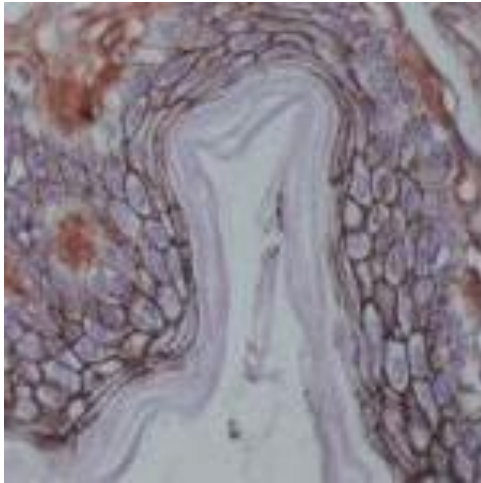


EMS MICROSCOPY ACADEMY

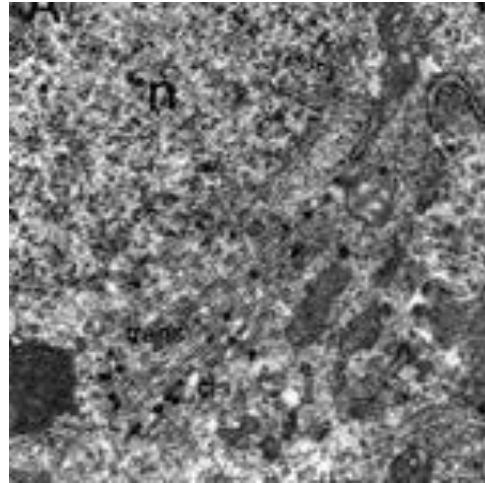
CRYOSECTIONING/IMMUNOGOLD WORKSHOP

Examples of the endless possibilities when doing Immunogold Staining



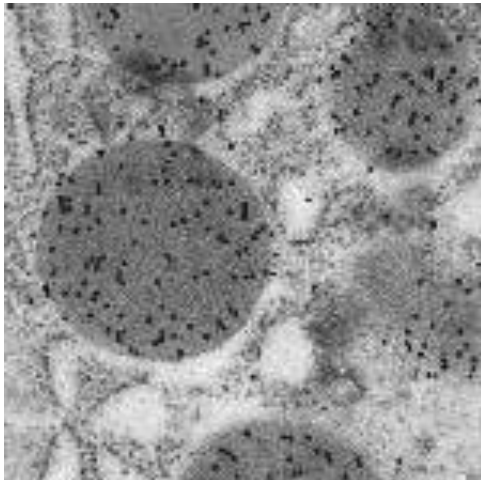
Immunogold Silver Staining of E-cadherin on a paraffin section of human skin.
Courtesy of R. Moella, Dept. of Exp. Path., EUR, The Netherlands

- Mouse monoclonal anti E-cadherin
- GAM IgG Ultra-Small
- Aurion R-Gent SE-LM



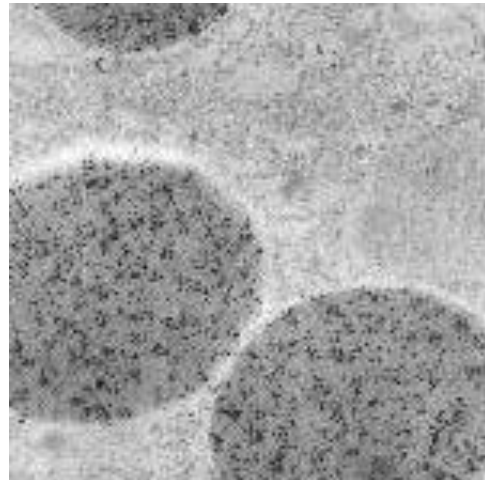
Pre-embedding immunogold Labeling of Huntingtin Interacting Protein 3 in Mouse Brain using Aurion GAR Fab-US and Aurion SEEM.

Courtesy of Ms Hong Yi, Emory University, Atlanta, GA



Immunogold Silver Staining of alpha-amylase on Lowicryl HM20 section of rat pancreas.

- Goat-anti-Rabbit, 15 nm
- Ultra-small R-Gent (Dansher Method)



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Details

Monday - Friday
April 20 - 24, 2020
8:30 a.m. - 4:30 p.m.
Hatfield, Pennsylvania, USA

Targeted Participants

Students, researchers, and microscopists who want to learn the most up to date theory and practice in cryosectioning and immunogold labeling. **Prerequisite:** In order to do well in class, you must have some ultramicrotomy experience. Please contact us if you have any concerns.

Scope of Class

The objective of the course is to provide researchers with the opportunity to learn the theory and practice of the use of cryosectioning with diamond knives, and immunogold labeling. Participants will process their own samples under the expert guidance of our tutors, who are experts in cryosectioning and immunogold silver staining techniques.

During the workshop, attendees will receive theory, including but not limited to, cryosectioning, immuno detection, in situ hybridization, silver enhancement, as well as background issues. There will be time for practice as well. Attendees will be able to work with their own specimens, as well as ones we will have prepared. A full review of sectioning, incubation methods, testing of antigenicity and reactivity, complete principles of immunogold labeling, as well as preparation of conjugates for EM, as well as LM, will be covered.

