



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 2016

Editor: (201) 791-9826

Volume 10 (30) Number 8

NYMS Meeting In Clifton, NJ – Sunday, October 30, 2016

Speaker: Derek Yoost

Doors Open at Noon

Speaker program begins at 2 PM

Presentation Title: “The Big – The Very Small”

Where: NYMS, 1 Prospect Village Plaza, Clifton, N.J.

This lecture is going to be a little different. It is going to use audience participation to guess what fossil objects are while only seeing a very small magnified section. Also at the same time you will see the amazing detail that some fossils have. The same technique that was used for the “Photomicrography for the Cash-Strapped Collector” lecture (Cell phone camera with a common hand lens) was used for this lecture as well. The fossil specimens that were used for this Power Point lecture will be at the presentation for inspection.

My passion for fossil collecting started when I was 10 years old and has never stopped since. Starting at the age of 14, I worked in a rock shop (Jim’s Gems) in Wayne, NJ and gleaned a vast knowledge for the collecting and lapidary hobby. For the past 30 years, my collection has grown to include fossil amber, fish, reptiles, and mammals that are unique to New Jersey, New York, Pennsylvania, and Maryland. I also collect local minerals from New Jersey, shells, bones, meteorites and other natural history items and artifacts. This hobby has brought me to many interesting localities and fascinating people. I also maintain a web site on my favorite fossil collecting site, Big Brook at www.njfossils.net.

To date, I would guess that my favorite fossil that I found is the insect (a blood sucking Midge that may have feed on dinosaurs) that I found in Cretaceous aged sediment in Sayreville NJ. It was new to science and was eventually named after me (*Culicoides yoosti*).

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, by cell (on meeting day): (201) 314-1354.

Board of Managers

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For additional information contact the Editor: Mel Pollinger at (201) 791-9826, or 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

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.



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



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.



**Smith, Beck & Beck,
London, England;
Compound
Monocular
Microscope circa
1865.**

**by
Jan Hinsch**

This microscope is illustrated and described by its maker Richard Beck in his book "The Achromatic Microscope" of 1865. The catalog of the Billings collection shows a sample from ca 1862 on page 54.

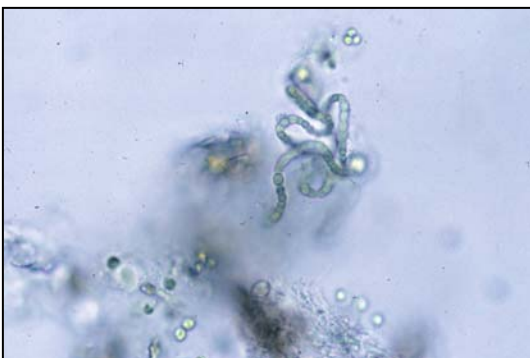
What I find interesting is the mechanical tube length of ca 160 mm at a time when "real" English instruments tended to be of 250 mm tube length. The author explains that this microscope is the result of an all out attempt to reduce the instrument to its essentials without sacrificing its utility or versatility with the aim of reducing the cost. He calls this model the "Universal Microscope", perhaps to preempt the notion that this is an inferior instrument.

A single pivot point has replaced the compass joint; the focusing mechanism incorporates a chain drive. Beck points out the convenience of use and the anatomically favorable positioning of the controls resulting from this novel design.

This validity of Beck's approach becomes apparent if we compare his to the continental microscopes of the period, which laid the foundation for the microscope to become the most important tool of biology.

Note: The microscope is signed on the base, "Universal Microscope, Smith, Beck, & Beck, London, 5570." *Photo by Mel Pollinger*

Mystery Photo for October2016



Answer on pg 4

Wiebke & Jan Hinsch (Sept2016) at their home & gardens in Woodcliff Lake, NJ, (see supplement for more)



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 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..

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

Answer to Mystery Photo from page 3
Pond Water Algae, Nostoc (Living) 400x (P1492723)a
Photo by Mel Pollinger

Answer to Mystery Photo for September 2016



Mushroom cap surface – photo by Jeff Glover

Pictures by NYMS Members – Oct2016



By Hal Sherman (DSCN3861)

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

October 2016

In This Section:

- ◇ Jan & Wiebke Hinsch
- ◇ Making Rheinberg Filters
- ◇ Historical NYMS Bulletins
- ◇ EAS 2016 Lab Short Courses
- ◇ EAS 2016 Pharma. Short Courses
- ◇ McCrone Microscopy Courses
- ◇ Membership Application
- ◇ NYMS Items for Sale
- ◇ Directions to NYMS
- ◇ Last page images

**Smith, Beck & Beck,
London, England;
Compound Monocular
Microscope; circa 1865.**

Photo by Mel Pollinger



Wiebke & Jan Hinsch at their home and gardens in Woodcliff Lake, New Jersey



Wiebke & Jan have been hosting & welcoming NYMS members, their families and guests to our Summer Picnics at their home & gardens for many years.



Making Rheinberg Filters

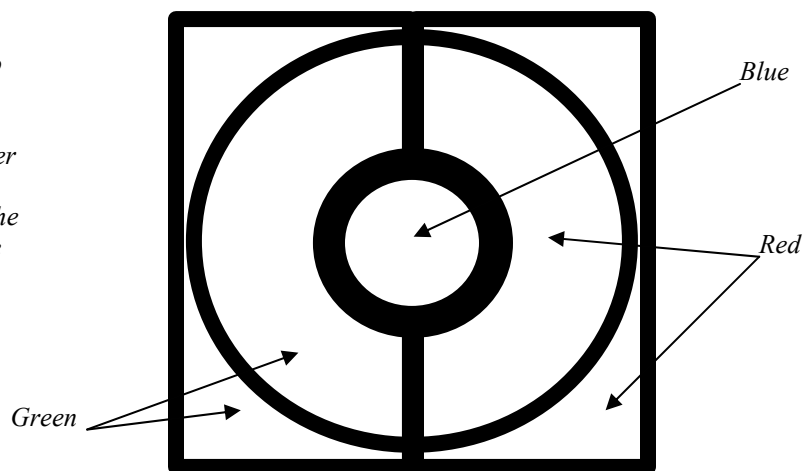
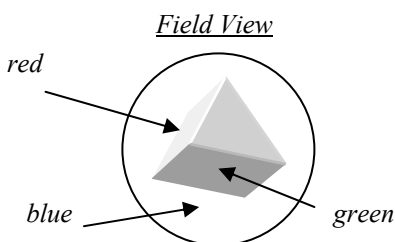
Rheinberg illumination is unique in that it can create beautiful effects at little cost and is relatively simple to produce and use. This method of enhanced lighting is a modification of dark field illumination; the central stop not being opaque and having color and the peripheral area of the illumination also having color, rather than being colorless. The similarity is that a central stop in the substage condenser, at the diaphragm aperture required by a particular objective, is viewed as the background of the field, while the peripheral hollow cone of light is seen reflected by the subject's lateral surfaces. These surfaces can include crystal faces, protozoan organelles, fibers, etc.

