

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



October 2011

N.Y.M.S. (973) 470-8733

Volume 5 (25) Number 8

Meeting Announcement

New York Microscopical Society, 2011 Fall Lecture Series

Wednesday, October 19, 2011, Presentation starts at 7:30 P.M. John Jay College, New York

Speaker: Nicholas D. K. Petraco, Ph.D.

"Applications of confocal microscopy: Striated tool marks, statistical tools and potential open-source software for practitioners".

The purpose of this program is to show the steps taken towards developing standardized methodologies and software that can objectively evaluate tool mark comparison and identification.

Nicholas D. K. Petraco earned a bachelors degree in Chemistry from Colgate University in 1998 and a Doctorate in Quantum Chemistry at University of Georgia in 2002. He was a postdoctoral fellow in Applied Mathematics at the University of Waterloo from 2002-2004 where after he was appointed to a Assistant Professorship at John Jay College College of Criminal Justice and The Graduate Center, City University of New York. Currently Nick is an Associate Professor at CUNY and belongs to the American Academy of Forensic Sciences (AAFS), the North Eastern Association of Forensic Scientists (NEAFS), the Society for Industrial and Applied Mathematics (SIAM) and the Institute for Electrical and Electronics Engineers (IEEE).

Dinner at 6 PM with the speaker at Whym Restaurant, 889 9th Ave at 58th street (<u>whymnyc.com</u>). Reservation deadline for dinner Tuesday Oct 18th noon, contact Program Chair Peter Diaczuk at 212 237-8896.

Presentation at 7:30 PM at John Jay College, 445 W 59th street, room 4518N (Photo ID necessary to enter building).



Annual Banquet December 04, 2011 – See Insert.

A Not-For-Profit Educational Organization, nyms.org, Page 1 of 4

Save a Tree: Get The Newsletter By Email – It's Faster!

NYMS Board of Managers

President Angela V. Klaus, Ph.D., exp. June 2012 Department of Biology Seton Hall University 400 South Orange Ave South Orange, NJ 07079 klausang@shu.edu

Treasurer

Librarian & Newsletter Editor Mel Pollinger, exp. June 2014 18-04 Hillery Street Fair Lawn, NJ 07410-5207 (201) 791-9826, pollingmel@verizon.net

Webmaster

Roland Scal, Ph.D., exp. June 2013 Dept. Biological Sciences & Geology, M-213 Queensborough Community College 222-05 56th Avenue Bayside, NY 11364-1497 Tel 718-631-6071 Fax 718-631-6678 rscal@qcc.cuny.edu

Vice President

Peter Diaczuk, exp. June 2013 John Jay College 445 W 59th Street New York, NY 10019 Department of Sciences 212-237-8896 pdiaczuk@jjay.cuny.edu

Secretary

Craig Huemmer, exp. .June 2012 NYPD Police Laboratory chuemmer@hotmail.com

Board Member

John R. (Jr.) Reffner, exp. June 2014 Dow Chemical Company 727 Norristown Road Spring House, PA 19477 Cell: (215) 527-1882 jrr1lp@gmail.com

Past President

John A. Reffner, Ph.D., exp. June 2014 John Jay College CUNY 97 Ocean Drive East Stamford, CT 06902 (203) 348-8098, jareffner@cs.com

Dues and Addresses

Please remember to mail in your Dues to Mary McCann, Membership Chair (see this page for address).

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

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 by visiting the NYMS website.



Curator & Education Chair

Don O'Leary, exp. June 2013 10 Sampson Street, Unit 113 Saddle Brook, NJ 07663 (201) 368-8849 <u>dkoleary@verizon.net</u>

Membership Chair

Mary McCann, exp. June 2012 McCann Imaging 161 Claflin Street Belmont MA. 02478 (617) 484-7865 Fax (617) 484-2490 mccanns@tiac.net

Board Member

Gary Mayer, exp. June 2014 mayer@co.somerset.nj.us

Board Member

Seymour Perlowitz, exp. June 2013 perlowitzs@hotmail.com

Board Member

John Scott, exp. June 2012 Archivist & Associate Curator nyconsnfdn@aol.com

From The Editor... if you have email:

Getting the newsletter by email means you receive an <u>extended pdf version</u> that cannot be sent by "snail mail." Even if you continue your USPS delivery of the newsletter, NYMS needs your email address for reporting priority events and special news. Being able to contact you by email means better communication between us.

