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The American Society for Mohs Surgery: Background, Purposes, and Programs

By Matthew M. Goodman, M.D.



Here, we focus on a few of the educational opportunities that exist for dermatopathologists and Mohs technicians.

In the 1930's, Frederic Mohs began developing the Mohs surgical technique for complete skin cancer removal at the University of Wisconsin. This technique was refined over the years, progressing from the thorough but tedious and painful fixed tissue paste

Basal cell carcinoma in skeletal muscle on Mohs section. (Courtesy of Ron Rapini, M.D.)

technique, to the equally thorough frozen section technique. Mohs' excellent results were eventually duplicated and published by dermatologist Ted Tromovitch in 1970, thus beginning the "modern" era of Mohs Micrographic Surgery.

The specialty of dermatology embraced Mohs surgery because of a unique and natural affinity for the technique, with its blending of skin cancer surgery and dermatopathology, both of which are taught extensively during dermatology residency, and are included on the dermatology board exam. Most dermatologists perform dermatologic surgery and dermatopathology routinely in their practices.

The American Society for Mohs Surgery (ASMS) was formed in 1990, and opens its membership to all board-certified dermatologists who demonstrate proficiency in Mohs surgery (Fellows), or who are interested in becoming educated and trained in Mohs surgery (Affiliates). With its philosophy that the fundamentals of Mohs surgery can be learned during dermatology residency or in appropriate post-residency training, its membership quickly grew to now include over 700 board-certified dermatologists from all over the world.

The ASMS sponsors the annual, world-class training course "Fundamentals of Mohs Surgery" in San Diego for clinicians and technicians, as well as a preceptorship program for dermatologists

Leica Leadership Scholarships at the Annual NSH Conference and Symposium

Each year at the NSH (National Society for Histotechnology) Conference and Symposium, Leica Microsystems sponsors the Leica Leadership in Teaching and the Leica Leadership in Management Scholarships. Nominees are those who best exemplify the qualities of a teacher or manager dedicated to sharing knowledge with others and advancing the field of histotechnology. Here, Leica focuses on three of the past winners of these prestigious awards:

Leica Leadership in Management Award 2006 Winner: Konnie Zeitner, HT(ASCP), HTL, SLS

Nebraska Medical Center

Were you surprised to win the 2006 Leica Leadership in Management Award?



Yes, I was quite surprised as there are a number of applicants for each award. We had difficulty hearing the awards and often had to look at the big screen to see the names. However, I must admit that I heard without difficulty when my name was announced!

Konnie Zeitner

I have registered for the Executive War College in Miami, May 9-11, 2007.

How have you used the funds?

My manager, David Muirhead, recommended this event, which I understand is specific to laboratory management. I will attend the

sessions geared toward leadership/management, which will benefit me in my position with the Nebraska Medical Center, Department of Anatomic Pathology. I will share what I learn with the lead technologists in the department. I am currently filling a management position directly between the AP manager and the lead technologists for each section. I also plan to participate in the

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Mohs Surgery

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interested in additional observation and training in Mohs surgery. In addition, the ASMS conducts a unique, annual Peer Review of Cases and Quality Assurance program for its members, which consists of reviews of actual Mohs cases with accompanying glass slides, patient maps, and operative reports. This review helps assure adequacy and accuracy of histopathology methods, staining, margin control, interpretation, clinical indications, and proficiency. Also, an annual Clinical Symposium on Mohs surgery and related cutaneous oncology topics is held.

The ASMS strongly supports the highest standards of patient care relating to Mohs surgery, promotes the benefits of ongoing professional education of its members, and continues to provide information for public education relating to the benefits of this valuable technique.

- The next Annual Clinical Symposium of the ASMS, entitled "Dermatologic Surgery: Focus on Skin Cancer," will be held in Albuquerque, NM, May 25-27, 2007.
- The next "Fundamentals of Mohs Surgery" course in San Diego, CA will be held November 8–11, 2007.

For information on these meetings, please contact: Novella Rodgers American Society for Mohs Surgery Box 391 5901 Warner Avenue Huntington Beach, CA 92649-4659 Phone: 714-379-6262 or 800-616-ASMS (ext. 2767) Fax: 714-379-6272 email: info@mohssurgery.org

Leica Leadership Scholarships

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American Management Association's Certificate of Achievement in Leadership Excellence program.