Since Rheinberg filters do not appear to be available through commercial sources, I attempted to make a few on my own. With some reading, a few helpful suggestions from club members, the gathering of certain raw materials; the project began. I experimented with a variety of ways to create Rheinberg filters (see last paragraph). One of the methods, which appeared to offer the greatest variety of filters in the shortest period of time, was worked out in three phases; (1) drawing the filter, (2) photographing the drawing, and finally, (3) properly trimming the filter photograph to fit into the substage condenser of the microscope. In the first phase, drawing the filter was accomplished using Microsoft PowerPoint, a computer graphics program. For the second phase, photographing the filter was done using 120 Ektachrome film. Finally, in the last phase, trimming the filter was done with scissors.

Phase I: Drawing the filter

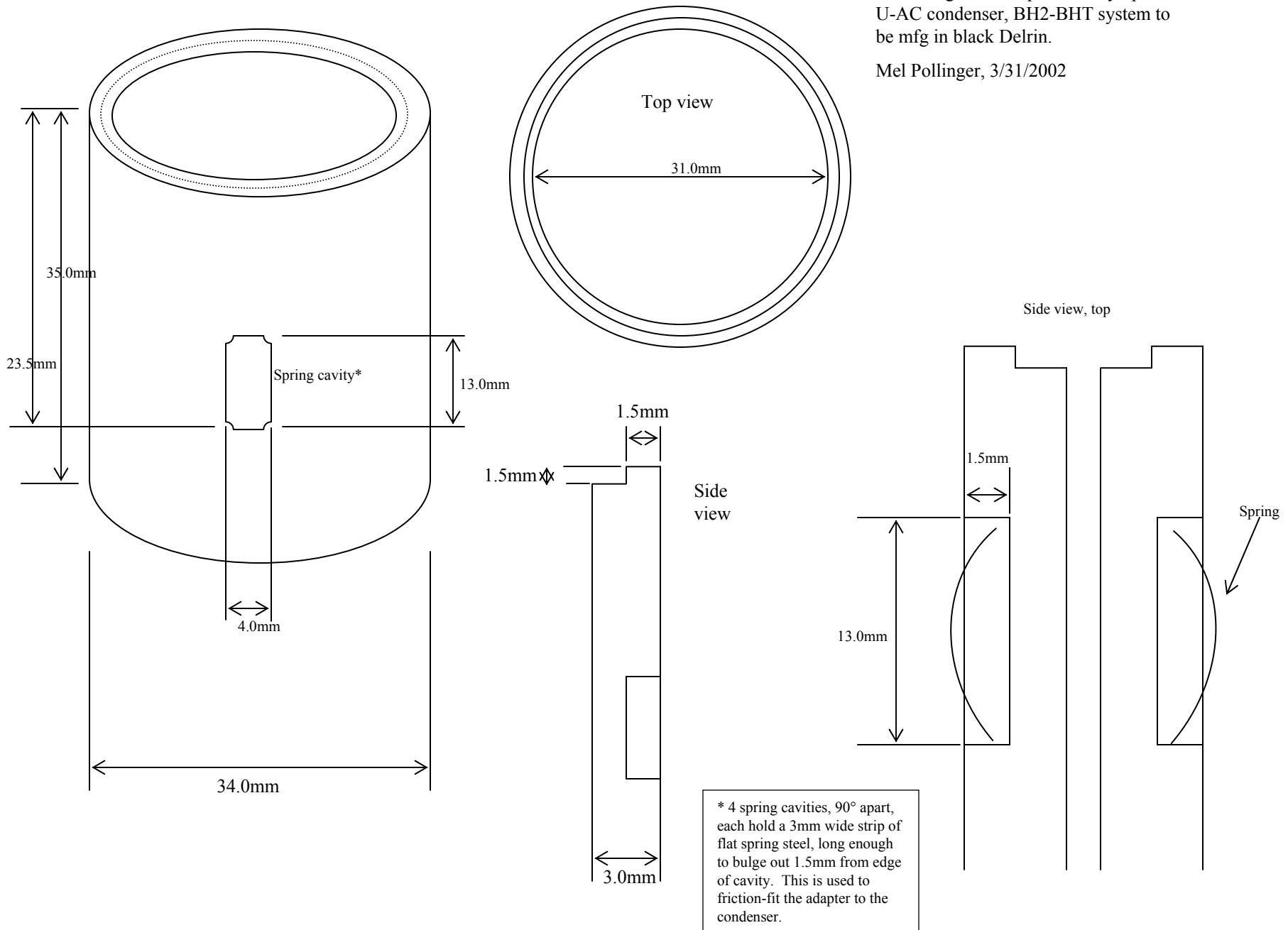
Although a computer was not needed for this step, available graphics software made this part both simple and fun (the only caveat being for the printer type; if a high-resolution laser color printer had not been available at this step, the software method would not have been used). The key here, regardless of what tools are available, is proportion; the outer circle (foreground color) had to be constructed at a size ratio to the inner circle to yield the correct (filter holder) size on the film format, which in this case was 120 roll film, while the inner circle (background color) is the same diameter as the condenser diaphragm aperture for a specific objective. To attain high contrast and separation between the foreground and background colors and increase the amount of visible detail on the subject material, a thick line (3-5mm) is used to separate the inner circle from the outer circle. I tried this and also tried using a loose-leaf paper hole-reinforcement ring as a replacement for the thick line; both seem to work equally well. I found it necessary to use different moderately- saturated colors for the outer circle, or its segments and to use a highly saturated (deeper) color in the center circle. Some center circles were left white to allow for colored acetates, polarizing material, or opaque center stops to be used in variation with the same filter. I used Microsoft's PowerPoint software to create the drawing of the filter, but any substantial drawing software should work equally as well. The software program allowed me to experiment freely with circle sizes, variable colors, line thickness and multi-segmented circles. In conjunction with this, the color laser printer produced opaque, brilliant colors on standard 20 lb. white bond paper. After the filter was printed, it was photographed.

On the right, the segments of the filter drawing are composed of two rectangles and two circles. If the rectangles are two different colors and they are different from the inner circle color, the foreground image will show these two colors, while the background will be the color of the inner circle (see field view, below).



Rheinberg filter adapter for Olympus
U-AC condenser, BH2-BHT system to
be mfg in black Delrin.

