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

February 2018 | **Editor: (201) 791-9826** | **Volume 13 (32) Number 2**

New York Microscopical Society Winter-Spring 2018 Schedule of Events

Starting with the BOM & Members Meetings on February 25th, 2018 at NYMS in Clifton, NJ

O**ur winter-spring Program of Members Meeting lectures, and other public events, is almost set, but a few details are TBA. On February 25 the NYMS Board of Managers will meet at our Clifton HQ, and afterward we'll convene a Members Meeting at 1:30 PM.**
The Members Meeting topic will be "Editing Our Wordpress website," and this will open with an introductory talk, and continue eith hands on exercises. This merting will be open to all as usual, and any Manager and any Member interested in joining NYMS' website maintenance team, should join in person. Of course we will be sharing web editing information and duties from then on, so those who cannot participate on the 25th, take heart and get in touch with Vice President and Manager John Scott!

In March NYMS will offer our Members, and science teachers and the general public, three workshops (1.5 hour lecture-labs) and an exposition table, in the March 24 annual Science Council of New York City conference in Manhattan--aka 'SCONYC'--at Stuyvesant High School in Manhattan, NYC. NYMS is a sponsoring organization of SCONYC, currently with three voting and planning delegates on the SCONYC Board. Our delegates and instructors help to produce the meeting, during the year and on the day.

NYMS' three workshops at SCONYC 2018: an introduction to stereobinocular microscopy; an introduction to smartphone photomacrography; and microscopy in studying the local geology of New York City.
The conference's featured keynote speaker is Michael DiSpezio!
<https://en.m.wikipedia.org/wiki/Michael_A._DiSpezio>
Register, before March 1! The SCONYC conference is open to all, not just science teachers, albeit there is a small registration fee. Plan to participate, and to ensure enough registrants for the well-organized and always worthwhile conference to be confirmed, please visit the SCONYC Eventbrite page and register, before March 1!
https://www.eventbrite.com/e/sconyc-40th-annual-conference-science-shift-into-new-dimensions-tickets-42823890409

On April 22 at our Clifton headquarters, Jan Hinsch will address our Members Meeting on "140 years of The New York Microscopical Society." Do not miss his presentation and our open discussion!

Friday April 6th Microscope day at Centenary University in NJ on Friday April 6th Additional locations TBA.

Wednesday April 25 NYMS meets jointly with the NY-NJ Soc. for Applied Spectroscopy, in an analytical systems development laboratory near Princeton, NJ. Details TBA.

Late May: Internationally known Art Analyst Jennifer Mass, erstwhile professor at U of Delaware and the Winterthur Museum conservation science laboratory, and now with Bard College and with her consulting firm, will address us at a Manhattan venue, in late May, not on Memorial Day weekend. Details TBA.

If you have a suggestion for future programming, please send it! see BoM,page 2 for contact info
For NYMS, and collegially, ~John
John Scott NYMS Vice President-Program Coordinator, Curator, Archivist, Fellow, 646.339.6566

New York Microscopical Society Board of Managers

President and Secretary 2017-18, Brooke Kammrath, bkammrath@newhaven.edu; (203) 931-2989, **Manager 2016-2019.**
Vice President 2017-18, John Scott, nyconsnfdn@aol.com; (646)339-6566, Curator, Archivist, Facilities Assistant, Past President, **Manager 2015-2018.**
Treasurer 2017-18, Mel Pollinger, pollingmel@optonline.net; (201)791-9826, Facilities, Editor, Librarian, **Manager 2017-20.**

Manager 2015-2018, Lou Sorkin entsult@aol.com, (914) 939-0917.
Manager 2015-2018, Guy deBaere guydbaere@aol.com; (347) 668-4798 Outreach Program Chair
Manager 2016-2018, Jay Holmes jholmes@igc.org ; (212) 769-5039, Outreach Program Assistant.

Manager 2016-2019, Peter Diaczuk pedicoplanb@gmail.com; (917) 578-3049, Past President.
Manager 2016-2019, Seymour Perlowitz perlowitzs@hotmail.com; (718) 338-6695
Manager 2016-2019, Roland Scal, rscal@qcc.cuny.edu; (718) 631-6071.

Manager 2017-2020, John A. Reffner jareffner@cs.com; (203) 358-4539 Past President.
Manager 2017-2020, John R. Reffner, Jr. jrr11p@gmail.com; (215) 527-1882.
Manager 2017-2020, Andrew J. Winter, ajwinter112@gmail.com, Education Chair.

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 $500 (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
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

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Please remember to pay your dues

Buy and Read a Good Book on Microscopy.

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

SCONYC 40th Annual 2018

All-Day Conference and Luncheon
Science: Shift Into New Dimensions
Saturday, March 24, 2018
8:00 AM – 4:00 PM
On Site Registration begins at 7:45 AM
Stuyvesant High School
345 Chambers Street
New York, NY 10282
For more information visit our website at
http://www.sconyc.org
On-line registration and payment available.
(See flyer in email supplement section)

Inter/Micro 2018
70th Annual International Microscopy Conference
June 11 - 15, 2018 at McCrone Research Institute, Chicago

Call for Papers: Speaker Presentations **June 11-13:** McCrone Research Institute cordially invites you to give a presentation of your microscopy research at the 70th 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 16, 2018**. View abstract submission guidelines and register online. (See email supplement for flyer)

Reprint of November 2017, President's Message

Hello NYMS Members.
The New York Microscopical Society is looking to expand our membership, and we are asking for your help. Do you have a colleague, student, or friend who works with and/or has an interest in microscopy? Then introduce them to NYMS! The Board of Managers has even created an incentive for you: Any member who refers three (3) new members will have their membership dues waived for the year! Or, if you are a life member, you can get a free NYMS microscope cover!
Help us to promote the techniques and applications of microscopy and microanalysis!
Kind Regards,
Brooke Kammrath, Ph.D., D-ABC

Jan 2018, pg 3 shows Annemarie Reimscheuller holding a simple microscope of the type invented by Antonie van Leeuwenhoek.

NYMS AMNH Event On January 27th

NYMS hosted an exploration through the microscope event at the American Museum of Natural History. It opened with a little reception with snacks for visitors, and a quick presentation about the context of microscope use in some of the educational activities at the Museum. Ranging from professional audiences like teachers and librarians in NYC to science learners of all ages through family engagement both at the Museum and out in the schools of New York. We then
moved into two hours of microscope fun at three work stations. (Full story by Jay Holmes in email Supplement)

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 in the months of Jan., Feb., Mar., May, Sep. & Oct. 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 (microscopes), or Mel Pollinger (Library) (see pg 2 for contact #'s)

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

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.

Upcoming NYMS events are noted on the NYMS website and in the NYMS Newsletters both printed and email versions.