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.



Buy and Read a Good Book on Microscopy.



Spinal Cord Section

Of the many fine slides I purchased from the family of the late Julius Weber, one slide held a very nice silver nitrate-stained section of a newborn's (species not on label) spinal cord ganglia. Dr. Weber was involved in the early usage of this staining procedure on mammalian brain and spinal cord sections. The silver stained the neurons and axons black, rendering the structures clearly visible. The image shown is a photomacrograph of the above mentioned slide made using a manually set Nikon D5000 DSLR camera body atop a bellows (shown in the foreground of the images below). The objective lens was a Zeiss Mikrotar 6mm apochromat set at f/8. Exposure time was 1/60th second. A light-box was used for transmitted illumination. Exposure was done using the camera's internal shutter delay to avoid any inadvertent camera movement or vibration. The original image was slightly dark, subsequently lightened using Adobe Photoshop and then re-sized.

Spring 2011 Outreach Programs A Success

- The New York Microscopical Society had a busy outreach on the first weekend in June 2011 at two important events.
- On June 4, our first time with the New York State Marine Science Education (NYSMEA) Conference at Kingsborough Community College (KCC), Brooklyn
- On June 5, our third consecutive year at the World Science Festival Street Fair in a collaboration with Nasreen Hacq, PhD, of New York City Technical College, CUNY.

I want to thank on behalf of NYMS and personally several people for their help making this another successful outreach event: Merryl Kafka for not only her invitation but helping me get up to the exhibitor space in the Rotunda; Roland (even though you are a member) and Francis Mansour for volunteering your help making it possible for me to conveniently get to KCC and for charging up the microscope batteries over night; Alan Asher and Jen who I know from SCONYC, for their help setting up in the morning and afterwards their patience with me packing up and their help loading out to Alan's van and especially the fun and pleasure of his excellent beach and marsh ecology / horseshoe crab field trip; Robert Cummings who brought a pond sample active Daphnia and more from his back yard and for his securing the Society's equipment at the New York Aquarium that evening; Tom Green at KCC for providing us with two electrical illumination stereo microscopes; and finally Peter Rentoff for driving me late at night all the way back home with all that equipment after an exciting and very enjoyable long day.

> Guy de Baere 8/11/2011



Text & images by Mel Pollinger



A Not-For-Profit Educational Organization, nyms.org, Page 3 of 4

Guy deBaere

I wish to give special thanks to Guy deBaere for his recent help with the unpacking of library & curatorial materials (Yes, we are still unpacking!). Because of the hurried move to Clifton, packing had to be done rapidly. While most books were placed into carefully labelled boxes, near the end, there was little time for such accuracy and therefore the diligencia had to succumb to "Git 'er done!" Thank you, Guy, your efforts have not gone unnoticed. Mel

Need to use a Microscope?

The various microscopes that are presently set up on the main floor of the New York Microscopical building in Clifton, N.J. are there for the use of its members.

NYMS Open Tuesday Evenings by appointment only.NYMS Headquarters at Clifton, NJ will be open to members from 8:00pm to 10:00 pm most Tuesday evenings. Those members wishing to visit <u>must call</u> Don O'Leary to confirm. Don's cell-phone number is (201) 519-2176.

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 Curator/Educational Chairman and available directly from NYMS for only \$35.00 plus shipping & handling, or may be purchased at a meeting. Call or email Mel Pollinger or Don O'Leary for details (see page two for contact numbers).

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

Answer to Mystery Photo for September 2011



Obelia is a genus in the class Hydrozoa, which consists of mainly marine and some freshwater animal species and have both the polyp and medusa stages in their life cycle. (en. Wikipedia) Correctly identified by Ben Glassman, M.D.

