Within HAP4MARBLE, starting from September 1 2015 Dr. Sassoni is now concluding an 18-month research period at **Princeton University** (USA), working as a "**Visiting Postdoctoral Research Associate**". Then, Dr. Sassoni will spend 6 months at **Goettingen University** (Germany) and finally he will be back to the **University of Bologna** for the last 12 months of the project. The research activity carried out by Dr. Sassoni within HAP4MARBLE is aimed at **multi-functionalizing an innovative hydroxyapatite-based treatment** for the conservation of marble artworks.
~ John Scott



See Page 3-for more meeting information

Save a Tree: Get The Extended Newsletter: By Email Only

New York Microscopical Society Board of Managers

(Officers Term 2016-2017)

President, John Scott, nyconsnfdn@aol.com; (646)339-6566, Curator, Archivist. Manager 2015-18
Vice President, Program Chair, Roland Scal, rscal@qcc.cuny.edu; (718)631-6071, Manager 2016-2019
Treasurer, Mel Pollinger, pollingmel@optonline.net; (201)791-9826, Facilities, Editor, Librarian. Mgr 2014-17
Secretary, 2015-2018 Lou Sorkin entsult@aol.com; (914)939-0917, Manager, 2015-18,
Manager, 2015-2018 Guy deBaere guydbaere@aol.com; (347)668-4798 Outreach Program
Manager, 2015-2018 John A. Reffner jareffner@cs.com; (203)358-4539 Past President
Manager, 2014-2017 John R. Reffner, Jr. jrr11p@gmail.com; (215)527-1882
Manager, 2014-2017 Andrew J. Winter, Education Chair
Manager, 2016-2019 Brooke Kammrath bkammrath@newhaven.edu; (203)931-2989, Membership Chair
Manager, 2016-2019 Seymour Perlowitz perlowitzs@hotmail.com; (718)338-6695
Manager, 2016-2019 Peter Diaczuk pedicoplanb@gmail.com;; (212)237-8896, Past President
For additional information contact the Editor: Mel Pollinger at (201) 791-9826, pollingmel@optonline.net

Dues and Addresses
Please remember to mail in your Dues to:
Mel Pollinger
Treasurer, NYMS
18-04 Hillery St.
Fair Lawn, NJ 07410-5207

Junior (under age 18) $10 Annually
Regular $30
Student (age 18 or above) $20 Annually
Supporting $60 Annually
Corporate (includes one advertisement in NYMS News) $175 Annually
Life $300 (payable within the year)
To avoid missing notices:
Notify Mel Pollinger if you have changed your address, phone or email.

Awards Given by the New York Microscopical Society
The New York microscopical Society takes great pleasure in recognizing and rewarding individuals who have contributed to either the activities of the society or to furthering microscopy. These awards are described in our website and in a pdf file for our email newsletter recipients. All members are eligible to nominate individuals for these various awards, and are encouraged to do so.
John A. Reffner, Awards Committee Chairperson

Awards Committee

Chair: John A. Reffner

Members

Jan Hinsch
Peter Diaczuk
Angela Klaus
John R. Reffner

Mel Pollinger, Editor
18-04 Hillery St.
Fair Lawn, NJ 07410-5207

To Order Your NYMS Lapel Pins

Send a check in the amount of $12.00 per pin to:
New York Microscopical Society
c/o Mel Pollinger, 18-04 Hillery Street, Fair Lawn, NJ 07410. To avoid shipping & handling charges, pins may be purchased directly at any NYMS meeting for $10.00.

The Mission of the New York Microscopical Society is the promotion of theoretical and applied microscopy and the promotion of education and interest in all phases of microscopy.

Alternate Meeting Notifications
Please note that due to time constraints in publishing, some meeting notices may be available by calling Mel Pollinger at 201-791-9826, or emailing: pollingmel@optonline.net

****

Please remember to pay your dues

Buy and Read a Good Book on Microscopy.

From page 1: Doors will be open at Noon. Refreshments will be available. For additional information, please contact John Scott nyconsnfdn@aol.com; (646)339-6566, or Mel Pollinger (pollingmel@optonline.net), (201)791-9826, or by cell: (201) 314-1354 (on meeting day only)

During February 25 Members meeting, an informal presentation:
Dr Robert (Bob) Vetrecin, Ethicon Research Fellow (ret.)
At about 1 PM, during our noon – 2 social and technical period, before our featured speaker, we'll welcome American Microchemical Society President Bob Vetrecin's informal presentation:

"Meet the American Microchemical Society"

Together with several NYMS Board members, Bob Vetrecin is very active in the Organizing Committee / Governing Board of the NYMS-sponsored Eastern Analytical Symposium.
~John Scott

"Give a person a fish and you feed them for a day. Teach a person to use the Internet and they won't bother you for weeks, months, maybe years."

Mystery Photo for Feb 2017

Answer on pg 4

Newsletter Errata: Previous NYMS Bulletin sales pages have erroneously shown the NYMS library to be in Montclair, New Jersey. That error has now been corrected to "Clifton, New Jersey."

NYMS Lecture Meeting 22Jan2017

Visitors Always Welcome to NYMS

Although most of our lecture meetings, workshops and classes are held in the NYMS Clifton facility on the last Sunday of the month, the building may be opened for special purposes at other times, by appointment only. For such an appointment, please contact Mel Pollinger by phone at (201) 791-9826, M-F noon to 9:30pm, or by email at pollingmel@optonline.net.

From The Editor...

if you have an email address: Getting the newsletter by email means you can receive an **extended pdf version** that cannot be sent by "snail mail." Even if you only continue your USPS delivery of the newsletter, NYMS needs your email address for reporting priority events and special news. Being able to contact you quickly by email means better communication between you & NYMS■■ Mel

Need to use a Microscope or Book?