Get Involved in the your NYMS Newsletters: Articles, images and comments are always welcome and necessary; who knows; we may learn something new and you may enjoy being a contributor. MP

NEW YORK MICROSCOPICAL SOCIETY BULLETINS

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. NYMS bulletins, Journals, Yearbooks and other out-of-archive publications may be viewed at the NYMS Library 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
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. NYMS bulletins, Journals, Yearbooks and other out-of-archive publications may be viewed at the NYMS
Library in Clifton, New Jersey. If interested in owning a part of NYMS history,
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EASTERN ANALYTICAL SYMPOSIUM & EXPOSITION

Supporting Member

N.Y.M.S. SUPPLEMENT SECTION

February 2018

In This Section:

GRAVELLE, PHILIP O.
Consultant
Fellow of New York Microscopical Society
Fellow of Royal Photographic Society
Recipient of Barnard Medal from London Photo. Soc. (1923)
Died January 4, 1955

Images & Text from NYMS' Gravelle "Facilities 1946" photo collection. Part 1

NYMS Library Sampler

THE GRAVELLE LABORATORY

114 PROSPECT STREET
SOUTH ORANGE, NEW JERSEY

SPECIALIZING IN PHOTOGRAPHY THROUGH THE MICROSCOPE

And the Study of Problems Requiring the Use of Microscopes

Established in 1918 for the study of Microscopical Appearances and the production of high quality Photomicrographs. Equipped for the preparation of Technical and Industrial materials for examination and photography with various types of microscopes and suitable methods of illumination. Transmitted light, surface lighting, polarized light, dark field, Cardioid ultra-microscope, vertical illumination for metallurgical micrographs.

THE GRAVELLE LABORATORY Reference Library.
April 1946.

THE GRAVELLE LABORATORY built in 1932.

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THE GRAVELLE LABORATORY Photomicrographic equipment.

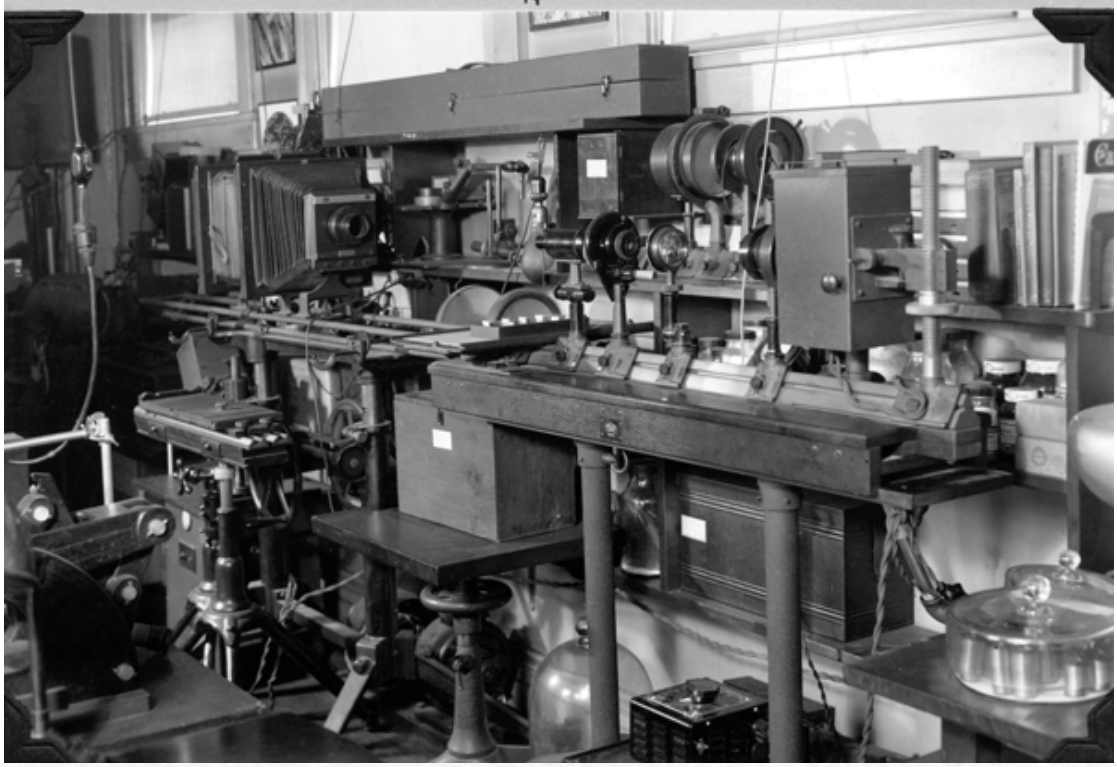
December 1935.

7

THE GRAVELLE LABORATORY. Zeiss Micro-projection equipment and Zeiss large photomicrographic equipment. 8 X 10 "

April 1946

19



THE GRAVELLE LABORATORY Optical and chemical equipment.

December 1935.

8

THE GRAVELLE LABORATORY. "Tools of science". Microscopes.

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NYMS @ AMNH

By Jay Holmes

On January 27th NYMS hosted an exploration through the microscope event at the American Museum of Natural History. It opened with a little reception with snacks for visitors, and a quick presentation about the context of microscope use in some of the educational activities at the Museum. Ranging from professional audiences like teachers and librarians in NYC to science learners of all ages through family engagement both at the Museum and out in the schools of New York. We then moved into two hours of microscope fun at three work stations:

An "Observation Station" area with two sections, the first being 4 stereo dissection microscopes with insects on pins and some live arthropods brought down to the Davis Classroom by NYMS board member Lou Sorkin and one dish of plankton. The second section of the "Observation Station" was a set of three compound microscopes and a Kena-vision folding projection microscope, which is often taken to NYC schools for Family Science experiences, and the subject of this area was some fresh winter pond plankton (lots of rotifers!). In addition to Lou, Mayra Sanchez, Julie Cohen, John Scott, Guy d'Baere and Jean Portell guided visitors through this suite of activities.

Lilly and Clay at the microscope making station, Lilly's scope in the lower left! Guy d'Baere supporting plankton observers to the right. (Above photo by Jean Portell, photo at right by Jay Holmes)

Microscope Makers Lilly Eidelberg Cardo left and Clay Yurman via video conference. Maya Sanchez, Julie Cohen and John Scott on right staffing the Observation Station with Guy d'Baere in the crowd. (Photo by Jay Holmes)

Station number two, Microscope Making, was hosted by three high school and college students who have been working at the Museum, making their own microscopes, from grinding and polishing their glass lenses, to cutting and filing brass for the structure of the scope, to working with wood to build the box to contain and mount the scope. This team was lead by Lilly Eidelberg Cardo and Nick Cancar in person, and Clay Yurman who joined us from college via video conference. Lilly, who had her microscope set up with a sphagnum sample for participants to view, was fielding questions on the whole construction process, and Clay was demonstrating the filing work on brass via the video link.

The third station had a history of science focus with two microscopes that were the same make and model as those used by Charles Darwin. One area was set up to reflect the chart room where Darwin slept and worked on the Beagle, and the other was a microscope set up and display spinning around some plant specimens that Darwin studied in later years at Down House. The Beagle area included a Robert Bancks single lens microscope with a "Coraline" specimen on the stage for viewing. Darwin collected some of this type of material with a "plankton net" that he made on board. A model of this plankton net was also part of the exhibit as well as some copies of maps of the Galapagos that were produced with data from the Beagle surveys. The "Down House" exhibit included a Smith and Beck "Large Best No. 1" binocular compound light microscope, a copy of Darwin's "Insectivorous Plants," some copies of illustrations from his manuscripts taken from the Darwin Manuscript Project at the AMNH, and some live specimens of some Drosera rotundifolia and Utricularia sp. There was a slide with Utricularia under the Smith & Beck for visitors to view.