Mel Pollinger, 3/31/2002

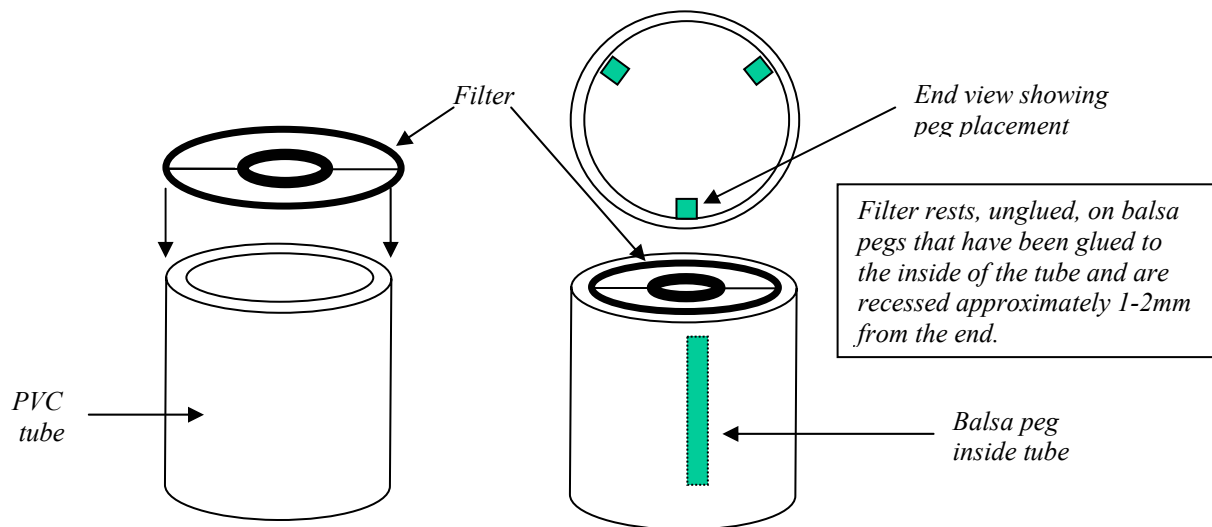


Phase II: Photographing the filter drawing

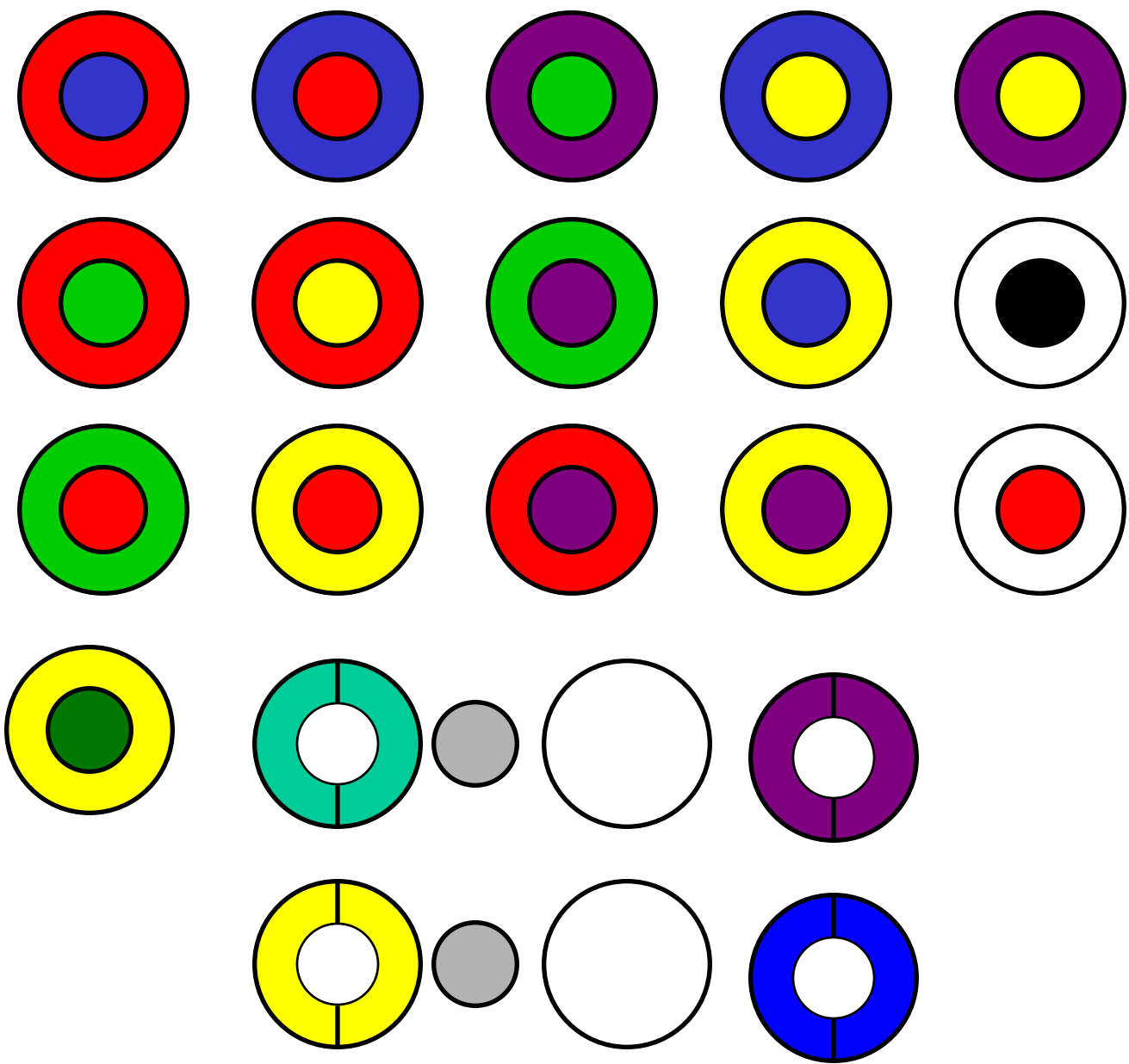
I used Kodak Ektachrome 64T, which is balanced for 3200°K, for this step. The 120 film format I used allowed proper final sizing of the filter image so that the image on the film was exactly the required size for the filter holder. To do the sizing, the camera film back was removed and the image on the ground glass view screen was adjusted to the correct size by racking the camera up or down while refocusing. Two 3200°K incandescent lamps were used to illuminate the drawing, one on either side, and both were aimed at approximately 45° angles to “wash” light over the drawing and thereby avoiding uneven illumination. The evenness of the illumination was confirmed with an exposure meter reading incident light at the edges and center of the drawing. When the exposed film was returned from the processor, getting the filter images into their final form was next.