The various microscopes and library are presently for use on the main floor of the New York Microscopical Society building in Clifton, N.J. To arrange for a visit, please contact John Scott, or Mel Pollinger (see pg 2 for details)

Microscope Cleaning Kit

A complete set of tools and accessories to keep your microscope in optimum operating condition. The kit is put together by our previous Curator/Educational Chairman, Don O'Leary, and available directly from NYMS, while they last, for only $40.00 plus shipping & handling, or may be purchased at a meeting. Call or email Mel Pollinger for details (see page two for contact numbers).

NYMS microscope slide collections are available for study at meetings and by appointment.

Errata: Previous NYMS Bulletin sale pages have erroneously shown the NYMS library to be in Montclair, New Jersey. That error has now been corrected to "Clifton, New Jersey."

Mystery Image from page 3

Audio tape cassette take-up spool: by MP

From Richard Howey

Subject 1: Extraordinary transparent animals

There are 36 images here. Enjoy.

http://www.boredpanda.com/transparent-animals/?utm_source=newsletter&utm_medium=link&utm_campaign=Newsletter

****

Subject 2: NIH--Intravital microscopy

(IVM)-Looking Inside Living Cells,Posted on February 9, 2017 by Dr. Francis Collins https://directorsblog.nih.gov/2017/02/09/cool-videos-looking-inside-living-cells/

Make sure to checkout the above websites

****

NYMS Meeting Dates

Most lecture meetings of NYMS are usually held in Clifton on the last Sunday of the months of Jan., Feb., Mar., May, Sep., Oct. Exceptions and additions will be noted in the Newsletter, or by email..

Additional Historical NYMS Supplements

Email Newsletter recipients can also receive copies of NYMS Newsletter pdf back-Issues from 2007. Copies of older newsletters will be included in the supplement section as I convert them.

Attention NYMS Members

Got something to sell? Article to publish? Pictures for the newsletter? Looking to buy something? Want to use the library? Want to use a NYMS microscope? For any of the above, contact the Editor, Mel Pollinger.

Supporting Member

N.Y.M.S. SUPPLEMENT SECTION

February 2017

In This Section:

Whelk egg case, Stone Harbor beach, NJ:
photo by Pat Walsh Jan. 01, 2009

Conservation of sugaring marble by hydroxyapatite:
some recent developments on producing and treating decayed samples

Enrico Sassoni[1,2], Gabriela Graziani[1], Elisa Franzoni[1], George W. Scherer[2]

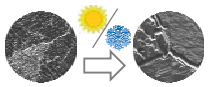
[1] Dept. Civil, Chemical, Environmental & Materials Engineering (DICAM), University of Bologna, Italy
[2] Dept. Civil & Environmental Engineering (CEE), Princeton University, USA

enrico.sassoni2@unibo.it, Website: https://events.unibo.it/hap4marble/

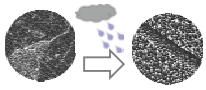
BACKGROUND

Architectural decorations and sculptures made of marble, when they are exposed outdoor, **deteriorate** because:

- **Temperature variations** cause the opening of cracks between calcite grains, so that grains detach and fall



- **Rain** causes the dissolution of calcite grains, so that the marble carved surface is lost



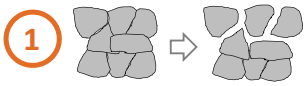
The **products currently available** are not effective and/or durable in preserving marble against these deterioration causes

In 2011, we proposed the use of **hydroxyapatite (HAP)** to preserve carbonate stones [1]

HAP can be formed directly inside marble and over marble surface, from the reaction between **calcite** and an aqueous solution of diammonium hydrogen phosphate (**DAP**) in mild conditions

RESEARCH AIMS

Accelerated ageing

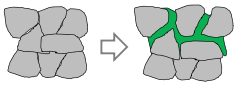


To study the consolidating efficacy of the HAP treatment, artificially aged samples with characteristics similar to naturally sugaring marble (i.e. **micro-cracks more diffused near the surface**) are needed

Treatment parameters

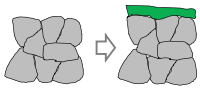
The treatment parameters need to be optimized to **reduce the porosity** of the HAP layer, increase the surface coverage and prevent the formation of soluble calcium phosphate phases

Consolidation



The ability of the HAP treatment to re-establish cohesion between calcite grains and **restore the strength** of weathered marble, without causing over-consolidation, needs to be investigated

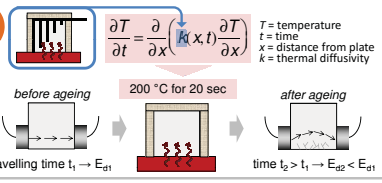
Protection



The ability of the HAP treatment to **prevent the dissolution** of marble surface in rain, by formation of a dense coating with low solubility, needs to be investigated

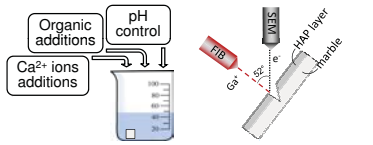
MATERIALS AND METHODS

1



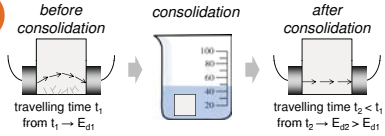
Ageing was produced by heating samples over a **hot plate**, the temperature and time of heating being calculated by a **theoretical model**. Damage was assessed by measuring the **modulus E_d**

2



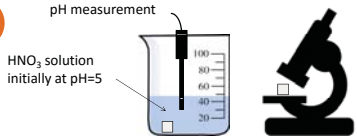
The influence of several **treatment parameters** (ethanol addition, pH control, double treatments [2]) was investigated and the effects evaluated by SEM-FIB

3



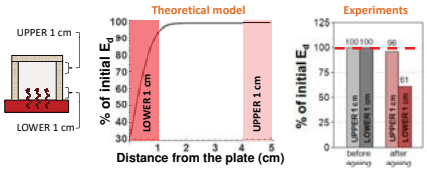
The increase in marble cohesion after consolidation was assessed by measuring the increase in **modulus E_d** and observing the new phosphate phases by **ESEM**