(Photomicrograph by Mel Pollinger)

Mystery Photo for October 2011



Want to take a guess? Send it to me by email or call me: pollingmel@optonline.net, (201) 791-9826

Additional Historical NYMS Supplements

Email Newsletter recipients will also be getting copies of NYMS Newsletter pdf back-Issues from 2007. Copies of older newsletters will be sent as I convert them.

Got something you want to sell, trade or publish in the Newsletter and/or on the website? Write, call or send an email message to:

201-791-9826 or pollingmel@optonline.net (images ok)

or Mel Pollinger, Editor NYMS Newsletter 18-04 Hillery Street Fair Lawn, NJ 07410





Supporting Member



New York Microscopical Society

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

NYMS 2011 Annual Banquet

What: Enjoy a wonderful Buffet Luncheon, including soft beverages (cash bar available) and desserts, with your fellow-members, an exciting speaker presentation (to be announced) and an overall jolly time at one of the oldest restaurants in mid-town Manhattan; The Landmark Tavern.

When: Sunday December 4, 2011, from noon until 3pm.

Where: Landmark Tavern, 626 11th Ave., at W. 46th St New York City, NY Tel: 212-247-2562.

Cost: \$35.00 per person.

How: Reserve your place now* by filling in the Reservation Request form below and mailing it along with your check to the Treasurer (see address below).

*Reservation requests must be received on or before November 15, 2011

Number attending ______ @ \$35/each = (write check amount) _____

Member name____

Address

Phone_____ eMail_____

Send this form and payment to:

NYMS Banquet 2011 c/o Mel Pollinger, Treasurer 18-04 Hillery Street Fair Lawn, NJ 07410-5207

For additional information contact Mel Pollinger (201) 791-9826 or email: pollingmel@optonline.net

Space is limited, so rush your application in asap.

The New York Microscopical Society had a busy outreach on the first weekend in June 2011 at two important events.

- 1. On June 4, our first time with the New York State Marine Science Education (NYSMEA) Conference at Kingsborough Community College (KCC), Brooklyn
- 2. On June 5, our third consecutive year at the World Science Festival Street Fair in a collaboration with Nasreen Hacq, PhD, of New York City Technical College, CUNY

In this report I will share how the Conference opportunity came about, a couple of experiences (one of which led to the second opportunity) and then end by making appropriate acknowledgments. I first urge all NYMS members and others to check out NYSMEA's website for both the Conference pictures and program <u>www.nysmea.org</u> and while there I think you will enjoy their site.

Merryl Kafka of NYSMEA asked if Jean Portell and I if we would give a NYMS microscope techniques session at her organization's conference. She had already asked us last year. I had kept it in mind and didn't hesitate to agree to do it. Soon we determined it best to be an Exhibitor.

During the week before the Conference I brought to Roland Mansour four of the Society's compound microscopes to store at his place just two blocks from SheepsHead Bay. The next day, I collected by hand from the Hudson estuary several rocks with barnacles and algae, crustaceans, segmented worms (polychaetes), sand, sediment and a little rising ocean tide water. Early Saturday morning Roland met me at the subway station and drove me with the equipment and intertidal catch to the College. I got help setting up just in time as 80 registrants started streaming in.

I was interested in hearing a couple of the presentations and fortunately was able to because the NYMS exhibitor table was located right next to and visible from the conference rooms where they were given. In the morning Charles Denson presented a historical review of Coney Island Creek. His PowerPoint showed archival photographs of the area, once a precious sheltered oasis and fishing village. As commercial development power and industrialization increased through the 19th century, government zoning ordinance variations allowed for the shore line to be filled in. That was quite interesting to me because that is where eventually Trump (the father) built the sprawling Shore Haven residential apartment buildings. In 1954 I lived there with my mother and two sisters. I was in the second grade at PS 200. I remember it well. It still stands. However today I feel strangely ambivalent and troubled that the Trump Plaza Towers (son Donald) rise directly above the Manhattan Hudson shore line where I collect my samples.

Dr. Nasreen Haque's presentation abstract follows. She is Assistant Professor at the NYC College of Technology.