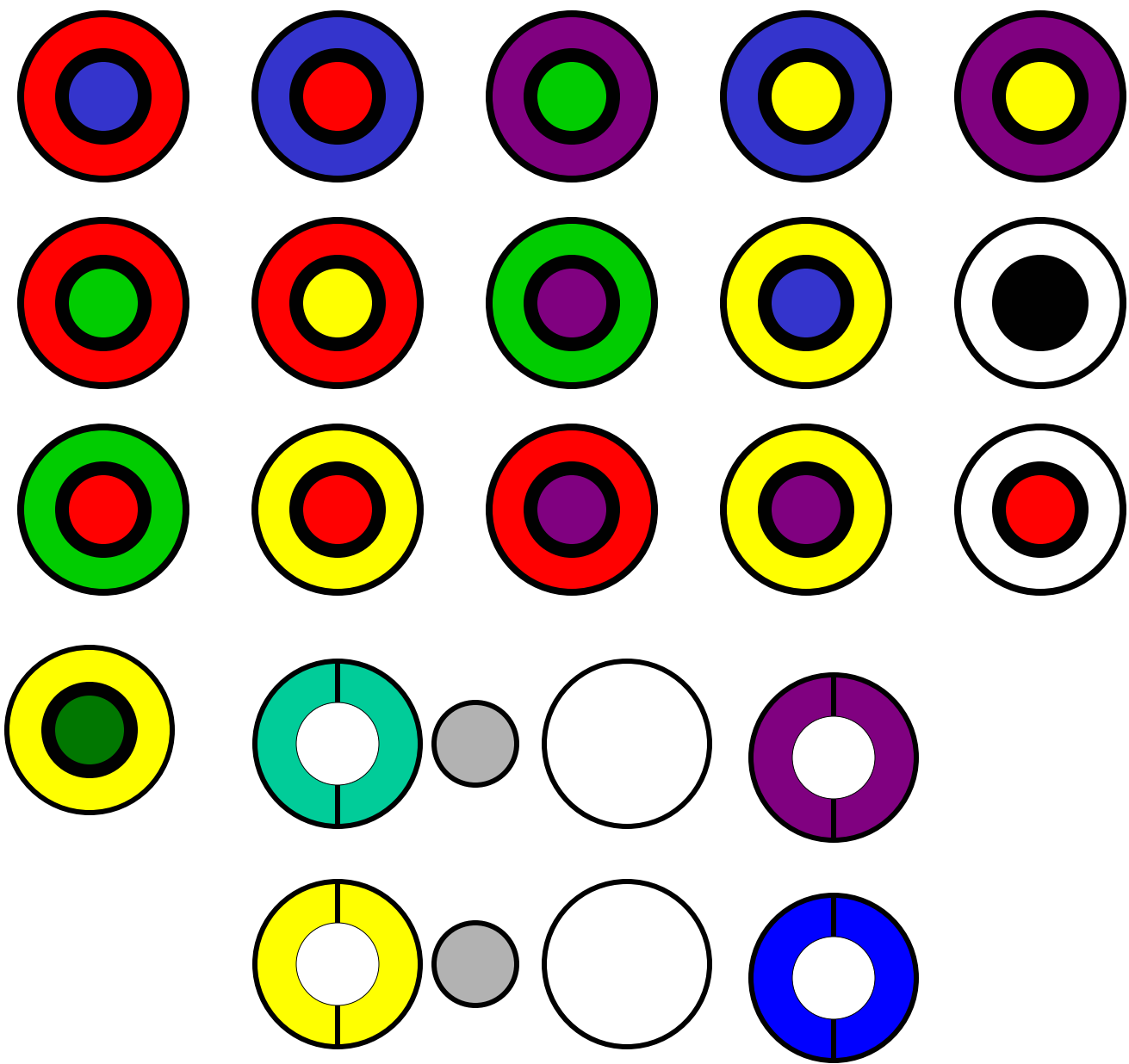
Phase III: Preparation of the Finished Transparency

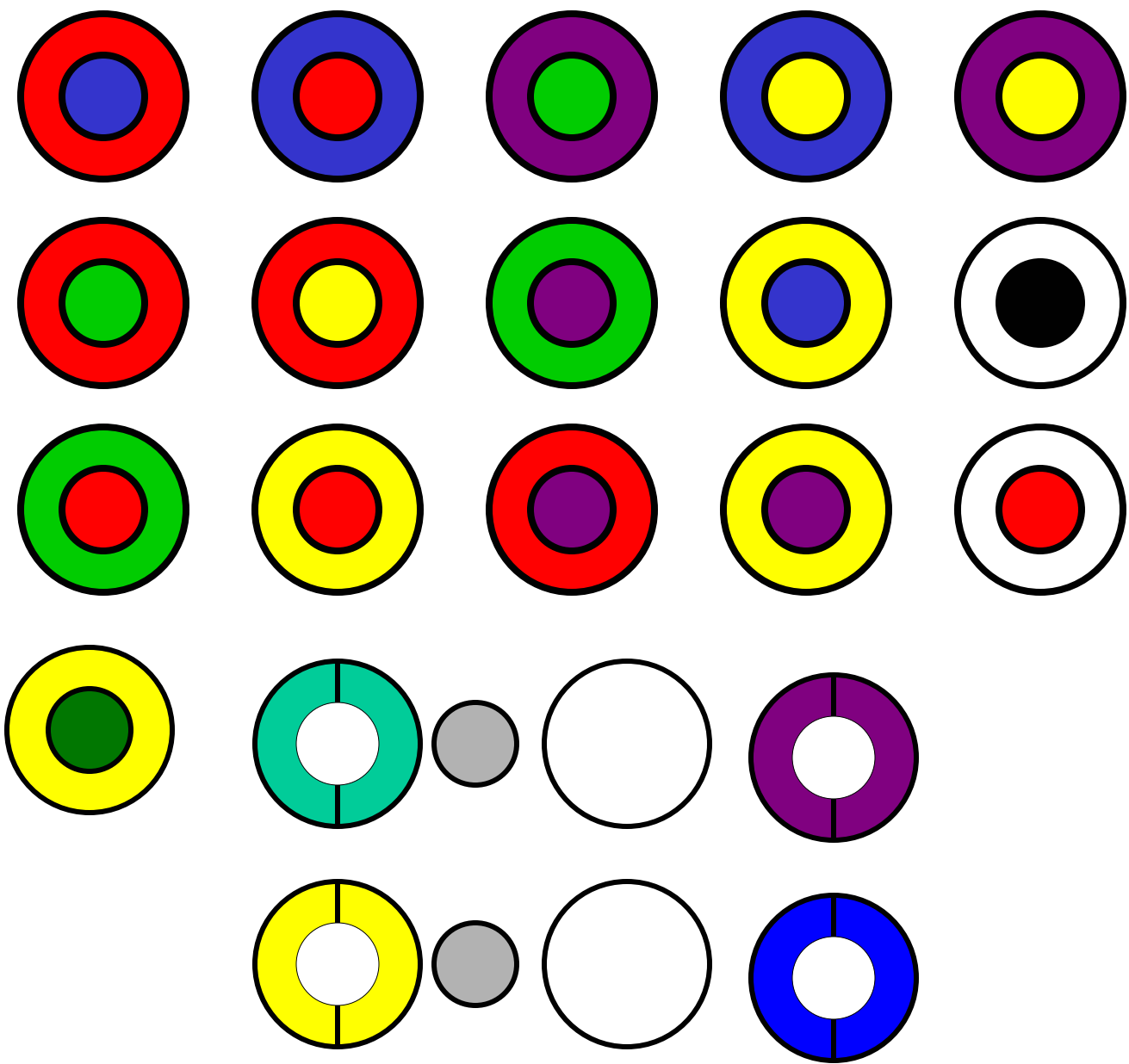
The exposure level, color and clarity of the finished transparency was enough to yield acceptable results. It now had to be trimmed to size. To do this required a small amount of practice in cutting circles with a pair of scissors. Before the transparency was cut, however, the filter holder on the substage condenser had to be re-measured; an accurate fit was needed at this step to keep the smaller circle centered in the holder and its image centered in the back lens of the objective. Since the condenser diaphragm is recessed into the condenser of my Olympus BH series microscope, a sleeve was made from PVC pipe to slide into the recess of the condenser without falling out, but loose enough to be moved manually. The friction fitting was accomplished with layers of masking tape. In addition, the top of the sleeve had to contact the flange of the diaphragm, but not touch the leaves of the iris. The masking tape edge made the contact, preventing the tube from sliding into the iris. The Rheinberg filter was attached to the top of the tube, but others were made to fit inside the tube as shown in the diagram below:

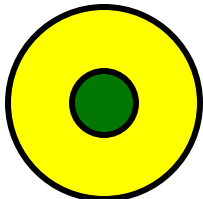
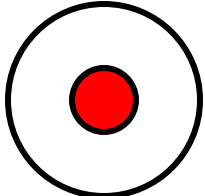
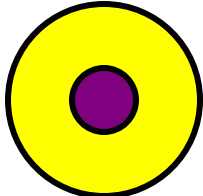
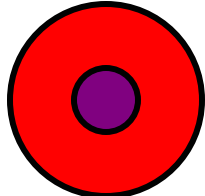
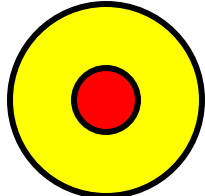
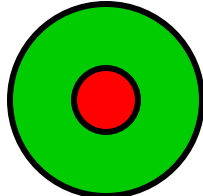
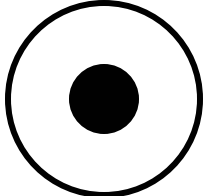
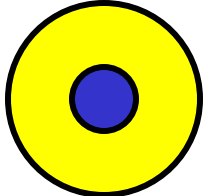
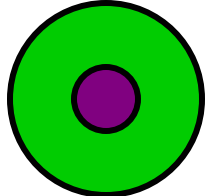
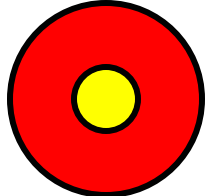
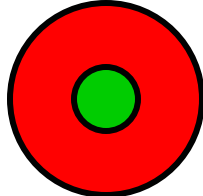
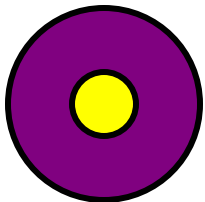
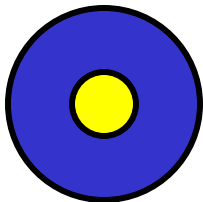
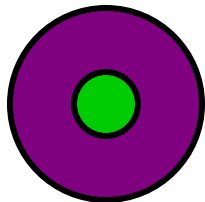
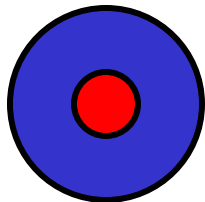
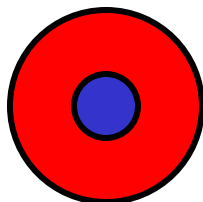


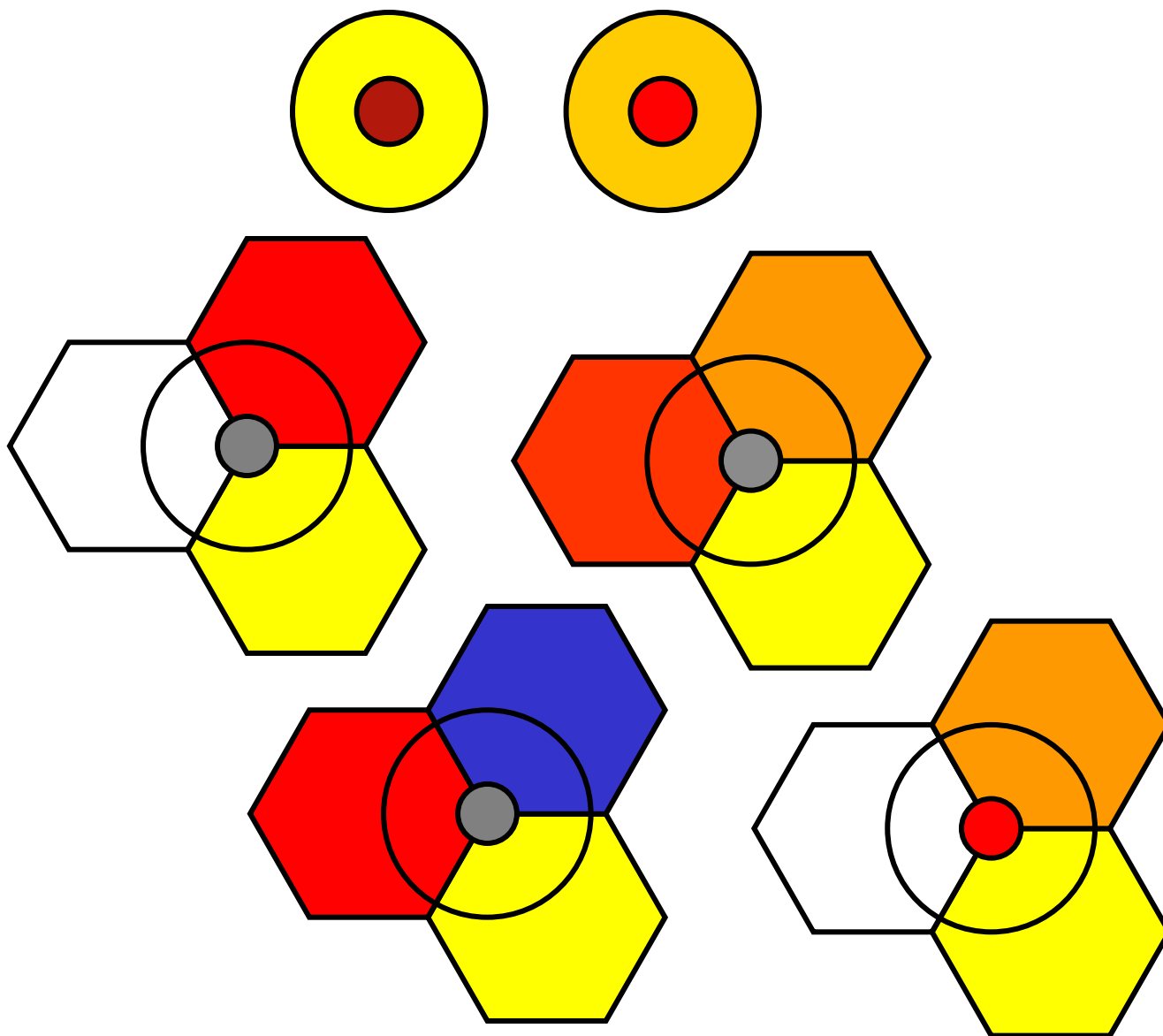
In the absence of a computer, or a camera, Rheinberg filters can be made from circles cut directly from colored acetates, or other dyed, transparent material. If one has a suitable camera, filters can also be hand-drawn and then photographed. I Experimented with various techniques for manufacturing the filters and had almost as much fun making them as using them. For a greater understanding of Rheinberg illumination and other illumination methods, I strongly recommend reading **Contrast Methods in Microscopy [Transmitted Light]**, by Mortimer Abramowitz, Volume 2, written for the Olympus Corporation.