4

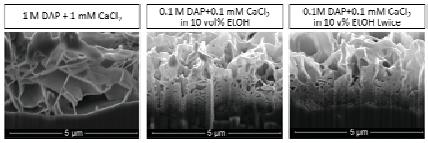


The resistance to dissolution was assessed by measuring the **increase in pH *vs* time** of an aqueous solution of HNO_3 initially at pH=5 (simulating slightly acid rain)

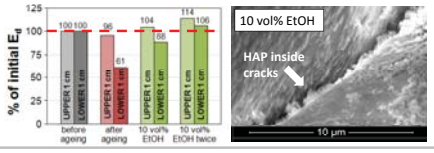
RESULTS AND DISCUSSION



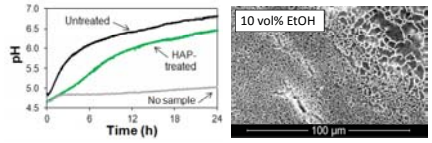
Heating at 200 °C for 20 sec was **predicted** to cause an average **ΔE_d = -35%** in the first 1 cm from the surface, leaving the rest undamaged. **Experimental results confirmed** the prediction



Ethanol addition favors marble surface coverage and helps **reduce the porosity** of the HAP layer, as it weakens the hydration shell of the phosphate ions in solution



Double application of the HAP treatment with 10 vol% ethanol was able to **fully restore the E_d**, thanks to HAP formation inside cracks formed by artificial ageing



The HAP coating was able to **reduce marble dissolution**, even if cracks appeared after the test. The orientation of the underlying calcite grains influences the film durability

CONCLUSIONS AND FUTURE WORK

The developed model allows to produce samples with a **desired level of damage**.

The **addition of ethanol** is effective in promoting HAP formation and reducing the film porosity, thus allowing to achieve a good consolidating and protecting ability

Ethanol has a **competitive effect**, as it weakens the hydration shell of the phosphate ions in the solution but it is adsorbed on calcite surface.

Future research will be aimed at identifying by **NMR** possible **alternative solvents** that may weaken the hydration shell without being adsorbed on calcite

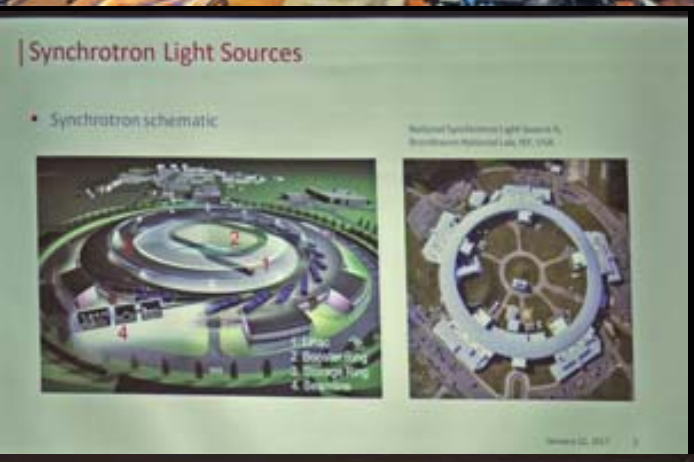
ACKNOWLEDGEMENTS

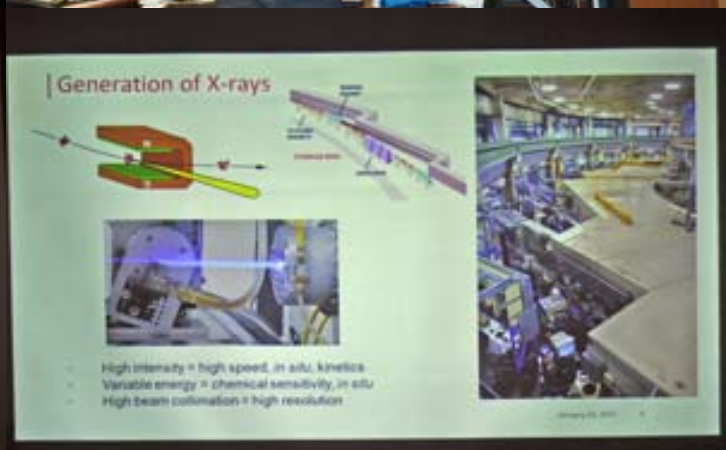
This project has received funding from the European Union's Horizon 2020 programme through the **Marie Skłodowska-Curie HAP4MARBLE Project** (*Multi-functionalization of hydroxyapatite for the restoration and preventive conservation of marble artworks*, grant agreement No 655239)

REFERENCES

[1] Sassoni E., Naidu S., Scherer G.W., *The use of hydroxyapatite as a new inorganic consolidant for damaged carbonate stones*, J Cult Herit 12 (2011) 346-355 [2] Graziani G., Sassoni E., Franzoni E., Scherer G.W., *Hydroxyapatite coatings for marble protection: Optimization of calcite covering and acid resistance*, Appl Surf Sci, 368 (2016) 241-257

Some Photos from the NYMS Meeting of February 22, 2017 presented by Dr. Stanislaus Petrash. A look into the present and future of X-ray Microscopy.











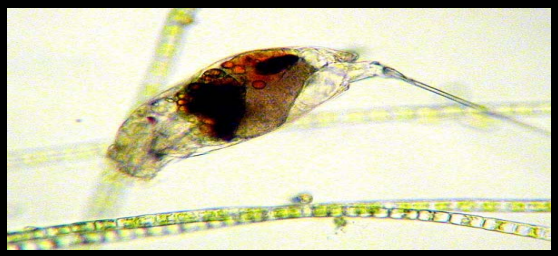
Ramapo Lake, a Walk to Remember, Revisited

By Mel Pollinger

Like many of us, having a natural curiosity about nature, from the easily seen to the microscopic, I have always been fascinated with ponds and other kinds of water-caches that may harbor animal and plant microcosms. Wherever my travels may have taken me, I have always tried to find time for the purpose of collecting and viewing samples of the macroscopic and microscopic life existing in such aquatic places. The trunk of my car has never been without a variety of sample jars, a collecting scoop, plankton net, magnifying lens and a backpack. On occasion, even a portable microscope has been carefully stowed amongst the other items. Occasionally, while still in the field, I have set the microscope on a flat rock or on the ground. Camera and tripod, have also been part of my field-gear.