Visitors viewing some insectivorous plants that Charles Darwin studied through a Smith and Beck microscope of similar design to the one used by Darwin. (Photo by Jay Holmes)

Mayra Sanchez helping visitors identify plankton under the projection microscope. (Photo by Jay Holmes)

We also set up a New York Microscopical Society information table with staff to answer questions that visitors had about the group and our activities.

The room was open to the public from 1:00 to 3:30 and perhaps a little beyond. We had a large, regular, flow of visitors throughout the event. Visitors were young and old and all seemed to find something of interest from the history, the technology, and the making, to the subjects of study. Our visitors were from a wonderfully wide geographic range including New York, Europe, Asia, Africa and Latin America. We hope to make such a wonderful outreach event a regular part of the NYMS schedule.

Thank you to all of the New York Microscopical Society team and the AMNH volunteers who made it all work!

The World of Minerals

The *World of Minerals* is a monthly column written by Dr. Vivien Gornitz on timely and interesting topics related to geology, gemology, mineralogy, mineral history, etc.

Rooftop Spacedust

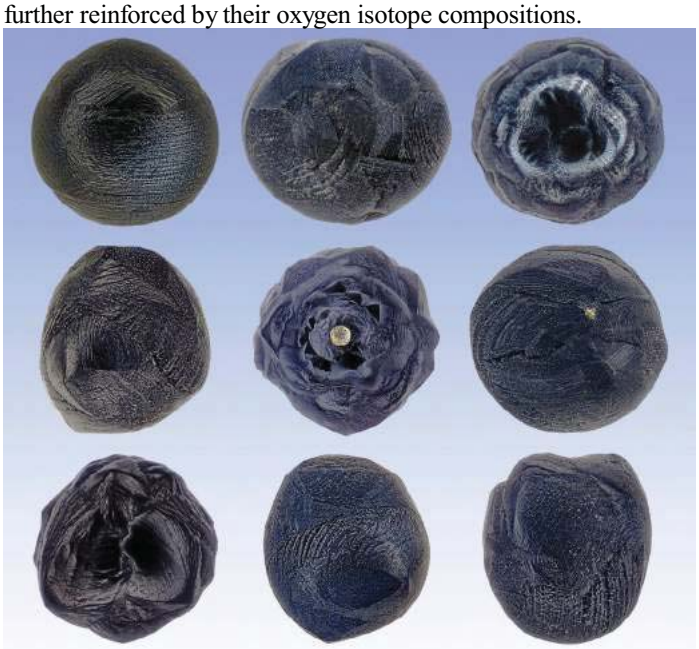
Amidst the tons of dust and gunk that fall on city streets and rooftops are a very small percent of particles from outer space. Long dismissed by scientists as an urban legend, urban space dust was considered to be far too dispersed among all other possible sources of micro-particles to be readily identified. Therefore, scientists usually focus their search for micro-meteorites in pristine environments such as Antarctica or remote deserts. However, the perseverance of an amateur rockhound finally paid off, after he assembled a collection of tiny cosmic dust grains. While the vast majority of these extraterrestrial grains hail from within the Solar System, a few rarities represent genuine stardust.

Varieties of space dust, barely the width of a human hair. These photomicrographs were made with a special camera setup that magnifies the dust grains nearly 3,000 times. Credit Jan Braly Kihle/Jon Larsen

Jon Larsen, a Norwegian jazz musician, taught himself to recognize true extraterrestrial particles as distinct from the usual assortment of micro-debris from factories, road construction, home insulation, and other man-made sources, as well as from fine volcanic ash or desert dust. Teaming up with several scientists from British and Belgian academic institutions, Larsen collected 500 micrometeorites from rooftops, mostly around Oslo, Norway. Starting with 300 kilograms (660 lbs) of dirt, the researchers isolated the 500 grains on the basis of size, color and luster (black, gray, metallic, and translucent to glassy appearance), and presence of dendritic textures. Of these, 48 were selected for scanning electron microscopy and electron microprobe analysis.

The silicate-dominated grains fall into three groups: 1) porphyritic olivine phenocrysts within a glassy matrix, 2) "barred olivine" spherules characterized by parallel dendritic olivine crystals, and 3) cryptocrystalline spherules populated by very-fine radiating dendritic olivine crystallites within a glassy matrix. Magnetite occurs in the glassy matrix of porphyritic spherules and also in tiny grains along rims of other spherules. The rim magnetite contains 0.5% wt. Ni. Metal and sulfide beads hold as much as 22 to 75% wt. Ni, while troilites bear 7 to 27% wt. Ni. The occurrence of iron and nickel in the magnetite and troilite in several spherules is evidence of an extraterrestrial origin.

Furthermore, the bulk chemical composition of the spherules closely resembles that of primitive carbonaceous chondrite meteorites, with the exception of depletion of sodium (Na), potassium (K), and sulfur (S). Depletion of these relatively volatile elements indicates a partial evaporation as micrometeorites, rather than as ablation debris from larger meteoroids as they entered the Earth's atmosphere. The dendritic texture of olivine within a glassy matrix implies a rapid cooling and crystallization after heating in the Earth's atmosphere. Since the analyzed particles display a chondritic meteorite composition, they most likely originated from chondritic parent bodies within the asteroid belt, a conclusion further reinforced by their oxygen isotope compositions.



These examples of space dust found on Earth are collected in a new book, "In Search of Stardust: Amazing Micro-Meteorites and Their Terrestrial Imposters," and were found on buildings, parking lots, sidewalks and park benches. Credit Jan Braly Kihle/Jon Larsen

Given that the urban spherules were collected from rooftops on fairly modern buildings that presumably undergo frequent cleaning, the specimens are assumed to have deposited within the last 6 years. Comparison with much older samples of micrometeorites from Antarctica shows variations in the proportions of the three types of grains. These variations could potentially help detect changes that have occurred in the inflow of extraterrestrial dust over time.

Contrary to the initial skepticism of most planetary scientists, the study proved that urban rooftops are good collectors of cosmic dust, if only one knows what to look for. Once properly screened, the urban space dust closely matches other silicate-rich cosmic particles from Antarctica or in deep-sea sediments. But more subtle variations in chemistry and mineralogy between the freshly deposited urban particles and those accumulating over longer periods on Antarctic ice of the ocean floor may yield important information about changes in planetary processes over time. Now and then, a true fleck of stardust may even land on your roof.

Further Reading

Broad, W. J., 2017. Flecks of extraterrestrial dust, all over the roof. *New York Times*, Mar. 10, 2017.

Genge, M. J., Larsen, J., Van Ginneken, M., and Suttle, M., 2016. An urban collection of modern-day large micrometeorites: evidence for variations in the extraterrestrial dust flux through the Quaternary. *Geology*, 45(2):119-122.