<u>Underwater Explorations and Human Health: Microbial Diversity from the</u> <u>Gowanus to the Shores of India</u> The quest for the unknown and the vast underwater resources have evoked a new interest in the oceans, which have now become the new frontier. Early life emerged and developed underwater and its study has revealed new insights into the evolutionary process that accounts for the biodiversity of life. Moreover, novel molecules isolated from the oceans are fast becoming a potential source for new medical treatments. How has underwater exploration led us to some of the greatest discoveries? Who are these explorers? Professor Hague will introduce us to these pioneers of ocean research and reveal the secrets of the deep. She will talk about her personal search for microbial diversity that led her from New York's infamous Gowanus Canal to the shores of India with interesting results.

After her fascinating talk that afternoon I spoke to her. She came over to our table to examine the estuary sand and sediment sample which was in a Petri dish under a stereo dissection microscope. After a moment she said there was some fecal material. I don't know. I remember seeing what I thought possibly a little rotting flesh. I'm assuming her finding accurate from her research experience and investigating bio-films etc. Of course there are a lot of towns along the Hudson River. Perhaps an explanation was that it came from the sewer actually quite close to where I collected the samples. On its concrete structure visible to any South River Park passerby a small plaque reads something like "With heavy rainfall, sewage will discharge into river. Anyone who notices sewage discharge while it is not raining to call Water Resources / Department of Environmental Health at …" It had not rained in several days. (At that time we still were about a month and a half before the waste water treatment plant about 74 blocks up river caught on fire and stopped working. Two hundred million gallons of raw sewage had to be discharged into the Hudson estuary. Several beaches were closed and Coney Island put at risk.)

In any case, Nasreen asked me if I would come to the World Science Festival Street Fair the next afternoon for NYMS to complement her Under Water Exploration lecture. I did. We also talked of collaborating again next year.

I want to thank on behalf of NYMS and personally several people for their help making this another successful outreach event: Merryl Kafka for not only her invitation but helping me get up to the exhibitor space in the Rotunda; Roland (even though you are a member) and Francis Mansour for volunteering your help making it possible for me to conveniently get to KCC and for charging up the microscope batteries over night; Alan Asher and Jen who I know from SCONYC, for their help setting up in the morning and afterwards their patience with me packing up and their help loading out to Alan's van and especially the fun and pleasure of his excellent beach and marsh ecology / horseshoe crab field trip; Robert Cummings who brought a pond sample active Daphnia and more from his back yard and for his securing the Society's equipment at the New York Aquarium that evening; Tom Green at KCC for providing us with two electrical illumination stereo microscopes; and finally Peter Rentoff for driving me late at night all the way back home with all that equipment after an exciting and very enjoyable long day.

Guy de Baere 8/11/2011



NYMS Outreach 2011, continued









Tricks of the Trade

Tungsten Needle & Micro-Knife Holders

Thomas J. Hopen*

This short article could be more appropriately titled "Tip of the Trade" rather than "Tricks of the Trade" and the name of Stephen Garten, now an IBIS Specialist with ATF, should appear rather than mine since he is the one responsible for finding these holders. Anyway, a few years back I was preparing to teach a "Gizmos & Gadgets" workshop (aka "Tricks of the Trade" workshop) for one of the regional forensic meetings, and I was having trouble finding inexpensive tungsten wire needle holders to include in a kit for the students. Stephen was a student intern working with me at that time and he went on-line and found a wonderful source for tungsten wire needle holders as well as other handy tools. The source is www.FindingKing.com. Once on the website, click on "Jewelers Tools" located on the left side of the page and then on "Pin Vices & Hand Drills" from the drop down menu. There you can browse and choose from a variety of tools that they offer for amazingly inexpensive prices. The one product they sell that I want to make you aware of is "Item #: Kit-9137". This item includes three different needle holders plus a holder which can be used for micro-knives. If one searches the site each holder can be bought individually ranging in price from \sim \$7 to \$10 but all four holders shown below (Item #: Kit-9137) can be purchased for \$21.50. It is interesting to note that the set use to sell for \$6.25 but it appears that great deal is history. To purchase the bundle of tools, go to www.FindingKing.com then in the "Search" window type in "9137" and it will take you directly to "Item #: Kit-9137" or you can type in "pin vice" to look at all of them. Thank you Stephen - I owe you one – well, maybe two!