On one warm, sunny day…

During the summer of 1994, at the upper end of an ascending rocky trail, I found myself walking the perimeter of Ramapo Lake. The lake is part of the Ramapo Forest Preserve in the Oakland area of Bergen County, New Jersey. Since that day, the lake and its surrounding ponds have afforded many hours of visual adventures through the microscope.



The trail up to the lake…

Although its only 0.6 miles long, is rocky, steep at times and is hiked best with good shoes and sturdy legs and provides a decent cardiovascular workout. The path around the lake continues for another four miles and is more or less graded, running over gently rolling hills. Alongside this road many varieties of mushrooms and tree fungus can be found in as many shapes and colors. During Mid-Summer, wild blueberries and blackberries abound, their fruit-laden branches hanging over the sides of the road and also drooping over the rocky edges of the lake.

From early Spring…

Each weekend brings another stage in the development of the abundant mountain laurel flowers, their petals painted in various shades of pink, blue and also bright white. The lake is alive with aquatic insects, whose purpose in life, it appears, is to be snapped up by the rock bass and sunfish. Huge bullfrogs snore loudly and various types of snakes rest upon flat rocks absorbing as much sunlight as possible. The snakes may be seen slithering smoothly to change rocks or moving lightning-fast to hide under a rock or escape back into the woods to avoid being stepped upon by hikers, or snapped at by dogs out for a walk. Swans, geese and ducks also frequent the lake, and the sky above it. Bird-song is everywhere along the road and side trails.

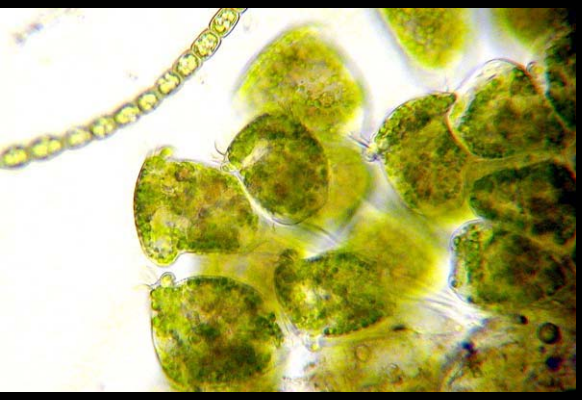
Ramapo Lake can be overwhelming…

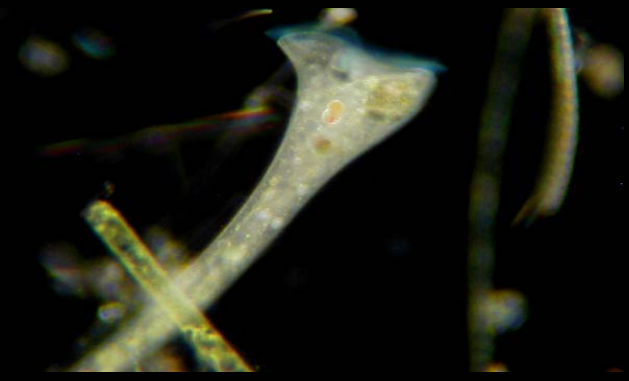
The plants and ponds, the bogs and swamps, the seasonal macro and microcosms of life each abound in their sheer quantity and natural beauty. My aim has been to enjoy as much as I can see or hear while moving along the road, stopping only to study the much-varied aspects of the lake and its environs. I have to admit, to spite my claim of such aim, never having passed up an opportunity to get down into the dirt in order to capture images of the flowers, mushrooms, snakes and insect life that abundantly inhabit this place. Taking the lake in small doses during the year helps me to avoid being overwhelmed. The focusing-in on specific plants or water caches can be rewarded with some very interesting images and specimens. Allowing for at least two or three hours at the lake seems to be best. Images taken first, then specimen collecting just before the hike down to the parking lot, the car and then, finally home. At this point, the jars are usually full, crustacea zipping around and tiny whitish specks moving and changing direction as if hunting for even tinier whitish specks. ***On any Summer day one can find an abundance of interesting things to see and/or photograph.***

Many evenings have been happily spent at the microscope…

Found me peering at the ciliates, rotifers, diatoms, desmids, filamentous algae, etcetera, trying to identify what I had discovered in the jars of plant-laden pond water collected from the lake area. An almost compulsive desire to classify and photograph these creatures has caused me to look for simple ways of identifying them. Consequently, books on microscopy and nature became an excellent foundation for such an amateur's basic microscopical-subject library. A variety of books on microscopic life is essential to anyone seriously (or for fun) interested in such, not the least of which include, but is not limited to, the following eight books:

- Curry/Grayson/Hosey, "Under the Microscope"
- Grave, Eric V., "Using The Microscope, A Guide for Naturalists"
- Jahn, "How To Know The Protozoa"
- Nachtigall, "Exploring With The Microscope"
- Patterson,D.J., "Free-Living Freshwater protozoa"
- Prescott, G.W., "How To Know The Fresh Water Algae"
- Rainis and Russell, "Guide to Microlife"
- Reid, George K., "Pond Life"