Historical NYMS Bulletins For Sale

The bulletins are limited in number and can be purchased, while they last, as a set of 8 Bulletins for \$10.00/set plus mailing. Individual copies are \$2.00/ea

The bulletins and other out-of-archive publications may be viewed at the NYMS Library in Montclair, New Jersey.

If interested in owning a part of NYMS history, please contact Mel Pollinger by email at pollingmel@optonline.net or simply pick up a set at the next NYMS meeting in Clifton, N.J.

Each set of NYMS Bulletins is comprised of the following:

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
PREPARATION 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

Main Identity

From: "Eastern Analytical Symposium & Exposition" <newsletter@eas.org>
To: <pollingmel@optonline.net>
Sent: Friday, October 07, 2016 12:52 PM
Subject: Chemometrics, Microscopy and So Much More!



EAS for Your LABORATORY

Check out these practical analytical courses this
November 13-16 in Somerset, NJ!

Short Courses

Chemometrics Without Equations Part 1 &/Or Part 2

Sunday, November 13 and Monday, November 14, 8:30am-5:00pm

Instructors: Donald Dahlberg, Lebanon Valley College (Emeritus) and Neal Gallagher, Eigenvector Research

Part 1 is designed for those who wish to explore the problem-solving power of chemometric tools, but are discouraged by the high level of mathematics found in many software manuals and texts. Course emphasis is on proper application and interpretation of chemometric methods as applied to real-life problems. The objective is to teach in the simplest way possible so that participants will be better chemometrics practitioners and managers.

Day Two should be of interest to those involved in chromatography and hyperspectral imaging, following changes over time or location, and the analysis of materials in complicated matrices. It presents the material without the use of high-level mathematics found in many software manuals and texts. Course emphasis is on proper application and interpretation of chemometric methods as applied to real-life problems.

This two-day course is a combination of two one-day courses: Introduction to Chemometrics Without Equations I and Intermediate Chemometrics Without Equations II.

[Click here for more details](#)

Analytical Forensic Metrology

Monday, November 14, 8:30am - 5:00pm

Instructor: Jerry Messman, Stranaska Scientific

Analytical measurements play an important role in the scientific quantitative analysis of many types of forensic samples and trace evidence. The interpretational value and scientific validity of analytical measurement results introduced in court cases through expert witness testimony can impact bench and trial outcomes. As an enabling science inherent in sound laboratory operational systems, metrology provides the rigorous basis for the scientific credibility and defensibility of measurement results when they are challenged through intense direct and cross examinations. This course provides a basic introduction to chemical metrology and its relevance to the many facets of the overall analytical forensic measurement process involving quantitative chemical analysis. Courtroom outcomes involving the application of metrology in the determination and reporting of breath and blood alcohol content, seized drug testing and chemical analysis in other forensic science disciplines will be presented. [Click here for more details](#)

Lifecycle Approach to Analytical Methods: Incorporating QbD Concepts into Method Development, Validation, Verification and Transfer

Wednesday, November 16

Instructor: Gregory Martin, Complectors Consulting

This course is designed to provide participants with a lifecycle approach to developing and validating analytical methods, including some elements aligned with QbD concepts. By using a lifecycle approach, methods are more likely to meet their intended purpose, and scientists are more likely to

have success during validation and transfer exercises. The course will build on traditional concepts of method development, validation and transfer by introducing the Analytical Target Profile (which identifies what the method is expected to accomplish), fostering method understanding (using QbD concepts to explore the method operable region and stressing the importance of real samples in the environment where they will be tested) and demonstrating how these principles can be used iteratively as methods change location or evolve technically. This approach will be linked with current compendial requirements. [Click here for more details](#)

Interpretation of Mass Spectra with Practical Solutions to Problems

Wednesday, November 16, 8:30am - 5:00pm

Instructor: Mike Lee, Milestone Development

This introductory course covers the theory and practical interpretation of mass spectra of organic compounds and proteins/peptides through the use of practical examples. The principles of interpretation are to be illustrated by various mass spectral data from EI, CI, ESI, APCI, and MALDI-MS. This course emphasizes problem-solving skills with examples encountered in industrial and academic research, including structural characterization of trace level impurities and degradation products, analysis of natural products, identification of drug metabolites and structural determination of proteins/peptides. This course provides information on methods and technologies, enabling the scientist to address the challenges experienced in today's modern laboratory setting.

[Click here for more details](#)



**All Short Course take place at the Holiday Inn in Somerset, NJ.
You must register as a Full Conferee in order to take a short course.
Register before Oct. 15th for discounted pricing.**

Visit our website for a complete list of our
[short courses](#)
and
[technical program](#)
and all the other exciting happenings at EAS!

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Main Identity

From: "Eastern Analytical Symposium & Exposition" <newsletter@eas.org>
To: <pollingmel@optonline.net>
Sent: Friday, September 30, 2016 11:45 AM
Subject: Popular Pharma Courses & Topics at EAS



More PHARMA at EAS

Check out what's happening this
 November 13-16 in Somerset, NJ!