*Bureau Alcohol, Tobacco, Firearms, and Explosives Arson & Explosives Section 2600 Century Parkway, NE, Suite 400 Atlanta, GA 30345

Reprinted with permission of the author and "The Microscope."

Microphotograph vs. Photomicrograph

There is a Distinction & There should be <u>No</u> Confusion

Thomas J. Hopen*

Trace evidence analysts routinely photograph microscopic features during a microscopical examination of a sample to include in their notes or for possible presentation in court. Unfortunately, from time to time, you will see the term "microphotograph" used when referring to a "photomicrograph" and the process of the action as "microphotography" when "photomicrography" is the proper term. Even though these terms have been around for over 150 years, there still seems to be some misunderstanding about their <u>correct</u> use.

The Royal Microscopical Society (1) defines:

- 1) Microphotography "Photography, especially of documents, arranged to produce small images which cannot be studied without *magnification*. Not to be confused with *photomicrography*."
- Photomicrography "The recording by photography of an *image* formed by a microscope; i.e. photography through a microscope. Note: Not to be confused with *microphotography*."

Furthermore, the New York Microscopical Society (2) defines:

- 1) Microphotograph "A small, microscopic photograph, in which the image is minified; it requires enlarging or use of a lens system in order to view it. See photomicrograph."
- 2) Photomicrograph "An image enlarged approximately 40X or higher, produced by light, cf., electron micrograph."
- 3) Photomicrography "This term should not be reversed into microphotography. A photomicrograph is a photograph of a small object, the image is magnified more than approximately 40X by means of a compound microscope. A microphotograph is a small photograph, requiring an enlargement or a lens system in order to view it; the image is minified."

Also, in most general use dictionaries one will see the correct definition for "photomicrograph" with an added noted that "micrograph is sometimes used". Sadly, this note does not express that microphotograph is an incorrect substitution.

John Delly addresses this misunderstanding and explains in a footnote (3) that "Photomicrography should not be confused with *microphotography*, which involves making extremely small images of large objects. The distinction between the terms photomicrography and microphotography was made as early as 1858, but the confusion still persists. A contributing factor is faulty translation from the German language in which photomicrography is *mikrophotographie*."

^{*} Forensic Chemist Thomas J. Hopen, ATF-Forensic Science Laboratory, Arson and Explosives Section, 2600 Century Parkway, NE, Suite 400, Atlanta, GA 30345

Microphotography is a fascinating subject that will only be briefly covered in this article. This author made a presentation on this subject with a good friend Robert Kuksuk, Curator of the State Microscopical Society of Illinois (SMSI), back in the eighties. The presentation was composed of 12 individual microphotographs that were recorded on a single microscope slide using the microscope in reverse. This was accomplished by projecting the presentation images downward through a microscope with high resolution film placed on the microscope stage to record the images. Once developed, a microscope was used with a video system connected to TVs that showed the presentation to the audience. Microphotography was invented by John Benjamin

Dancer from Manchester, England, in 1839 using the Daguerreotype method (4). In 1858 he popularized and started to commercially produce microscope slides bearing microphotographs on a variety of different subjects using the collodion process. A John Benjamin Dancer slide is shown in Figure 1 along with images of the microphotograph on the slide at higher magnifications. The detail that can be seen is especially since amazing, the microphotograph is well over 130 years old. This J. B. Dancer slide bears an image of a painting by Sir Edwin Henry Landseer (1802-1873) that was commissioned by the 6th Duke of Devonshire. The book on this topic by Bracegirdle and McCormick (4) is beautifully produced, extremely informative, and is a wonderful addition to anyone's library.



Figure 1) Upper image of a J. B. Dancer microphotograph slide. The microphotograph on the slide measures 1.8 mm by 1.4 mm. The lower left image is an enlarged photomicrograph of the microphotograph on the slide. The lower right image shows a portion of the microphotograph. The 100 µm scale has been inserted into the image by the author.