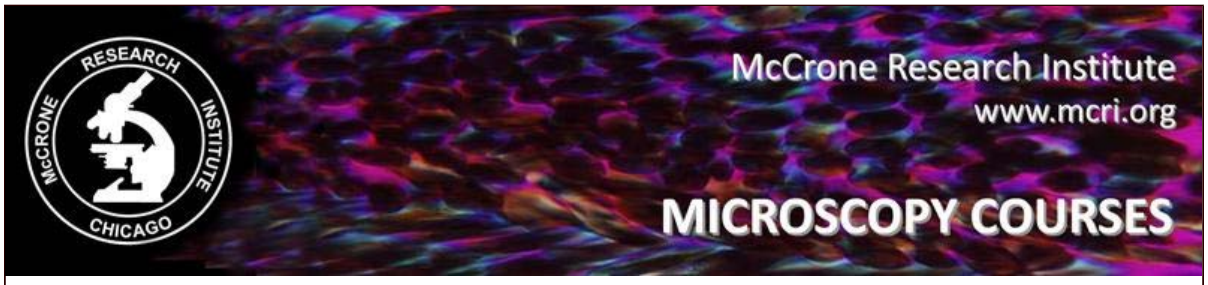


“How To Know The Protozoa,” by Jahn & Jahn…

It was that book and two close friends (fellow High School “Mad Scientists,”) Ben Glassman and Marv Kaplan, that started me, in my teens, on the exploration of pond waters and various infusions of hay, rice, wheat and lettuce. That wire-bound volume was my first book on protozoology. I found, very early on, that the key to using such a book, is exactly that, a key! This book, and many others, are set up to identify species and varieties by first describing a microscopic subject’s anatomy. Therefore, without knowing what the parts of the lifeform in question are called, the key cannot be properly utilized. Although the many line drawings in Jahn can be as helpful as “Classic Comics” or “Cliff Notes”, in general they do not always show the subtle differences between closely related species and/or varieties of protozoa and algae. Realizing this led to an attempt to study the Jahn “key.” I found that the pursuit of such information regarding microscopic lifeform anatomy can become complicated. Whenever such complication appears to obfuscate the issue, it is time to purchase more books. I had developed a growing desire to identify the creatures and plants I observed. Using the keys and texts along with newly learned anatomical descriptions allowed for identification of the specimens that I wanted to photomicrograph. I was thereby enabled, by means of this newly acquired language, to attempt the taking of meaningful images of the species I believed I was encountering. I was enjoying nature and science; in other words, having fun with my cameras, microscopes and computer imaging programs and sharing all this with my family and friends.

Main Identity

From: "McCrone Research Institute" <courses@mcri.org>
To: <pollingmel@optonline.net>
Sent: Wednesday, February 08, 2017 10:06 AM
Subject: Fluorescence Microscopy Course, May 16-18 at McCrone Research Institute, Chicago



Fluorescence Microscopy Course

At McCrone Research Institute, Chicago
May 16 - 18, 2017

McCrone's **Fluorescence Microscopy** course, taught by Dr. Steven Ruzin, Ph.D, will cover the techniques of fluorescence microscopy used in the identification of microbes in the environment, and biological and non-biological samples. The course consists of lectures, demonstrations, and hands-on training in the practice of sample collection, preparation, and observation using fluorescence microscopy techniques. After completing this course, students will have gained experience in designing fluorescence microscopy protocols and in implementing those protocols for investigating laboratory and real-world field samples. Enrollment is limited. Learn more and register online

Other McCrone Courses

Select a title to read the course description and register online:

Microscope Cleaning, Maintenance and Adjustment -- March 8-9

Microscopical Identification of Asbestos -- March 13-17

Applied Polarized Light Microscopy (PLM) / Forensic Microscopy -- April 3-7

Advanced Indoor Air Quality: Advanced Fungal Spore Identification -- April 10-14

Forensic Dust Analysis -- April 17-21

Asbestos Fiber Counting [NIOSH 582] -- May 1-5

View all 2017 Microscopy Courses

McCrone Microscopy Courses by Category

Asbestos, Fungal Spore, Pollen, Dust, and Other Indoor Air Quality Courses

PLM, Forensic Microscopy, and Advanced Microscopy Courses

SEM, FT-IR, Fluorescence, Raman, Sample Prep, and Other Micromethods Courses

Specialty Microscopy and Other Courses

Visit www.mcri.org for full descriptions of all courses, secure online registration, hotel information, and more.

Since 1960, McCrone Research Institute in Chicago has offered intensive courses in microscopy that emphasize the proper use of the microscope and more specialized microscopy, focusing on a particular technique, material, or field of application. All courses are hands-on, featuring lectures, demonstrations, and laboratory practice.

We look forward to seeing you in Chicago!

McCrone Research Institute: 2820 S. Michigan Avenue, Chicago IL 60616-3230
Phone: 312-842-7100

Copyright © 2017 McCrone Research Institute. All rights reserved.

McCrone Research Institute, 2820 S. Michigan Avenue, Chicago, IL 60616

SafeUnsubscribe™ pollingmel@optonline.net

Forward this e-mail | Update Profile | About our service provider

Sent by courses@mcri.org in collaboration with

Constant Contact

Try it free today

Main Identity

From: "McCrone Research Institute" <intermicro@mcri.org>
To: <pollingmel@optonline.net>
Sent: Monday, January 30, 2017 10:03 AM
Subject: Inter/Micro 2017 Workshop, Presentations, Awards Dinner, and more

Workshop - Presentations - Awards Dinner

Inter/Micro 2017

69th Annual International Microscopy Conference
June 12 - 16, 2017 at McCrone Research Institute, Chicago

Workshop: Image Processing and Measurement

June 15-16: This two-day workshop, taught by Dr. John C. Russ, will emphasize the tools, methods, and workflow used to extract relevant and accurate information from digitized images through the step-by-step application and comparison of algorithms. Several different public domain and commercial software programs will be used to process and measure images. Students will also learn image-correction techniques such as adjustments for color, brightness, contrast, illumination, and noise reduction. Learn more and register online.

Call for Papers: Speaker Presentations

June 12-14: McCrone Research Institute cordially invites you to give a presentation of your microscopy research at the 69th annual Inter/Micro conference in Chicago. Join professional and amateur microscopists from around the world as they present new research on techniques and instrumentation, environmental and industrial microscopy, and chemical and forensic microscopy. Speakers receive at $50 registration discount. The abstract submission deadline is **March 17, 2017**. View abstract submission guidelines.