The EMS Microscopy Academy

Located in Hatfield, Pennsylvania, the Academy provides electron microscopy classes, workshops and training sessions for all fields of microscopy, including materials science and biological science.

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CRYOSECTIONING/IMMUNOGOLD WORKSHOP

Format

Lecture, demonstration and hands-on practice, as well as round table discussion. Participants may bring their own samples to work on during lab time.

Note: Specimens need to be "ready to use", e.g., sections of chemically fixed cells on coverslips. For each combination of primary antibody and gold conjugates that you want to test during the workshop, you need at least 3, preferably 4, specimens. This enables you to test different dilutions of the primary antibody and to check the immunogold/silver reagents (negative control).

For pre-embedment immuno labeling, also include specimens that will be immuno labeled for evaluation on the light microscope. These specimens are used to check if the experiment is successful. During the workshop there is no time / there no options to further process pre-embedment specimens for EM evaluation. Plastic embedment and sectioning must be done at your own facility.

Main Curriculum

- Introduction in cryosectioning
- Theory and full review of Diamond knives
- Sectioning and practice with section pick-up, etc.
- Gold nanoparticle conjugation
- Theory underlying immunogold labeling protocols
- Silver enhancement of gold particles
- Immunogold labeling on a variety of sample preparations of OLM
- Immunogold labeling for EM:
 - a. Pre-embedment immunogold labeling using ultra small gold conjugates and silver enhancement
 - b. Post-embedment immunogold labeling on plastic and ToKuyasu cryo sections using conventional colloidal conjugates and ultra small gold conjugates
 - c. Manual and automated immunogold labeling
- Pre/Post-embedment double immunogold labeling
- Background minimization in immunogold labeling
- Troubleshooting

Instruments Available

Zeiss TEM	Leica EM UC7 RT & Cryo	Transmitted Light Microscope
Diatome 45°, 35° RT/Cryo Diamond Knives		Boeckeler RMC Power Tome PC RT & Cryo

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Faculty

Peter van de Plas has a background in histology and immunocytochemistry and joined Aurion in 1991. During the pioneering phase of Aurion in the early nineties he worked closely with Dr. Leunissen in founding a firm basis for Aurion. He contributed not only to the development of product applications but also in designing the Aurion Immunogold Silver Staining workshop. He has been invited to many international microscopy conferences and workshop and is especially experienced in providing hands-on training. Former workshop attendees and customers appreciate Peter for his technical support on, and his thorough knowledge of, the immunogold silver staining techniques. The Aurion immunogold workshops in Europe, Asia, Australia, and the US have all been fully attended and very well received.

Helmut Gnaegi has a background in engineering and he is one of the founders of Diatome, the leading supplier of diamond knives and related accessories such as ionizers and manipulators, etc. He is also one of the leading instructors for ultramicrotomy courses (Biological and Materials) around the world.

Michael Kostrna was the program director of the Electron Microscopy Technician program at Madison Area Technical College and has more than 35 years in EM technical education and research experience. He has been training EM students for 30 years and has developed curricula and lab exercises for TEM, SEM, OLM, lab safety, introductory and advanced biological EM, EM, maintenance, and x-Ray microanalysis. He has worked with companies such as SC Johnson Polymer, Dow Chemicals, Io Genetics, Virent Technologies, ABS Global, NanoOnocology, and Microscopy Innovations, and in the process gained insight to the various applications of EM.

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CRYOSECTIONING/IMMUNOGOLD WORKSHOP

Registration Fee: \$1,500 Includes

- Workshop syllabus
- All supplies
- Reagents and solutions
- Lunches
- Coffee
- Tea
- Dinner on the first evening of the workshop

Lodging

Participants are responsible for making their own hotel reservations.

The following hotel has been designated as the host hotel:

Homewood Suites

1200 Pennbrook Parkway
Lansdale, PA 19446
Phone: 215-362-6400

The special rate is \$119.00 per night (plus tax) which includes a hot breakfast and a light dinner in the evening.

Please make your reservations and mention you are participating in the EMS Workshop.
GROUP CODE: EMS WORKSHOP

Everyone should plan to arrive the night before class begins.

Enrollment Note

Registration will be limited to a maximum of 15 participants.
EMS will provide samples to those who prefer not to bring their own.

EMS MICROSCOPY ACADEMY
CRYOSECTIONING/IMMUNOGOLD WORKSHOP

Printable Registration Form

_____ M / F
Name / Title

Institution

Department

Mailing address

City / Zip

Country

Telephone / Fax

Email:

Will you bring your own specimens? Yes__ / No__ (See Note on prior page)
What Samples are you bringing and most interested in?

All registrations must include payment.

Rate \$1,500.00 per Person

Number of Participants _____

Total \$ _____

Pay by check: make payable to EMS and reference "Cryo/Immuno Apr20".

Pay by credit card: Credit Card Type _____

Credit Card Number _____

Expiration Date _____ 3 Digit Code _____

Signature / Date

Return your registration to:

Stacie Kirsch

1560 Industry Road

Hatfield, PA 19440 USA

Phone: 215-412-8402

E-Mail: info@emsdiasum.com or Fax: 215-412-8452

TO REGISTER ONLINE, CLICK [HERE](#).