Have you won other awards through NSH?

Yes. I was awarded the Miles Education scholarship in 1990 and used the funds to attend Dr. Jules Elias' Immunohistochemistry Session in San Francisco. I also received the NSH Foreign Travel Scholarship in 2003, which I used to travel to Leeds, England and Edinburgh, Scotland for training. This was a great benefit to a histotech who is fascinated by neurohistology and Prion diseases.

Would you recommend someone for the award in the future? Yes. I am a big advocate of the scholarships offered through NSH. I encourage histology professionals to apply for them and believe that many people meet the requirements. We should take every opportunity to further our education by applying for the scholarships. I use myself as an example: I'm a charter member of NSH, and since these awards became available, I have received three of them. Each has made a major contribution toward my education.

Do you have any comments regarding the field of histotechnology? Histotechnology has always been an interesting career field; increasingly so since 25 years ago when we moved from histochemical stains to immunohistochemical testing. Now, with the advent of molecular pathology we have taken another big step forward. Combine this with image analysis, and I believe histotechnology is one of the fastest changing, most exciting laboratory sciences. And we are still a "hands on" technology where technologists can have the satisfaction of creating a beautiful end product.

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Leica Leadership in Management Award

2005 Winner: Ethel Macrea, HT (ASCP)

Ventana Medical Systems

Were you surprised to win the 2005 Leica Leadership in Management Award?

Yes, shocked is more like it. I never had a clue that I was even nominated for such an honor. Being nominated and then receiving the award is very humbling.

How have you used the funds?

I have mostly used the funds for text books and an occasional seminar. I just started up a new lab so having such a windfall really helps to get the tools I need to get things in order. Also, since I teach a histotechnology program, I have used the funds for texts to supplement the program on topics such as autopsy technique, forensics, IHC, and self assessment booklets for the students. I will

Mohs Surgery

By Barbara Beck, HT (ASCP), Mohs Technical Consultant



Consultant Barbara Beck, board certified ASCP Registered Histology Technologist and head of the Mohs Technical Consulting Company, provides extensive technical assistance to Mohs Surgeons and their staffs. Beck serves as Vice President of ASMH (American Society for Mohs Histotechnology) and is the lead instructor for the Mohs Technical Consulting Advanced Training Workshop. Beck worked in a Mohs surgery private practice from 1987 to 2001

Barbara Beck

and was an instructor for the School of Histotechnology, 1999-2001, and at the University of Indiana, 1998-2001.

I have been a registered, certified histotechnician since 1972. While working as a histology supervisor in a hospital, I learned of a Mohs surgeon that was looking for a part-time technician. I was hired and worked in this private Mohs practice for fifteen years. During my employment, the doctor allowed other technicians to visit the office, and I trained them on specimen preparation techniques.

When my family moved to the mountains of Highlands, North Carolina, I thought about my next career move and decided to start a consulting firm for existing and start-up Mohs surgery practices. Now, I travel the country providing extensive, hands-on training and technical support to Mohs surgeons and their staffs.

A typical training week begins when I arrive at the dermatology office on a Monday afternoon. I get to know the staff and prepare them with an overview. Sometimes I arrive at the office and the cryostat has not yet been unpacked. We cross-train medical assistants, nurses, and registered histotechnicians. And often, I train technicians with little or no experience. Mohs surgery is different from routine histopathology. The whole idea behind Mohs is to remove only abnormal tissue and save as much healthy tissue as possible. There is an art to preparing specimens, and the procedures for Mohs are extremely precise and detail-oriented.

During the remainder of the week I conduct hands-on training as the surgeon simultaneously performs live Mohs cases in the office. The new Mohs technicians learn how to process tissue samples, orient specimens, and prepare slides for viewing under the microscope. I prepare the first several slides while the surgeon and staff observe. As the cases continue throughout the week, the staff begins to prepare specimens under my supervision. The art and precision

of the Mohs technician is crucial to accurate diagnosis. Diagnosis is only as good as the slide that the technician prepares, so Mohs technicians carry a heavy responsibility and training is crucial.