When first introduced, Dancer's microphotography slides were very popular but a microscope was needed to view the images. This problem was addressed by René Prudent Patrice Dagron (5), a Frenchman, who combined the Stanhope lens (invented earlier in the century by Charles, 3rd Earl of Stanhope) with the microphotograph to produce magnificent novelty items (pendants, charms, rings, religious items, pocket knives, tie-pins, letter openers, etc). The novelty item was referred to as a "Stanhope", a "Stanhope Lens" or sometimes a "Peep". A Stanhope pocket watch fob is shown in Figure 2 with each optical tube containing a different picture. When the Stanhope is placed near the eye one will see an enlarged image of the microphotographs when looking through the optical tubes. Stanhopes can be found on eBay and sometimes at antique stores. Again, it is worth noting that the book by Jean Scott (5) is beautifully produced, extremely informative and is an excellent addition to anyone's library.

application The first non-novelty of microphotography was used during the Franco-Prussian War (1870-1871). During the "Siege of Paris", stories have been told about how pigeons were used to carry military messages about the war. But what one may not know is the messages were in the form of microphotographs. René Dagron was able to escape Paris by balloon and organize sending microphotographs of military dispatches back to Paris which was surrounded by the Prussian Army. These military dispatches consisted of approximately three thousand messages contained on a piece of film measuring 3.6 cm by 6 cm. Each pigeon carried approximately 17 pieces of film enclosed in a goose guill attached to their tail with a silk thread. A similar application was used in World War II when approximately 15 lines of text were embedded in a full stop or period (.) contained in letters from Germany



Figure 2) A binocular watch fob sitting on a US quarter. Each opitical tube is made of bone and contains a Stanhope lens with a different microphotograph.

(6). The period looked innocuous but when removed and examined under a microscope at approximately 200X the message became obvious. The use of microphotography in the world of espionage continued throughout the twentieth century.

There has always been an unofficial competition to produce smallest microphotograph the containing the most information. In 1925, E. Goldberg recorded a legible page with 50 lines of text which was no larger than 0.1 mm (100 μ m or 0.004 of an inch). This would be equal to imaging 50 complete bibles in one square inch (7). An example of a micro-Bible is shown in Figure 3. This micro-Bible contains 1245 pages in approximately one square inch and



Figure 3) Left image of a micro-Bible that measures 1 inch wide and 1-1/8 inches high. On the right is a page from the micro-Bible that is 0.55 mm wide.

can be easily read using a magnifying system. If interested, a micro-Bible can be purchased from GreatScopes, Inc., (<u>www.greatscopes.com</u>). Some individuals may not know that a number of micro-Bibles were taken on the Apollo 14 mission to the moon. Once the astronauts returned, the micro-Bibles were then presented to dignitaries as gifts. One will probably recognize this micro-Bible as Microfilm or Microfiche. Today microphotography is applied to data storage, optical reticles, and microelectronics (8). Also, the passion to see how much data can be stored in a minute area still continues

today. In 2007, it was reported (9) that Israel produced a Hebrew Bible (Old Testament) containing ~300,000 words by photon etching a silicon surface within a 0.5 mm square area.

In contrast, a photograph taken of an enlarged image through a light microscope is <u>correctly</u> referred to as a photomicrograph or light micrograph. The term macrophotograph may be used if the magnification of the image is less than 40X. An image obtained by an electron microscope (e.g. scanning electron microscope) is referred to as an electron micrograph. Determining and expressing the correct magnification of a micrograph (light or electron) is another topic for discussion that will be addressed in a future article.

On a similar note, the term "microscopic" (e.g. microscopic examination) is commonly used when "microscopical" (e.g. microscopical examination) is the correct term. References (1), (2), and (10) define: "microscopic – Very small, pertaining to a very small object or to its fine structure. A microscopic particle requires microscopical examination to be adequately visible." and "microscopical - Pertaining to a microscope; pertaining to the use of a microscope.". As expected, general use dictionaries usually make no distinction between the two terms.

I know this article has very little to do with the examination and analysis of trace evidence but I still hope you find it interesting and informative. By the way, a free Internet Encyclopedia (unnamed) defines "microphotograph" and "photomicrograph" as having the same meaning. Not surprisingly, by searching the Internet for "pictures of microphotographs" one will find thousands of photomicrographs and electron micrographs that are *incorrectly* identified as "microphotographs". Now the wrong usage and confusion is being spread world wide. What can I say?