SMSI Awards Dinner and Live Auction

June 14 at Café Bionda in Chicago: Join Inter/Micro and the State Microscopical Society of Illinois as they honor Dr. John C. Russ with the 2017 August Köhler Award. Dr. Russ is a

world-leading expert in digital image processing and analysis for a variety of disciplines. During his 50-year career, Dr. Russ has focused on imaging for technical, scientific, and forensic applications, and on studying the microstructure and surface topography of metals and ceramics. A live auction will precede dinner. Learn more and register online.

Exhibitor and Company Sponsorship Opportunities

Inter/Micro attracts influential scientists who look to exhibitors as sources of information on equipment, techniques, and supplies. Reserve an exhibitor booth or have your company sponsor one of several Inter/Micro 2017 events. Learn more and register.

Book Your Hotel Today; Room Availability is Limited

Now is the time to reserve your hotel room for Inter/Micro 2017. Club Quarters in nearby downtown Chicago are the preferred hotels. Learn more.

We look forward to seeing you in Chicago!

Like us on Facebook

McCrone Research Institute
A Not-for-Profit Corporation
2820 South Michigan Avenue, Chicago, IL 60616-3230
Phone: 312-842-7100 Fax: 312-842-1078

Copyright © 2017 McCrone Research Institute. All rights reserved.

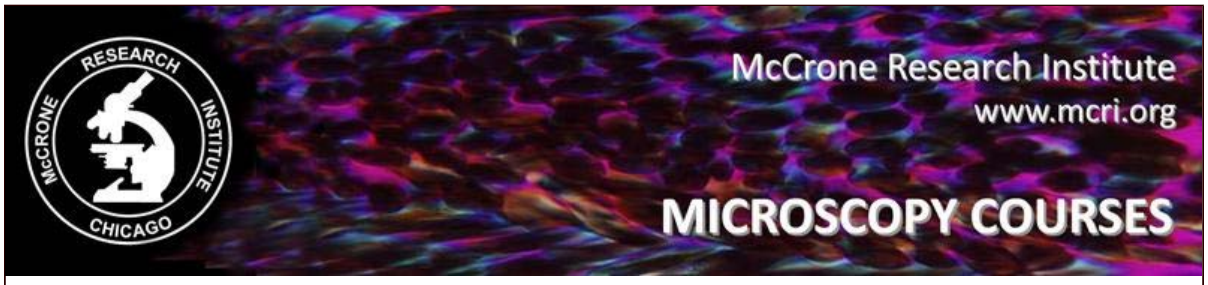
McCrone Research Institute, 2820 S. Michigan Avenue, Chicago, IL 60616

SafeUnsubscribe™ pollingmel@optonline.net

Forward this e-mail | Update Profile | About our service provider

Main Identity

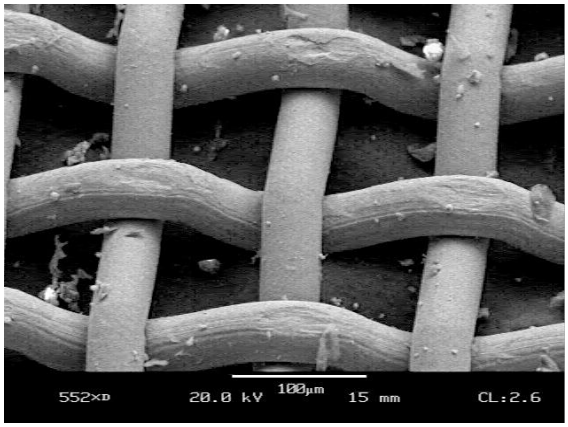
From: "McCrone Research Institute" <courses@mcri.org>
To: <pollingmel@optonline.net>
Sent: Wednesday, January 25, 2017 10:02 AM
Subject: SEM Course, May 8-12 at McCrone Research Institute, Chicago



Scanning Electron Microscopy Course

At McCrone Research Institute, Chicago
May 8 - 12, 2017

McCrone's **Scanning Electron Microscopy (SEM) and X-ray Microanalysis (1402)** course will prepare students to successfully handle the imaging and compositional analysis requirements of nearly any material, e.g. metals, polymers, minerals, forensic trace evidence, pharmaceuticals, etc. Techniques are presented for analyzing insulating beam-sensitive or vacuum-sensitive samples. Discussion topics include electron optics, electron-beam specimen interactions, image formation, sample preparation, and qualitative and quantitative energy dispersive spectroscopy (EDS) X-ray microanalysis. Learn more and register online



Other McCrone Courses

Select a title to read the course description and register online:

Applied Polarized Light Microscopy/Forensic Microscopy -- February 6-10

Modern Pollen Identification -- March 7-9

Microscope Cleaning, Maintenance and Adjustment -- March 8-9

Microscopical Identification of Asbestos -- March 13-17

Microchemical Methods -- March 20-24

View all 2017 Microscopy Courses

McCrone Microscopy Courses by Category

Asbestos, Fungal Spore, Pollen, Dust, and Other Indoor Air Quality Courses

PLM, Forensic Microscopy, and Advanced Microscopy Courses

SEM, FT-IR, Fluorescence, Raman, Sample Prep, and Other Micromethods Courses

Specialty Microscopy and Other Courses

Visit www.mcri.org for full descriptions of all courses, secure online registration, hotel information, and more.

Since 1960, McCrone Research Institute in Chicago has offered intensive courses in microscopy that emphasize the proper use of the microscope and more specialized microscopy, focusing on a particular technique, material, or field of application. All courses are hands-on, featuring lectures, demonstrations, and laboratory practice.

We look forward to seeing you in Chicago!

McCrone Research Institute: 2820 S. Michigan Avenue, Chicago IL 60616-3230
Phone: 312-842-7100

Copyright © 2017 McCrone Research Institute. All rights reserved.