SCONYC
Science Council of New York City

40th Annual All-Day Conference and Luncheon
Science: Shift Into New Dimensions

Register Early & Save $$$

Saturday, March 24, 2018
8:00 AM – 4:00 PM
On Site Registration begins at 7:45 AM

Stuyvesant High School
345 Chambers Street
New York, NY 10282
Located at the intersection of Chambers and West Streets

Workshops for All Levels of Science PK-12

Certificate available for 5 HOURS of professional development
New York City Department of Education Endorsed

- *CTLE CREDIT required for mandatory PD 100 hours required by NYSED will be available for selected workshops as noted in the final program and in updates on our website.*
- Keynote Address: Reengineering NYC Science Instruction for the 21st Century Classroom: Michael DiSpezio
- There are 4 workshop sessions and you can select workshops of your choice for each session.
- Special workshops planned for new and in-service science teachers on understanding of current assessment systems and instructional strategies.
- Update your content understanding.
- Informal educational resources available for NYC including museums, zoos, aquariums, environmental and National parks
- Information about textbooks, educational materials, programs and ideas
- Commercially developed educational workshops
- Easy access via many major subway lines and the NJ PATH system
- Exhibition Hall featuring books, programs, and classroom materials
- Hot buffet luncheon available

For more information visit our website at http://www.sconyc.org
On-line registration and payment available.

The Day at a Glance- *NEW FORMAT*			
7:45-9:30 AM	**Walk in Registration**		
7:45-9:00	Coffee, Tea and Muffins	11:45-12:45	Keynote Address
8:15- 9:15	**Session A**	12:45-1:45	Luncheon
9:15- 12:00	Exhibits and Free Materials	1:45- 2:45	**Session C**
10:30-11:30	**Session B**	3:00- 4:00	**Session D**
4:00 PM	**Certificate of Completion of Six Hours of Professional Development and Door Prize Giveaway**		

Member Associations of SCONYC

Catholic Science Council-Diocese of Brooklyn -Chemistry Teachers Club of New York - Educators for Gateway - Elementary School Science Association - New York Biology Teachers' Association - New York Microscopical Society- New York State Marine Education Association - Physics Club of New York -Science Supervisors Association- Science Teachers Association of New York State (NYC Section)

Associate Members

Environmental Education Advisory Council- United Federation of Teachers Science Committee
New York State Science Olympiad, Inc.- United Federation of Teachers Outdoor-Environmental Education Committee

SCONYC is a Non-Profit Organization and an associate member of the National Science Teachers Association

SCONYC Executive Board		Conference Committee Contacts	
President:	Mary Lobello	Coordinator	Jack DePalma JDePalma@nyc.rr.com 718- 858-2355
Co-President:	Gail David	Program	President@sconyc.org
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		Program and Booklet	Alan Ascher Dahlia McGregor programbook@sconyc.org
		Facilities	Elizabeth Fong Guy de Baere

"David Kraus Lecture" **KEYNOTE ADDRESS:**

Reengineering NYC Science Instruction for the 21st Century Classroom

Michael DiSpezio

Registration: Follow these procedures:

1. Register and pay online using your credit card at http://www.sconyc.org follow link to Eventbrite.
2. Mail Registration: DOWNLOAD registration form on the website.
3. Purchase orders can be accepted in advance. Send an email to Treasurer@sconyc.org for detailed instructions.

Registration Fees:

On Site Registration: **7:45 AM on Saturday March 24, 2018** **At Stuyvesant High School**	**Early Bird Registration** must be postmarked by **2/28**	**General Registration** On-line or by mail must be postmarked by **3/19**	**On-Site**
Full-Time Undergraduate or Full-Time Graduate College Student. include a copy of your college ID, current course schedule, and instructor's name with this form	$20	$25	$30
Teachers, Informal Educators, Part-time college students and all others.	$35	$40	$45
Hot Buffet Lunch	$15	$15	$15 if available*

- Want to make a presentation? Go to the following site: https://goo.gl/forms/IwPB9vuCnZed0LVs2 and enter your proposal. *Share your classroom experiences with other teachers, registration fee is free.*
- If you know someone who wants to have an exhibit table send a message and receive an application form: Exhibits@sconyc.org

Attend our annual conference and meet other Science Teachers. This is a conference for and by Science Teachers.

NEW YORK MICROSCOPICAL SOCIETY
BULLETIN

Vol. 1 New York, N. Y., January, 1937 No. 3

COLLECTING RECENT DIATOMS

By JOSEPH F. BURKE

Diatoms are grouped as *recent* and *fossil,* distinguishing those now living from those found in diatomaceous earths and other deposits of fossil character. Recent diatoms, having completed their life cycle, are being deposited at the present time. Under suitable conditions these diatoms eventually would form fossil deposits. Diatoms are further grouped as *fresh-water* and *marine* and sometimes as *brackish.* The remarks that follow apply to diatoms found in all waters in a living condition. The *plankton* diatoms are a further grouping of floating forms, usually fragile, many with long, siliceous extensions.

Fresh-Water Collecting

Fresh-water collecting is available to nearly everyone. Standing and flowing water both offer opportunities. The abundance of material and the number of species collectable vary considerably with the season of the year. The seasonal variation differs according to latitude. In the quiet water of ponds diatoms will be found. They occur in various situations. *Spirogyra* species often act as hosts. When these lack their usual yellow-green color and appear brown, it is likely that diatoms are present in great abundance. The alga may be gathered and transported in newspaper, later to be transferred to a large jar of filtered water and beaten with a glass rod to separate the diatoms from their host. The diatoms in suspension are poured off through an ordinary coffee or tea strainer of 40 or 50 mesh into a second jar and there allowed to settle. In the process of settling they should be kept from bright light. Under the influence of the latter they give off oxygen, the adherent bubbles of which carry the diatoms to the surface. The addition of formalin to the water would prevent this, but when the diatoms are allowed to settle over night it is not necessary and there is still the opportunity of watching them alive under the microscope. The jar and strainer can be taken into the field and instead of carrying away the alga, it can be squeezed by the handful above the strainer until the jar is filled with water and diatoms in suspension. This method often affords very clean gatherings. In the spring when water flowing into the pond carries much suspended silt, the collection will not be clean and it is well to make a number of gatherings at different locations with a view to selecting the cleanest for preservation.

A similar method is used in collecting in sphagnum bogs of the type occurring in the pine barrens of New Jersey. Handfuls of a

Sphagnum species may be carried away or, by squeezing above a jar and strainer in the field, made to give up the diatoms associated with this moss. If the muddy substratum is avoided, a clean gathering results.

On the stems of water plants, some diatoms live in a gelatinous substance that can be scraped off and transferred to a collecting bottle.