Popular Pharma Short Courses:

Polymers: An Introduction and Characterization Techniques

Sunday, November 13

Instructor: Diep Nguyen, Illinois Institute of Technology

Polymers have many applications in a variety of industries including the pharmaceutical industry, especially in coatings or in packaging of medicines; however, analysts working with polymer do not always have a formal training in the subject. This course is designed to give an introduction to polymeric materials and their potential uses. Participants will discuss various analytical methods to characterize polymers such as molecular weight determination, thermal analysis, determination of Tg and rheology measurements. [Click here for more details](#)

Conducting Effective Investigations of Out of Specification and Atypical Laboratory Results Using Root Cause Analysis and CAPA

Tuesday, November 15

Instructor: Gregory Martin, Complectors Consulting

This one-day course is designed to provide sound training on how to recognize and address atypical or out of specification results, using approaches which have been recommended by regulatory authorities, and how to perform investigations to assure both compliance and good business decisions. The course stresses timely, consistent investigations focused on identifying the root cause and taking appropriate actions regarding the disposition of the data and the material, as well as corrective or preventive actions to avoid similar situations in the future. There will be an exercise using a participant's example to work through an investigation, as well as ample opportunity for questions and discussion. [Click here for more details](#)

Quality-by-Design Fundamentals for Analytical Chemists: A New Paradigm for the Analytical Laboratory Part 1 &/or Part 2

Sunday, November 13 and/or Monday, November 14

Instructor: Zenaida Otero Gephardt, Rowan University

This is a combination of two one-day courses. These courses include the fundamentals of quality by design in the analytical laboratory. The background and basic principles of QbD will be discussed in the context of applications in the pharmaceutical and chemical industries. The conceptual framework for QbD operation in the analytical laboratory will be discussed in detail with emphasis on critical quality attributes and critical process parameters (CQA, CPP). QbD in experimental program design, and data collection and analysis will be highlighted. Course participants will be able to immediately use the techniques presented to enhance their effectiveness in data collection and analysis. Practical applications will be used to demonstrate QbD techniques throughout the course.

[Click here for more details](#)

The Chemistry of Drug Degradation

Sunday, November 13

Instructors: Gregory Sluggett, Todd Zelesky, Shane Eisenbeis, Pfizer

This workshop is designed to provide participants with an in depth of knowledge of the chemical reactions involved in the most common degradation pathways of drugs. The Chemistry of Drug Degradation: This topic will be covered by carefully examining the decomposition of pharmaceuticals by functional groups according to common degradation pathways. These include hydrolysis/dehydration, oxidation, isomerization/ epimerization, decarboxylation, dimerization/polymerization, cyclization, rearrangements, photolysis, and transformation products involving reaction with excipients or counterions (salt forms). Real world examples will be given to illustrate many of the degradation mechanisms. [Click here for more details](#)

Sample Preparation: The Chemistry Behind the Techniques

Tuesday, November 15

Instructors: Douglas E. Raynie, South Dakota State University, Merlin K. L. Bicking, ACCTA, Inc.

Learn about the chemical principles behind the techniques, and how an understanding of these principles will produce better results in your laboratory. This course will include a survey of many traditional procedures, including information on recent advances in these techniques. Several new sample preparation technologies will also be introduced. This course offers a comprehensive treatment of sample preparation as an important part of every analytical method. You will learn more than just a few manipulations; you will come away with a complete understanding of what sample preparation is and how you can use it!

[Click here for more details](#)

We will also offer these Pharmaceutical short courses:
click on course title for more details

- [Impurities in Pharmaceuticals - A Survey Course](#) (11/13)
- [Analysis of Proteins and Peptides in Biological Matrices by LC-MS/MS](#) (11/13)
- [Science, Risk and Statistics in Cleaning Validation](#) (11/14)
- [LC/MS Method Development for Small Molecule Pharmaceuticals](#) (11/14)
- [Keeping Your Analytical Procedures in Compliance with the FDA: Validation, Documentation, and Investigation](#) (11/15)
- [Practical Introduction to Titration Method Development](#) (11/16; AM)
- [Lifecycle Approach to Analytical Methods: Incorporating QbD Concepts into Method Development, Validation, Verification and Transfer](#) (11/16)



All Short Course take place at the Holiday Inn in Somerset, NJ.
You must register as a Full Conferee in order to take a short course.
Register before Oct. 15th for discounted pricing.

Technical Program

these oral sessions

Hear the latest pharmaceutical topics at

- Novel Approaches to In-Vitro Predictive Analysis (11/14 AM)
- Industrial Applications of Polymer Analysis & Characterization (11/14 AM)
- Mass Spectrometric Solutions to Environmental & Pharmaceutical Problems (11/14 AM)

- Overcome the Challenges in Parental Drug Development and Analysis (11/14 PM)
- CoSMoS Method Development Olympics (11/14 PM)
- Innovations in Pharmaceutical Analysis (11/14 PM)
- Analytical Methods for 21st Century Cleaning Validation (11/15 AM)
- PAT in Pharmaceutical Manufacturing (11/15 AM)
- Solving Analytical Challenges of Generic Pharmaceutical Products (11/16 AM)
- Pharmaceutical Formulation & Manufacturing Challenges (11/16 AM)
- In-Process Control: From API to Drug Product (11/16 PM)
- Polymer & Biomolecule Analysis (11/16 PM)

Visit our website for complete list of our [short courses](#) and [technical program](#) and all the other exciting happenings at EAS!

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Subject: Fluorescence Microscopy Course at McCrone Research Institute, Chicago

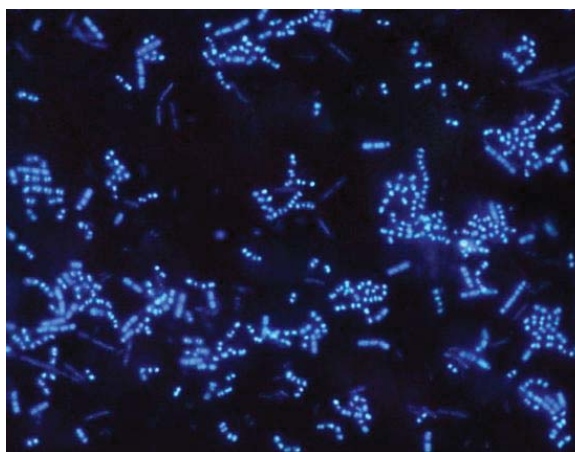


Fluorescence Microscopy Course

At McCrone Research Institute, Chicago

December 6 - 8, 2016

McCrone's **Fluorescence Microscopy** course (1210), 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. [Learn more and register online](#)



Other McCrone Courses

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

Indoor Air Quality: Fungal Spore Identification -- September 26-30

Advanced Indoor Air Quality: Identification of Fungal Cultures -- October 4-6 (new course for 2016)

Microscope Cleaning, Maintenance and Adjustment -- October 10-11

Microscopical Identification of Asbestos -- October 17-21

Advanced Asbestos Identification -- October 24-28

Applied Polarized Light Microscopy/Forensic Microscopy -- November 7-11

Introduction to Basic Human Body Tissues -- November 15-17

Polymer Microscopy -- November 28-December 2

McCrone Microscopy Courses by Category

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

PLM and Forensic Microscopy Courses

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

Specialty Microscopy and Other Courses

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.

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

We look forward to seeing you in Chicago!