Before leaving a client, I make sure that the lab can meet current laboratory regulations for OSHA and CLIA inspections, including temperature charts and quality control procedures. I prepare a complete checklist to pass inspections with zero deficiencies and a procedure manual programmed specifically for them. I am usually on the road every other week and currently employ three people who also perform on-site training. I am in the process of hiring a fourth person right now.

Mohs surgery is a growing field. My company and others like it fulfill a growing need in the dermatology community, and we are extremely busy!

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# Congratulations!

Leica conducted a direct mail promotional program in 2006 to highlight Leica's DM Series of ergonomically designed microscopes for clinical pathology laboratories.

Winner of the Serious Comfort DM3000 Drawing and recipient of a Leica digital camera:

#### Dr. Mark Best, LECOM

**Winner** of the **Designed for Your Comfort DM1000 Drawing** and recipient of a Herman Miller ergonomic chair:

#### Bonnie Pringle, Oswego Hospital

Thank you to everyone who participated in Leica's 2006 promotional programs. To add your name to our promotional mailing list, email **pathologypartners@leica-microsystems.com** and type **PROMOTION** in the subject box.

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#### **Digital Imaging Part 2– Calibration and Digital Measurement**

By Rob Kimura, Leica Product Manager, Digital Imaging

Image measurement is the discipline of taking quantitative data from an image, for the purpose of documentation and analysis. In the last issue of *Pathology Partners*, we discussed the process of manually calibrating a microscope and digital camera for measurement. However, new advancements in automated microscopy, computer software control, and digital cameras offer a faster and more accurate way of calibrating your measurements.

Factors to consider when calculating proper magnification for analysis and documentation include eyepiece magnification, camera adapter, digital camera sensor size, objective magnification, and internal magnification changer. Automated microscope systems bridge traditional optical design with electronic encoding and computer control capability linked to an internal database. This database comprises magnification and numerical aperture information for each objective. As the user changes objectives, the microscope's internal processor can automatically detect the change and determine what type of new objective is now in the optical plane.

Automated microscopes that incorporate an internal magnification charger can detect which magnifying lens has been inserted into the optical plane. These software-controlled systems often include an automated and manual control for changing magnifying lenses.

There are many camera choices that integrate with an automated microscope. Some are used with software that can auto-detect chip size and individual pixel size within the camera housing.

Automated microscope components such as the camera adapter and eyepieces that are not automated or encoded for automated identification, have fixed magnifications that the user does not normally change. The user can simply input these magnifications and the software automatically calculates the correct calibration of the system as it is configured.

#### Formula:

Eyepiece Mag. x Objective Mag. x Mag. Changer x Camera Adapter Mag. = Total Magnification

#### Example:

10x Eyepieces x 4x Objective x 2x Mag. Changer x .5x Camera Adapter = 40x Total Magnification

By the camera chip size, we know the camera's field of view to calculate how many pixels on a computer screen equal a particular

distance. From here the user simply selects the unit of measurement they would like to calibrate for ( $\mu$ m, mm, inch, etc.). The system is now ready to auto-calibrate acquired images to measure.

The benefit of automated calibration is that the user simply selects an acquired image and the correct calibration is set for doing measurements. Then measurements (linear, area, angle, diameter, multi-line) are taken by clicking on the computer screen. As the measurements are completed, final measurement results are displayed.



Automated laboratory microscope

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## The Importance of Continuing Education

By Barbara Beck, HT (ASCP), Mohs Technical Consultant

The ASMH (American Society of Mohs Histotechnology) is affiliated with the American College of Mohs Micrographic Surgery and Cutaneous Oncology. The ASMH annual meetings include many informative hands-on sessions. The workshops cover cryostat sectioning, but allow technicians to troubleshoot and gain further knowledge on all aspects of Mohs technology. The workshops also include hands-on staining techniques and provide a wonderful opportunity for technicians to get answers for basic problems that can occur any day in a routine Mohs laboratory.



Hands-on workshop. Courtesy of Mohs Technical Consulting.

It is imperative for all Mohs technicians and histology technicians to keep their skills as sharp as possible, not only in the Mohs lab, but also in the histopathology lab. These skills prove valuable with old and new technology. For example, several Mohs laboratories now implement immuno procedures for diagnosing melanomas. These immuno stains require complete, thin sections, which are not always easy to prepare. Beginner technicians can pick up helpful hints from experienced technicians that perform immuno staining techniques.