A different type of pond collecting is that done on the surface of mud, an inch or two below water level. Under the influence of sunlight, diatoms form a brownish layer on the surface of the mud and, by careful work, may be lifted with a spoon into the collecting bottle. If the light is strong and the day advanced, these diatoms in producing oxygen are lifted in a thin mat with some adherent mud to the surface of the water and may then be collected. Mud gatherings present difficulties in washing and mounting, but they include many species that will not be found in the cleaner types of collecting. It may be well to refer here to a refinement in collecting so often advised in literature. The method is to place a piece of white cloth over the surface of the mud. Under the influence of sunlight the diatoms migrate through the interstices of the woven material to the upper surface, from which they are carefully scraped. This requires considerable time, all of the species of diatoms present may not have the mobility needed to pentrate the cloth, and in scraping some mud may be forced through the cloth. Although there may be a loss of species, this method has the advantage that by careful operation a small quantity of clean material is obtained. A variation of the method would be to use two pieces of cloth, one above the other. The upper one should be slightly smaller. When the diatoms have penetrated to the upper surface, the top cloth with the diatoms is carefully peeled off, the mud remaining below the bottom cloth. There are other refinements in collecting, mostly dependent upon the mobility of diatoms.

In flowing water some of the finest collections are to be had where the foam gathers in an eddy or is held by a fallen branch. If the foam is brown, it may be a rich source of diatoms that, after rising to the surface, have floated with the current. This brown appearance does not always indicate diatoms, but a gathering should be made for microscopical examination.

Where the flow of water is fast, the diatoms are carried down stream unless anchored in some way. They may be in the mud at the bottom of the stream and can be gathered in the quiet eddies or pools. They may be on certain plants such as *Elodea* and even on submerged grasses. These can be gathered, placed in a jar with water and beaten to dislodge the diatoms. Some species attach themselves to dams, boulders and other objects and can be scraped off. Place a stone or brick immediately above the point to be scraped to divert the water and to prevent the scrapings from being washed away.

One should watch for the brownish appearance that indicates diatoms. Take generous gatherings. There should be a reserve of material in the event that an accident cause the loss of the first cleaning.

A quarter of an ounce in bulk of a clean gathering, in a half ounce bottle, is as much as is likely to be needed. The usual gathering is less than this amount. Be careful in collecting and storing. Deal with the gatherings as they are brought from the field and if it is not intended to clean them immediately, add formalin after placing them in storage bottles. Some gatherings do not degenerate, but many do and the gases generated blow the cork out with a scattering of the material.

Marine Collecting

Mud scrapings on tide flats, diatoms with adherent bubbles floating in shallow pools, and gatherings of brownish foam offer opportunities similar to fresh-water collecting.

In localities where the receding tide leaves ripples in the sand, a search should be made while the ripples still hold water. Fine brown floating material may offer a pure gathering. With a spoon or with fingers transfer it to a bottle of sea water. If sand is transferred with the gathering it usually sinks at once as the grains are large. The diatoms in suspension can be poured into a second bottle and allowed to settle.

Along the shores and in bays and harbors, many forms adhere to and may be scraped from piling, from the bottom of rafts, from boats left at anchor and, when accessible, from buoys.

Marine diatoms are often associated with other plants, especially with algae. Collect the red seaweeds and examine them microscopically for closely adherent forms and for those attached by stipes. The seaweed should be placed in water and hydrochloric acid added. Not much is needed. The diatoms are loosened and after a time the seaweed in the jar should be beaten with a glass rod and the water poured off into a second jar where the diatoms are allowed to settle. The green seaweeds are not as a rule a good source of diatoms, but some harbor them. Other plants such as eel-grass should be examined below water level and scrapings made where material is found. Filamentous forms of diatoms may be entangled with floating algae and can be separated in great purity and quantity. Nearly a half pint in bulk of one species was gathered in this way.

Salt water marshes and meadows afford a good collecting ground, particularly where they have been ditched for mosquito control. The surface of the water in ditches reached by the tides is often covered with bubbles especially in bright sunlight. These can be skimmed off repeatedly until a bottle is filled and usually afford a good collection of diatoms. The sides of the ditches can be scraped where they have a brownish coating or can be pressed with a spoon held horizontally, bowl upward, allowing water and diatoms to fill the latter. Algae floating in the ditches can be squeezed above jar and strainer. The soft mud of pool bottoms affords rich material at times. Temporary pools in beach sand, formed by one storm and destroyed by the next, sometimes produce diatoms in enormous numbers.

Some diatoms occur in gelatinous tubes and can be collected

during the late winter and early spring. They are found attached to piling and in other marine locations. They should be watched for in fresh-water collecting as well. Some of these diatoms have power of motion within the tube and afford an interesting microscopical study. Two species, in separate genera, occasionally occupy the same tube.

Plankton Collecting

Plankton diatoms present interesting collecting. They form a study in which there is a good deal of specialization. Many works have been published on the plankton diatoms only, and many of the general publications on diatoms give but brief treatment to the plankton forms. Marine plankton diatoms are usually collected with the plankton net made of bolting cloth. This cloth is expensive and for casual collecting substitutes can be improvised. The net is towed slowly through the water, from a boat, and the plankton diatoms with other forms of plankton are concentrated in a glass tube at the small end of the net. From this tube they are transferred to a collecting bottle and a little formalin is added as preservative. The season for these diatoms varies with the latitude. Near New York the late fall and winter months are perhaps best. These diatoms can be collected quite readily at times from a pier, bridge, or other stationary object past which the tide carries a flow of water. Fresh-water also presents opportunities for plankton collecting, especially in large lakes where a water-supply intake can be passed through a suitable collecting filter.

Equipment

The large jar mentioned above may be of pint or quart size. Another size more generally useful for field collecting is the half-pint jar. The kind with rubber ring, glass top, and wire clamp, sold for household use, is very satisfactory. In smaller bottles the half, one, and two ounce sizes, with corks, are useful. There is room for personal preference, but one or more of these sizes in the round, wide-mouthed type represents a good choice. When a corked bottle is used, place a small piece of paper, preferably waxed, to cover the bottom and sides of the cork when the latter is forced into the bottle-neck. This keeps the cork free of diatoms and permits its further use after washing. When diatoms are left living in field bottles, some of their number become attached to the sides. Because of this it is well to transfer collections promptly to storage bottles and to thoroughly clean the field bottles and their corks with soap and brush. Storage bottles and corks should not be used for more than one collection. It is better to buy them in quantity and discard used bottles and corks. The chemical cleaning of small bottles is time consuming and not worth while.

The NEW YORK MICROSCOPICAL SOCIETY BULLETIN is published by the New York Microscopical Society, 77th Street and Central Park West, New York, N. Y. Joseph F. Burke, Editor.

From: John Scott
To: pollingmel@optonline.net
Sent: Thursday, February 08, 2018 8:40 PM
Subject: Re: NYMS Winter-Spring Program

NYMS Program Schedule 2018 Winter-Spring – some details are TBA

Fellow Members

Our winter-spring Program of Members Meeting lectures, and other public events, is almost set, but a few details are TBA. On February 25 the NYMS Board of Managers will meet at our Clifton HQ, and afterward we'll convene a Members Meeting at [Brooke?] PM. Note:Feb 25 Members Meeting will start at 1:30 PM.

The Members Meeting topic will be "Editing Our Wordpress website," and this will open with an introductory talk, and continue with hands on exercises. This meeting will be open to all as usual, and any Manager and any Member interested in joining NYMS' website maintenance team, should join in person. Of course we will be sharing web editing information and duties from then on, so those who cannot participate on the 25th, take heart and get in touch with Vice President and Manager John Scott!