REFERENCES

- 1) Compiled By the Nomenclature Committee of the Royal Microscopical Society, *RMS Dictionary of Light Microscopy*; Oxford University Press, UK, 1989.
- 2) The New York Microscopical Society, *Glossary of Microscopical Terms and Definitions*; 2nd ed.; McCrone Research Institute, Chicago, IL, 1989.
- 3) Delly, J.G., *Photography Through The Microscope*; 7th ed., Eastman Kodak Company, Rochester, NY, 1980, p. 2.
- 4) Bracegirdle, B. & McCormick, J., *The Microscopic Photographs of J. B. Dancer*; Science Heritage Limited, Chicago, IL, 1993.
- 5) Scott, J., *Stanhopes A Closer Look;* Greenlight Publishing, UK, 2002.
- 6) "Microphotography"; *Microscope*; 1954, 10(3), p. 83.
- 7) Stevens, G. W. W., *Microphotography: Photography and Photo-Fabrication at Extreme Resolution*; 2nd ed.; John Wiley & Sons, NY, 1968, pp 2-4.
- 8) Techniques of Microphotography, P-52, Eastman Kodak Company, Rochester, NY, 1976.
- 9) Markwell, K., *MicroBible*; 2007, Retrieved August 5, 2008 from <u>http://karynmarkwell.com</u>.
- 10) ASTM Designation E-175-82 (reapproved 1990), *Standard Terminology of Microscopy*, American Society for Testing and Materials, 1916 Race Street, Philadelphia. PA 19103



Dear NYMS Member,

NYMS Membership dues for 2011 are now payable. We are in the midst of a full program of speakers, courses and celebrations at our Clifton headquarters in 2011. NYMS values your support and participation.

<u>Please make sure to include your current email address</u>. Email communications are particularly useful for announcing any short-term program changes, and provide convenient means for sending supplementary materials. In addition email saves paper and postage - and saves you space. If you have a web site related to your microscopy interests please let us know – we'll add it to the roster.

And--Please include any of your Contact information that has changed in the last two years.

NYMS MEMBERSHIP CONTACT INFORMATION

Name:	
Email address: (please print clearly)	
Address for Newsletter? Email :Y/N Home Work	
Microscopy Related Website	
Address:	
Telephone: Work H	lome:
Microscopy interests:	
I do LightElectron Other (what?) _	microscopy
I use microscopes at Work Home	00 Habby atbar
Mostly Lyiew specimens that are: Biological Indu	QC HODDy UITEI
Or Other (what?)	
I also enjoy viewing (what?)	
In microscopy I am a ProfessionalAmateur	Beginner
Are you interested in working on NYMS Committ	ees? Awards Membership Education
Library Finance Curator Program _	Publications History
Checks should be made out to NYMS. Updated co	ontact information may be included with your check to the
address below, or it may be sent by email to me at m	iccanns@tiac.net,
Mary McCann	
Regular Membership: \$30 per year. Supporting Men	nbership: \$60 per year. Life Membership is \$300, payable
Within Tyear Corporate Membership: \$175	
Student Membership (ver 18 & a student) is \$20	

Thank you for your response!

Mary McCann NYMS Membership Chair 161 Claflin Street Belmont MA 02478

Directions to NYMS Headquarters

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

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

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 Houton.

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 ProspectAve.. 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

Kaleidoscope in Motion

This is really incredible! It is truly amazing that someone could not only create this, but make it to change when you move your mouse / cursor. It's real computer technology and, if you like, you can just sit back and let it change by itself. Either way it is awesome!!! Very nice, and pure genius! ALSO, IF YOU PUT YOUR CURSOR RIGHT IN THE MIDDLE, IT IS TRULY AMAZING.

Be sure to run your mouse over the screen slowly. Try moving it slowly, in circles.

http://inoyan.narod.ru/kaleidoskop.swf



Araboascorbic acid, 50x Polarized light (P1162830) Photomicrograph by Mel Pollinger