Hands-on workshop. Courtesy of Mohs Technical Consulting.

I enjoy sharing skills and techniques. It helps me to remember why I chose this profession and renews my enthusiasm for the work. It is great to teach the hands-on workshops and see delight on the faces of newer technicians when they learn an easier technique. Any time we simplify our work environment, it benefits the medical staff, and is a huge asset to the patient.

Experienced technicians also benefit from exchanging expertise no matter how long we have been working in the field. We can always pick up techniques and hints from networking with other experienced techs at meetings like the ASMH. Continuing education greatly impacts your professional career. And effective, efficient communication is critical to career advancement. Attending workshops and continuing education courses makes you more valuable to your employer. When your employer knows you are learning more about your field, you become an asset to them, and your knowledge improves patient care. I encourage you to be active in your professional society. Your society is a forum for you and your colleagues from across the country to meet, share experiences, and brainstorm solutions to take back to the lab. Who knows, maybe you are the next histo guru!

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# **Upcoming Events**

Visit Leica at the following exhibitions: USCAP March 26-28, 2007 San Diego Convention Center, Booth #624

ASCT Annual Meeting April 27-29, 2006 San Antonio's Sheraton Gunter Hotel, Booth #12

ASDS ACMMSCO May 3-7, 2007 Naples Grande Resort & Club, Naples, FL

To find additional exhibitions Leica will attend, visit: www.leica-microsystems.us and click Company -> Events.

## Coming soon to a hospital near you!

Leica's 2007 Summer Seminar Series

Earn CEU credits ... Network with colleagues ... See Leica's solutions to the safety, ergonomic, and automation challenges in your lab! Email **pathologypartners@leica-microsystems.com** for more information!

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#### Leica Leadership Scholarships

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forensics, IHC, and self assessment booklets for the students. I will probably apply whatever is left toward my trip to NSH in the fall.

#### Have you won other awards through NSH?

Yes, I have been very blessed. I won the Dezna Sheehan award several years ago as well as a few on the state level.

Would you recommend someone for the award in the future? Absolutely. There are many fine histotechs out there and a little acknowledgement goes a long way.

Do you have any comments regarding the field of histotechnology?

First and foremost, histotechs are professional individuals who are dedicated to advancing histotechniques on all levels. This includes veterinary, botany, research, industry, pharmaceutical, and clinical applications. As the baby boomers begin their transition into retirement, the perception of hisotechnology as anything other than a profession with career opportunities, compensation, and rewards would only serve to deter individuals from considering this field. For most of us, this has been and continues to be a very rewarding career, and I am honored to be a histotech. Since I teach in a histology program, I insist students think of themselves as critical players in a complex field of science laced with art, and that we are key in unraveling the mysteries surrounding tissue. We are so fortunate to be able to give a name and persona to cellular entities that would otherwise remain hidden. I love what I do! And histoechnology has been very good to me.

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#### Leica Leadership in Teaching Award 2004 Winner: Jason D. Burrill, Manager, Histology

Charles River Laboratories



Were you surprised to win the 2004 Leica Leadership in Teaching Award? I was walking down the streets of Toronto with my Leica sales representative and someone approached me and said that I had won. It was definitely a surprise.

Jason D. Burrill

#### How have you used the funds?

One of my current job responsibilities is safety officer for a multi-disciplinary animal diagnostic and research laboratory. These funds allowed me to purchase texts and references to expand my knowledge considerably. I recently obtained my Specialist in Laboratory Safety from the American Society of Clinical Pathology, and I am now pursuing my Chemical Hygiene Officer certification through the National Registry of Certified Chemists.

I used part of the funds to buy histology textbooks to teach my technologists and help them study for the ASCP Histology Technician board examination. In addition, I give workshops and lectures at state and regional meetings, often referencing the textbooks.

**Do you have any comments regarding the field of histotechnology?** I truly believe that histotechnology is at a crossroads. We as professionals have to take action to lure qualified applicants into the field and train them for an ever changing and challenging profession.

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Note: We are interested in your comments and thoughts about the newsletter. Please feel free to email your comments to: pathologypartners@leica-microsystems.com