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\$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

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

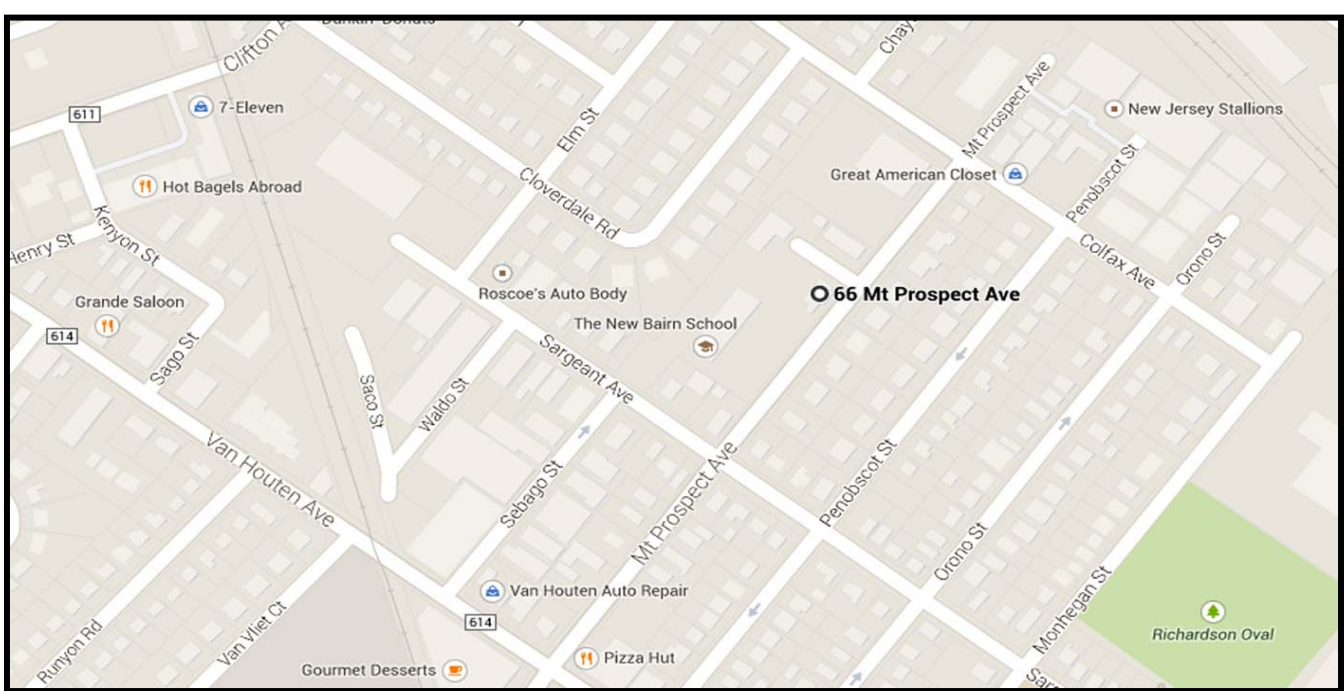
Model 131-FLU: Fluorescent



Model 185: 20x



Model 125-LED Cordless



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 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 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:

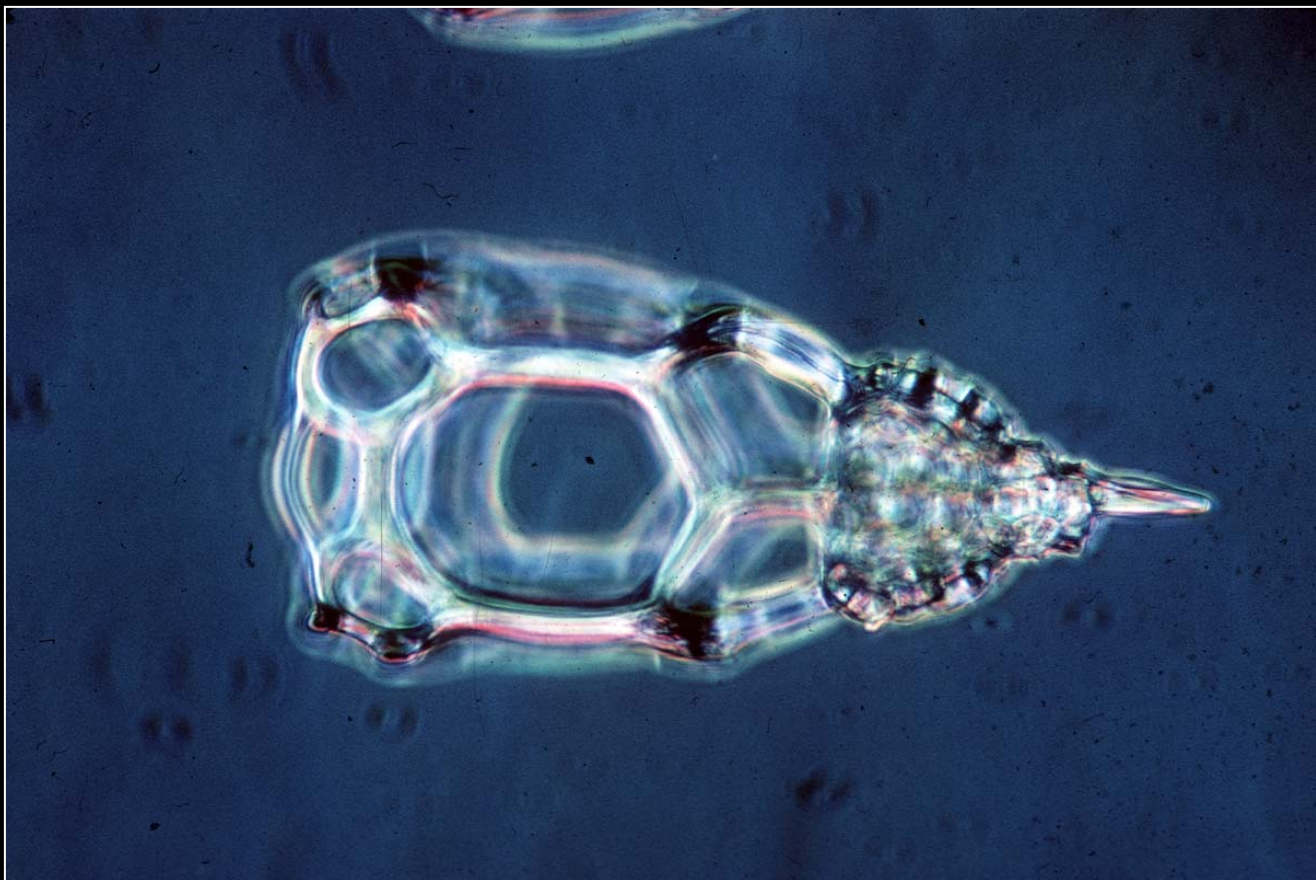
http://www.njtransit.com/sf/sf_servlet.srv?hdnPageAction=TripPlannerItineraryTo

http://www.njtransit.com/sf/sf_servlet.srv?hdnPageAction=BusSchedulesP2PTo

http://www.njtransit.com/sf/sf_servlet.srv?hdnPageAction=TrainTo



Phenobarbital, 100x (P1521008D)a6x4x200: by Mel Pollinger



Cycladophora goetheana, 83x a6x4x200: by Eric Gravé