In March NYMS will offer our Members, and science teachers and the general public, three workshops (1.5 hour lecture-labs) and an exposition table, in the March 24 annual Science Council of New York City conference in Manhattan--aka 'SCONYC'--at Stuyvesant High School in Manhattan, NYC. NYMS is a sponsoring organization of SCONYC, currently with three voting and planning delegates on the SCONYC Board. Our delegates and instructors help to produce the meeting, during the year and on the day.

NYMS' three workshops at SCONYC 2018: an introduction to stereo binocular microscopy; an introduction to smart phone photomacrography; and microscopy in studying the local geology of New York City.

The conference's featured keynote speaker is Michael DiSpezio!

https://en.m.wikipedia.org/wiki/Michael_A._DiSpezio

The SCONYC conference is open to all, not just science teachers, albeit there is a small registration fee. Plan to participate, and to ensure enough registrants for the well-organized and always worthwhile conference to be confirmed, please visit the SCONYC Eventbrite page and register, before March 1!

https://www.eventbrite.com/e/sconyc-40th-annual-conference-science-shift-into-new-dimensions-tickets-42823890409

On April 22 at our Clifton headquarters, Jan Hinsch will address our Members Meeting on "140 years of The New York Microscopical Society." Jan is one of NYMS' thoughtful and eloquent 'eminences grise.' Do not miss his presentation and our open discussion!

In April there will be also be a NYMS Microscopy Day at one or more of the universities where our Managers teach. Details TBA. (As reported by Andrew Winter:Microscope day at Centenary University in NJ on Friday April 6th.)

On Wednesday April 25 NYMS meets jointly with the NY-NJ Soc. for Applied Spectroscopy, in an analytical systems development laboratory near Princeton, NJ. Details TBA.

Internationally known Art Analyst Jennifer Mass, erstwhile professor at U of Delaware and the Winterthur Museum conservation science laboratory, and now with Bard College and with her consulting firm, will address us at a Manhattan venue, in late May, not on Memorial Day weekend. Details TBA.

If you have a suggestion for future programming, please send it!

For NYMS, and collegially

~John
John Scott
NYMS Vice President-Program Coordinator, Curator, Archivist, Fellow, 646.339.6566
nyconsnfdn@aol.com

Main Identity

From: "McCrone Research Institute" <intermicro@mcri.org>
To: <pollingmel@optonline.net>
Sent: Monday, February 05, 2018 10:01 AM
Subject: Inter/Micro 2018 Call for Papers, Workshop, Awards Dinner, and More

Presentations - Workshop - Awards Dinner

Inter/Micro 2018

70th Annual International Microscopy Conference
June 11 - 15, 2018 at McCrone Research Institute, Chicago

Call for Papers: Speaker Presentations

June 11-13: McCrone Research Institute cordially invites you to give a presentation of your microscopy research at the 70th 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 16, 2018**. View abstract submission guidelines and register online.

Workshop: Wood Structure and Identification


Regis B. Miller

June 14-15: Taught by Regis B. Miller,this two-day beginner's workshop will concentrate on the wood structure and identification of common hardwoods and softwoods. One full day will be devoted to softwoods and the other day to hardwoods. Learn more and register online.

SMSI Awards Dinner and Live Auction

June 13: Join Inter/Micro and the State Microscopical Society of Illinois (SMSI) as they honor Eric J. Chatfield with the 2018 August Köhler Award. 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 2018 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 2018. Club Quarters in nearby downtown Chicago are the preferred hotels. Learn more.

We look forward to seeing you in Chicago!

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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

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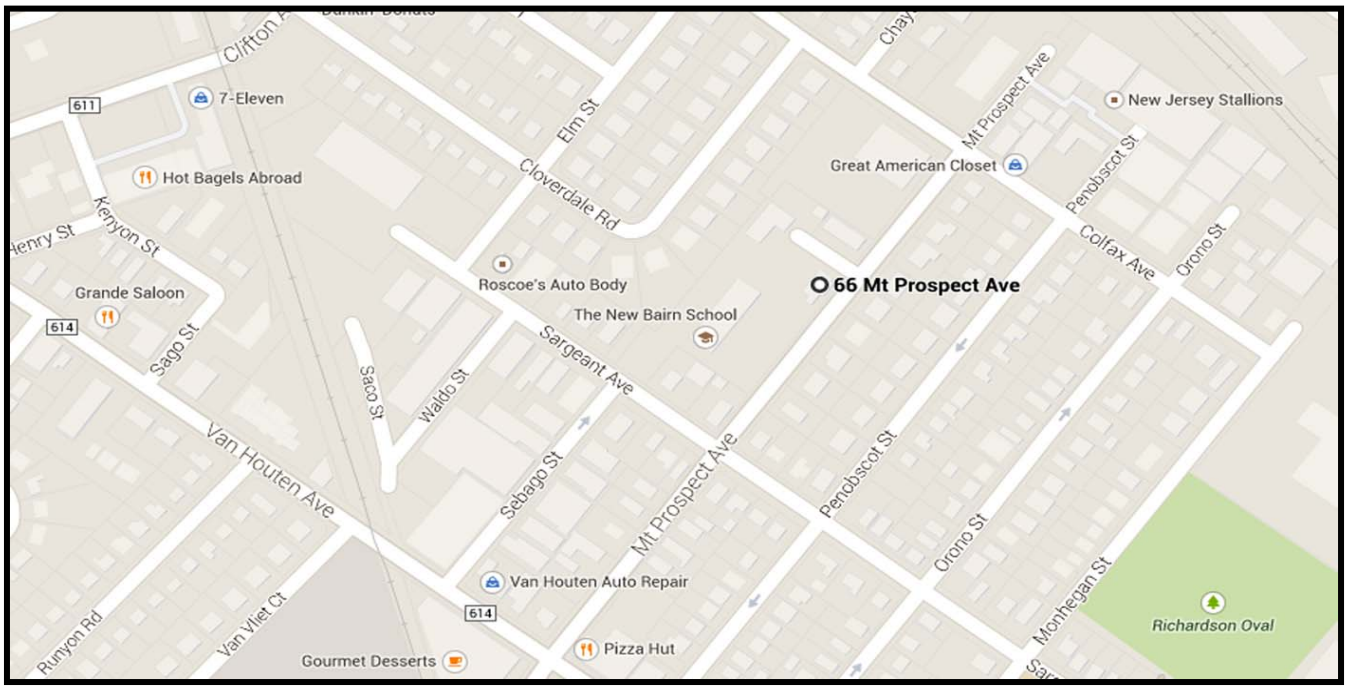
Vol. 1 New York, N. Y.,January, 1937 No.3
COLLECTING RECENT DIATOMS *By* JOSEPH F. BURKE
Vol. 1 New York, N. Y., February, 1937 No. -4
PREPARING RECENT DIATOMS *By* JOSEPH F. BURKE
Vol. 1 New York, N. Y., November, 1937 No.5
MOUNTING RECENT DIATOMS *By* JOSEPH F. BURKE
Vol. 3 New York, N. Y. June, 1951 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 send with payment directly to:

New York Microscopical Society
c/o Mel Pollinger, Treasurer
18-04 Hillery Street
Fair Lawn, NJ 07410-5207

Please Print

I hereby apply for membership in the New York Microscopical Society

Name: (Dr., Ms., Mr., Mrs.)……Nickname:……

Home Address:……

……

Phone: (home or mobile)……Fax: ……Email:……

Work Information: Company Name……Work Address:……

……

Work Phone: ……Email:……

Would you prefer to receive NYMS mail at home? ☐ at work? ☐ by email (*best way*)? ☐

Principal work or interest in microscopy:……

……

Would you like information about NYMS committees? Yes ☐ No ☐ Awards ☐ Membership ☐
Education ☐ Library ☐ Finance ☐ Curator ☐ Housing ☐ Program ☐ Publications ☐ History ☐

Academic and Honorary Degrees:

Degree Conferring Institution Date

……

……

……

Scientific Publications……

……

……

Membership in Scientific Societies……

……

Date of birth (optional if over 18) ……

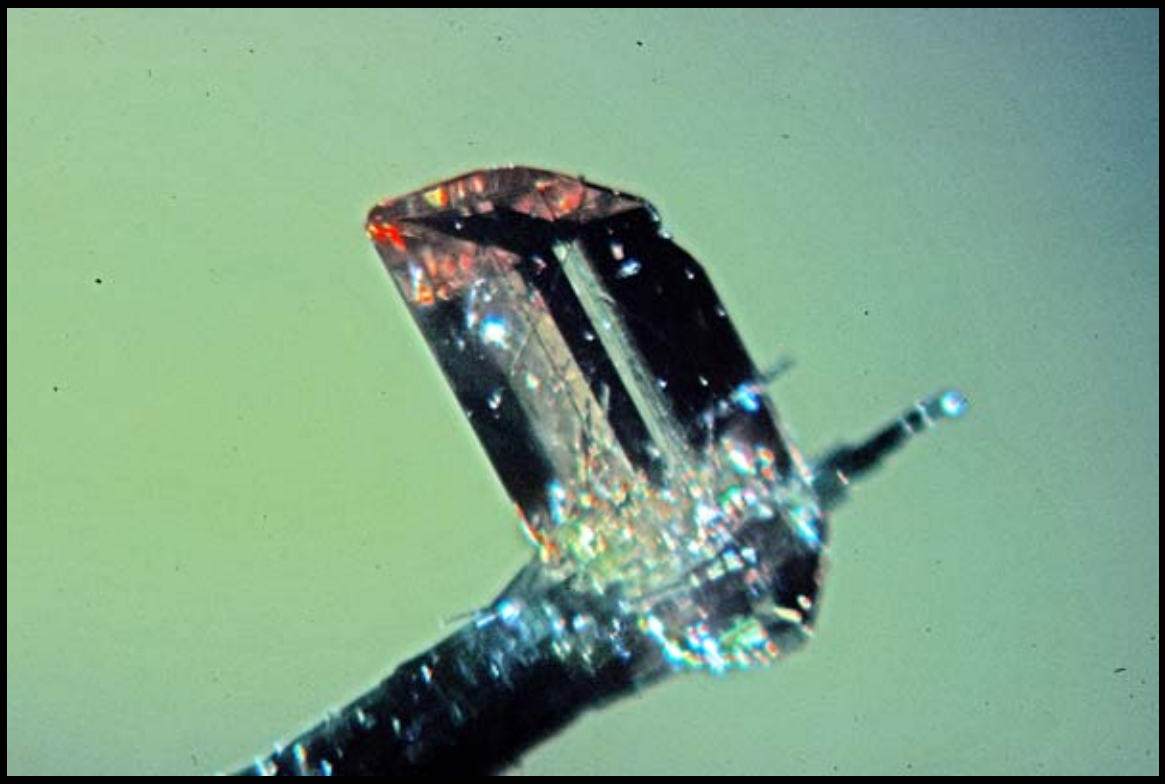
I have enclosed a check for $..... to cover my application fees for membership.
{Annual $30, Supporting $60, Life $500 (payable within the year), Corporate $175 (includes one advertisement in NYMS News), Junior $5 (under 18 years old), Student (over 18) $20.}

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

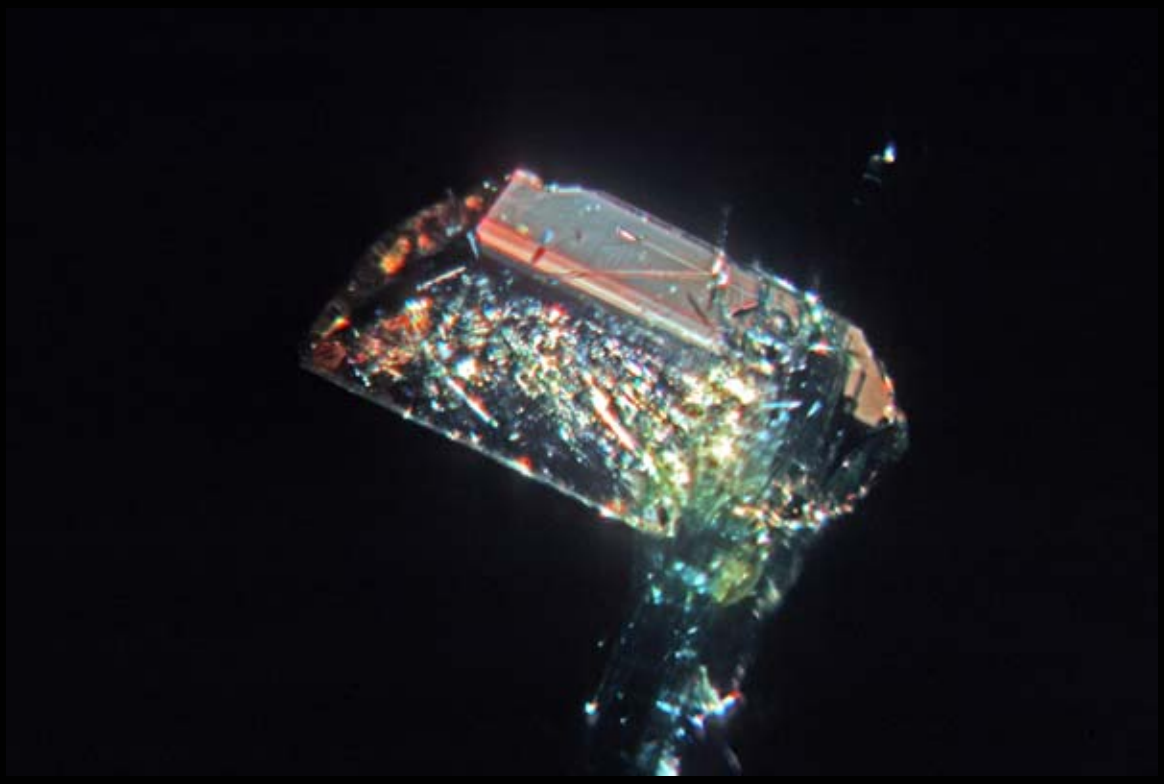
Signature……Date……

NYMS Headquarters: One Prospect Village Plaza (66 Mount Prospect Avenue), Clifton, NJ 07013