McCrone Research Institute, 2820 S. Michigan Avenue, Chicago, IL 60616

SafeUnsubscribe™ pollingmel@optonline.net

Forward this e-mail | Update Profile | About our service provider

Sent by courses@mcri.org in collaboration with

Constant Contact

Try it free today

Main Identity

From: "McCrone Research Institute" <intermicro@mcri.org>
To: <pollingmel@optonline.net>
Sent: Tuesday, January 10, 2017 10:03 AM
Subject: [SPAM]Call for Papers -- Inter/Micro 2017 at McCrone Research Institute

Call for Papers

Inter/Micro 2017

An international microscopy conference.
June 12-16, 2017 -- McCrone Research Institute, Chicago

Abstract submission deadline:
March 17, 2017

McCrone Research Institute cordially invites you to give a presentation of your microscopy research at the 69th annual Inter/Micro conference in Chicago.

Join professional and amateur microscopists from around the world as they present new research on techniques and instrumentation, environmental and industrial microscopy, and chemical and forensic microscopy.

Research presentations will be held three days on June 12-14.
A two-day workshop will follow on June 15-16.

View abstract submission guidelines at www.mcri.org.

Like us on Facebook

McCrone Research Institute
A Not-for-Profit Corporation
2820 South Michigan Avenue, Chicago, IL 60616-3230
Phone: 312-842-7100 Fax: 312-842-1078

Copyright © 2017 McCrone Research Institute. All rights reserved.

McCrone Research Institute, 2820 S. Michigan Avenue, Chicago, IL 60616

SafeUnsubscribe™ pollingmel@optonline.net

Forward this e-mail | Update Profile | About our service provider

Sent by intermicro@mcri.org in collaboration with

Constant Contact

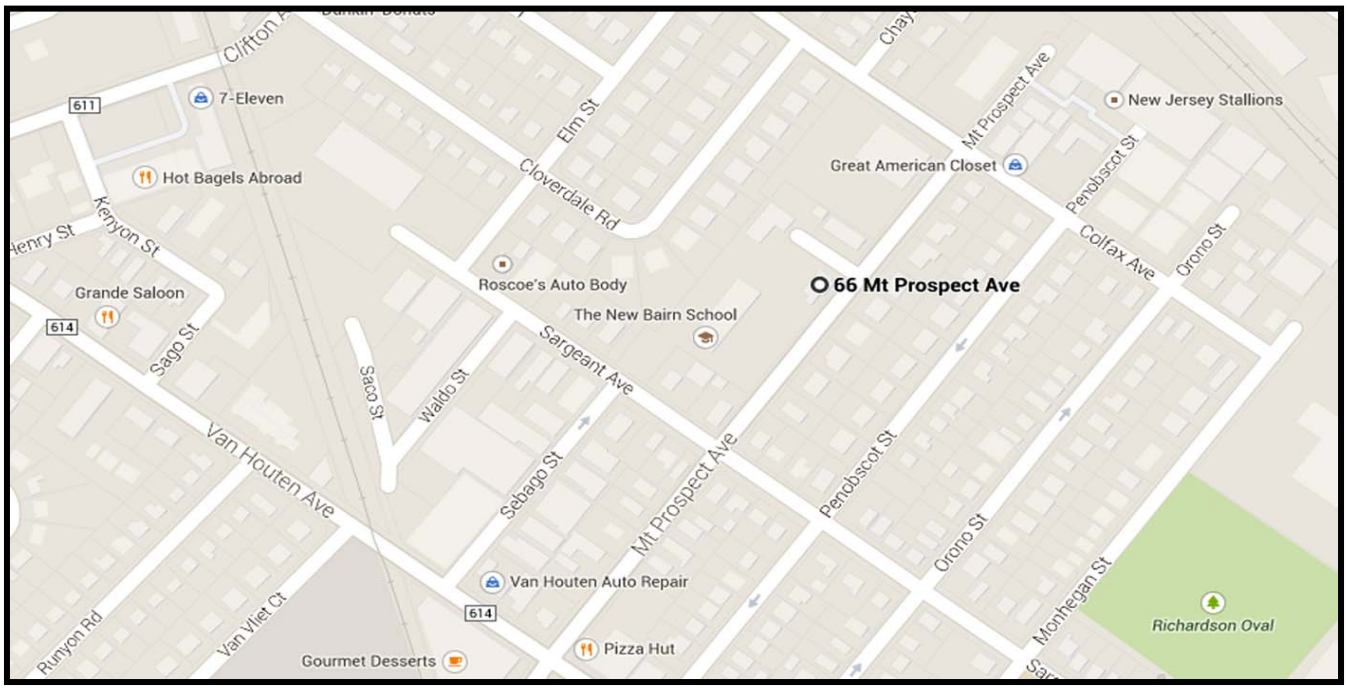
Try it free today

NEW YORK MICROSCOPICAL SOCIETY BULLETINS

The following original-print bulletins can be purchased by NYMS members. The bulletins are limited in number and can be purchased, while they last, at $2.00 each, 8 copies for $10 plus $2.00 S&H. Also, in limited supply are original-print NYMS journals, while they last at $5.00 each. The journals date back to 1896. The bulletins, Journals and other out-of-archive publications may be viewed at the NYMS Library in our building in Clifton, New Jersey. If interested in owning a part of NYMS history, please contact Mel Pollinger by email pollingmel@optonline.net or by daytime phone at (201) 791-9826

.

Vol. 1 New York, N. Y.,January, 1937 No.3
COLLECTING RECENT DIATOMS *By* JOSEPH F. BURKE
Vol. 1 New York, N. Y., February, 1937 No. -4
PREPARING RECENT DIATOMS *By* JOSEPH F. BURKE
Vol. 1 New York, N. Y., November, 1937 No.5
MOUNTING RECENT DIATOMS *By* JOSEPH F. BURKE
Vol. 3 New York, N. Y. June, 1951 No: 1
PREP ARA TION OF METAL FOR MICROSCOPICAL EXAMINATION
by F. Gordon Foster Fellow, New York Microscopical Society
Vol. 1 New York, N. Y., December, 1936 No.2
MAKING A ROCK SECTION
By GEORGE E. ASHBY
Vol. 1 New York, N. Y., February, 1936 No.1
THE MYCETOZOA
By ROBERT HAGELSTEIN
Vol. 2 New York, N. Y., April, 1944 No.1
THE HISTORY OF THE MICROSCOPE
By ROBERT HAGELSTEIN
Vol. 1 New York, N. Y., January, 1940 No.6
MOUNTING INSECTS BY THE PRESSURE METHOD, *By* Roy M. ALLEN



Directions to NYMS Headquarters

One Prospect Village Plaza
(66F Mount Prospect Avenue)
Clifton, NJ 07013

GPS: Intersection of Colfax & Mt. Prospect:
Latitude 40.8656 N, Longitude 74.1531W,
GPS: Our building: Latitude 40.8648 N,
Longitude 74.1540 W

From George Washington Bridge:
Take Interstate Route 80 west to Exit 57A, Route 19 South. Take Route 19 to Broad Street and continue two lights to Van Houten Avenue. Turn Left. Go to second light, Mount Prospect Avenue and turn left. Building 66F is on the left side , one and a half blocks from Van Houton.

From Lincoln Tunnel:
Follow exit road to NJ route three west. Continue to Bloomfield Avenue exit. Turn right to Circle and go three quarters to Allwood Road West. Mount Prospect Avenue is a few blocks on the right (a small street) Turn right and go to first light (Van Houton) continue. Building 66F is on the left side , one and a half blocks from Van Houton.

From North:
Take Garden state Parkway South to Route 46 Clifton Exit. On 46 Make second exit to Van Houton Ave. Continue to third light Mount Prospect Avenue and turn left. Building 66F is on the left side , one and a half blocks from Van Houten.

From Route 46 coming from west:
Take Broad Street Exit in Clifton and follow Directions above from GW Bridge.

From route 46 coming from East: Take Paulson Avenue Exit in Clifton and follow to Second light, Clifton Ave turn right. Go to next light, Colfax, turn left, go three blocks and turn right on Mount Prospect Ave.. Building 66F is half block on right.

Public transportation from NY:
Take NJ Transit train from Penn Station to Secaucus Transfer Station. Change trains to Bergen Line to Clifton (call NJ Transit for schedules). From Clifton Station cross under tracks to first street and go left one block to Mount Prospect Street, turn right and Building 66F is one half block on Right.

If you plan to come by bus or train, please copy the links below into your browser:
http://www.njtransit.com/sf/sf_servlet.srv?hdnPageAction=TripPlannerItineraryTo
http://www.njtransit.com/sf/sf_servlet.srv?hdnPageAction=BusSchedulesP2PTo
http://www.njtransit.com/sf/sf_servlet.srv?hdnPageAction=TrainTo

New York Microscopical Society Items For Sale

29-Feb-2016

N.Y.M.S. Microscope Covers

Item #	Size	Member Price	List Price
MT-003	Small Microscope or Stereo, 15"W x 17"H	$18.00	$20.00
MT-004	Lab Microscope or Large Stereo, 20"W x 18"H	$23.00	$25.00
MT-005	Large Lab Scope, 22"W x 21"H	$28.00	$30.00
MT-009	Large Lab Scope with Camera, 9"W x 19"Deep x 23"H	$31.00	$33.00
MT-010	Universal Scope with Camera, 11"W x 25"Deep x 23"H	$36.00	$40.00
MT-012	X-large Scope	$45.00	$50.00

N.Y.M.S. Microscopes (see below for images)

185	Monocular Dissecting Microscope	$85.00	$99.00
131	H.S. Student Microscope	$190.00	$245.00
131-FLU	H.S. Student Microscope (Fluorescent)	$200.00	$255.00
125-LED	H.S. Student Microscope (LED)	$240.00	$309.00

Other Items

NYMS Glossary of Microscopical Terms	$30.00	$35.00
NYMS Patch	$5.00	$7.00
Microscope Cleaning Kit*	$40.00	$45.00
NYMS Lapel Pin	$10.00	$15.00
NYMS Engraved Pen	$7.00	$10.00
Rotifer Book by Howard Taylor	$20.00	$40.00

*When available

Model 131: Tungsten

Model 131-FLU: Fluorescent

Model 185: 20x

Model 125-LED Cordless

New York Microscopical Society

Please Print

Please send with payment directly to:
New York Microscopical Society
c/o Mel Pollinger, Treasurer
18-04 Hillery Street
Fair Lawn, NJ 07410-5207

I hereby apply for membership in the New York Microscopical Society

Name:(Dr.,Ms.,Mr.).....Nickname.....
Home Address.....
.....
Phone.....Fax.....E-Mail.....
Work: Company.....Address.....
.....
Phone..... Fax.....E-Mail.....
Would you prefer to receive NYMS mail at home ☐ At work ☐ By e-mail (best way) ☐
Principal work or interest in Microscopy.....
.....
On what topic are you available as a speaker? .....
.....
Would you like information about NYMS committees? Yes ☐ No ☐ Awards ☐ Membership ☐
Education ☐ Library ☐ Finance ☐ Curator ☐ Housing ☐ Program ☐ Publications ☐ History ☐
Who referred you to NYMS?.....
Academic and Honorary Degrees:
Degree Conferring Institution Date
.....
.....
.....
Scientific Publications.....
.....
.....
Membership in Scientific Societies.....
.....
Date of birth (optional if over 18).....
***I have enclosed a check for $..... to cover my application fees** for membership {Annual $30, Supporting $60, Life $300(payable within the year), Corporate $175(includes one advertisement in NYMS News), Junior $5 (under 18 years old)}.Student (over 18) $20*
I understand portions of the above information may be used in NYMS publications.
I would prefer my home ☐ work ☐ address/ phone included in the NYMS Directory.

*Signature.....*Date.....
NYMS Headquarters: One Prospect Village Plaza, Clifton, NJ 07013 Telephone (973) 470-8733

Cimax lectularius (Bedbug, Rheinberg, prepared slide), 10x (P2021413)a6x4x200: photo by Mel Pollinger

Trepanosoma rotatorium (Frog blood, prepared slide), 1000x (P2021401)a6x4x200: photo by Mel Pollinger