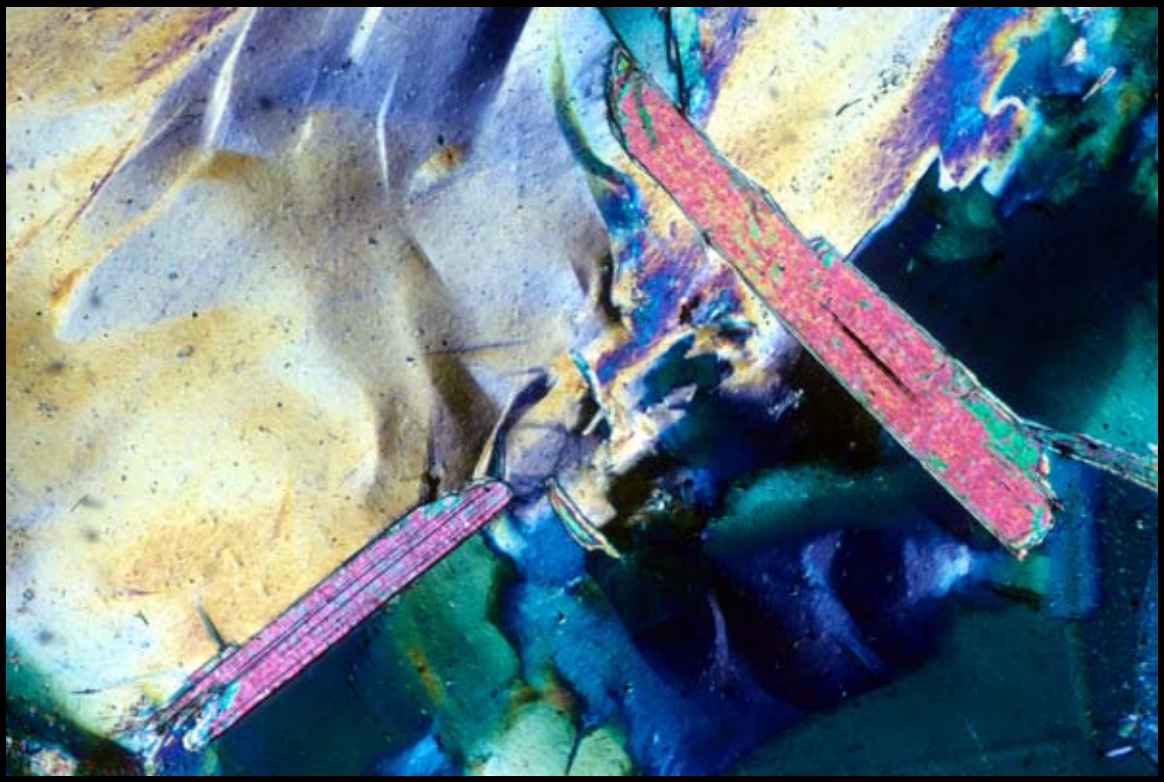


Manganaxinite, 25x Ogdensburg, NJ 6x4x100 HH-19: Howard Heitner specimen, photomicrograph by Mel Pollinger

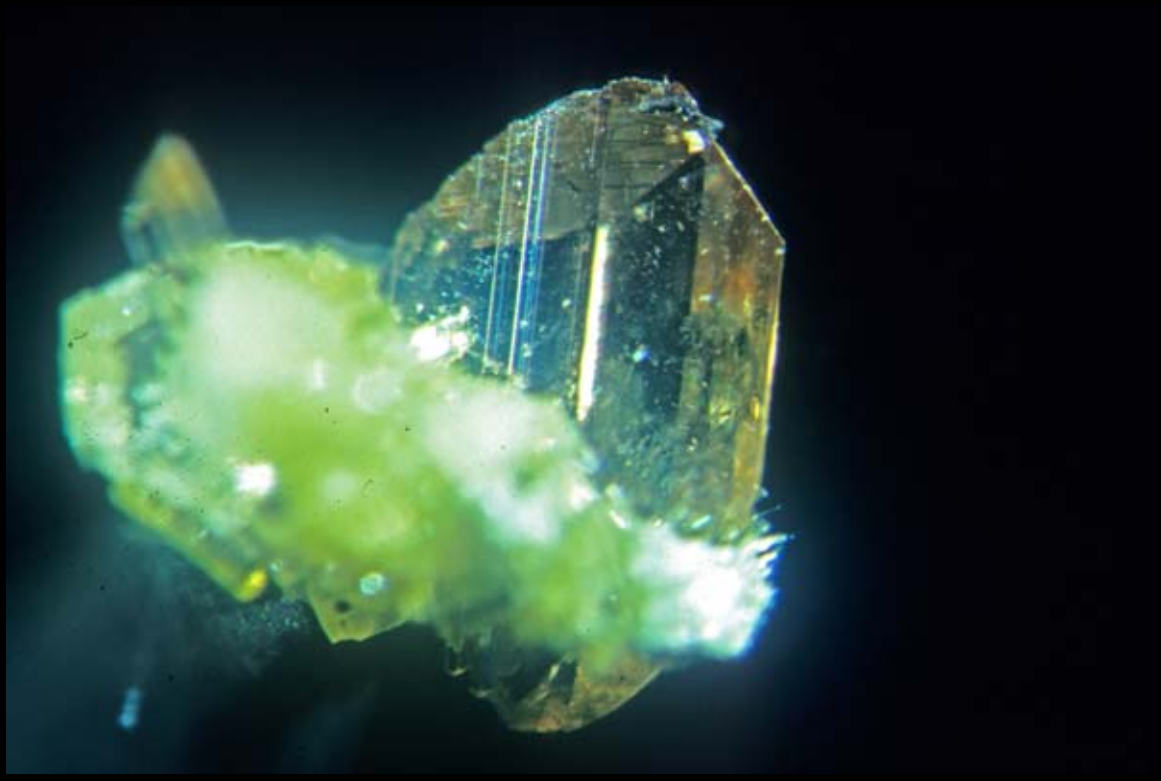
Aragonite, Sterling Hill, Ogdensburg, NJ, 25x 6x4x100 CC-14-BF 2133: Robert Fitton Specimen,photomicrograph by Mel Pollinger



Manganaxinite, 25x Ogdensburg, NJ 6x4x100 HH-20:
Howard Heitner specimen, photomicrograph by Mel Pollinger



Biotite in Ripidolite Schist, Brewster, NY, 40x (P1462603)a6x4x100:
Polarizerd-light: Thin-section photomicrograph by Mel Pollinger



Manganaxinite, 40x Sterling Hill, Ogdensburg, NJ 6x4x100 Z-18-BF 2287:
Robert Fitton specimen, photomicrograph by Mel Pollinger

Franklinite & Zincite, 40x Franklin, NJ 6x4x100 V-24-BF 1490:
Robert Fitton specimen, photomicrograph by Mel Pollinger