HISTO-LOGIC®

No reader should utilize materials and/or undertake procedures discussed in HISTO-LOGIC articles unless the reader, by reason of education, training and experience, has a complete understanding of the chemical and physical properties of all materials to be utilized and the function of each material by which any procedure is accomplished.

Editor, Lee G. Luna, D. Lit., H.T. (ASCP) | Technical Bulletin for Histotechnology Published: January, April, July, October | Vol. X, No. 2 - April, 1980

Hall's Modified Harris Hematoxylin

Dolores W. Carter
Baptist Memorial Hospital
Memphis, Tennessee 38146

This modification of Harris' hematoxylin was discovered quite by accident by my supervisor, Sue Hall, who found that the presently available hematoxylin crystals dissolve more readily in water than in alcohol. This finding has made it possible for personnel in this laboratory to compound hematoxylin solutions (ready for use) in a few minutes. It has also eliminated the problem, which we have encountered and suspect others have also, of dissolving hematoxylin in alcohol. Our feeling is that this problem surfaced subsequent to the hematoxylin shortage of a few years ago, although we have no specific information to substantiate this opinion.

A search of the literature revealed that most Harris hematoxylin solutions require dissolving of the hematoxylin in absolute alcohol. In no instance did we find a method calling for water as the solvent. We feel, therefore, that this is a new way of compounding Harris' hematoxylin. It is presented here in the hope that other technicians may find it as useful and trouble-free as we have.

It must be noted that the hematoxylin and eosin stained slides using this hematoxylin have been excellent.

Hall's Modification of Harris' Hematoxylin

Hematoxylin crystals	5.0 gm
Ammonium or potassium alum	100.0 gm
Distilled water	1000.00 ml
Mercuric oxide (red)	2.5 gm

Dissolve the alum in the distilled water by the aid of heat. Add the hematoxylin crystals. Bring to a boil as **rapidly** as possible. Limit the boiling to less than one minute. Stir often during the boiling process. Remove from heat and add the mercuric oxide slowly. Reheat to a simmer until it becomes dark purple. Remove from heat immediately and place directly into a basin of cold water until solution is cool. The stain is ready for use as soon as it cools. Addition of 2-4 ml of glacial acetic acid per 100 ml of solution increases the precision of the stain. Filter before use.

The hematoxylin solution cited above is used in the conventional manner.

CAAMA Regional Program

Advances in Histopathology will be presented May 29-31, 1980, at the Beth Israel Medical Center in New York City, by the American Society of Clinical Pathologists.

Plastic is the "Light" Way to Go will be presented on June 13, 1980, at the Educational Center of the American Society of Clinical Pathologists in Chicago, Illinois.

For further information, contact: CAAMA Regional Program Manager; ASCP; 2100 W. Harrison St.; Chicago, IL 60612; (312) 738-1336, Ext. 154.

?? — Am I Intently Involved

An Editorial

The word **INTENT** is defined by Webster as: (1) Firmly fixed; earnest; intense. (2) Having the mind or attention firmly directed or fixed; engrossed, as he was intent on his studies.

This is a question which should be upper-most in our minds as Histotechnologists. The illustration shows a man walking on the sidewalk. He does not have to be intently involved on where he places every step. On the other hand, the man walking a one-foot plank over a deep ravine must be intently involved on where he places every step.

We as Histotechnologists must be intently involved in all facets of our daily involvement in the histopathology laboratory. Successful, high-quality slide production requires your full, continuous attention!

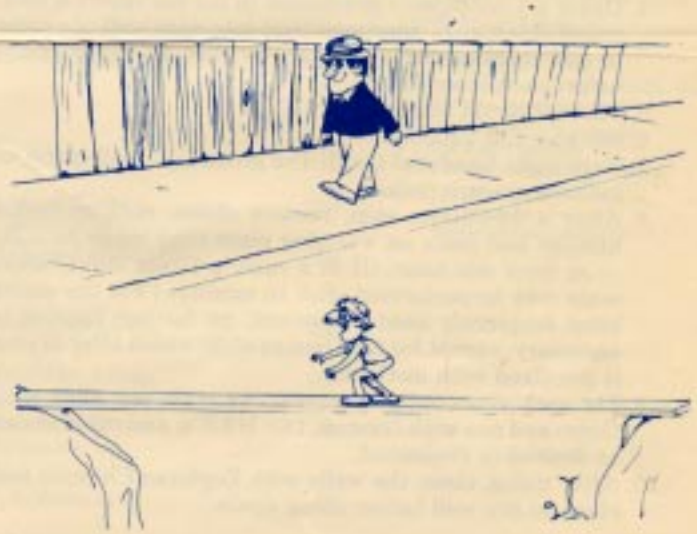

Illustration drawn by SSgt. Mitchel Duran, USAF.

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Processing Aqueous Taps and Vitrectomies

Virginia Havener
Ophthalmic Pathology Laboratory
University of Minnesota
Minneapolis, Minnesota 55455

Recent advances in ophthalmic surgery have included the vitrectomy procedure, and, much earlier, the aqueous tap. Because of the minute amount of material obtained from these procedures, other methods were necessary to produce adequate slides for diagnosis. In our laboratory, various methods were investigated. They included centrifuging the specimen with subsequent filtration, paraffin embedding and sectioning. This process produced many artifacts (i.e., fibers of filter paper becoming enmeshed in the specimen, loss of some elements due to the chemicals and heat, etc.). Millipore filters were used but the process was time-consuming and the filters obscured cellular detail as well as posing problems for photography.

The Shandon Cytospin SCA-0030* solved most of the problems arising from scanty specimens and good artifact-clear slides can be obtained from as little as 0.5 ml of material using this unique instrument. Furthermore, the specimen can be processed fresh or fixed, and the method also allows procedures for determining the presence of fats, enzymes, or other substances which are usually lost by paraffin methods.

The Cytospin produces a monolayer of well-separated cells since they spin out according to weight of the cells. There is almost no distortion, so the cellular detail is excellent and the staining is vivid, resulting in a slide which is a pleasure to scan.

Following is the procedure presently used in this laboratory for processing vitrectomy and aqueous tap specimens:

1. If more than 10 ml of fluid are present with the specimen, spin down in a regular centrifuge and combine the resulting residues into a 10-ml sample or less.
2. If the amount of sample submitted is extremely small and four or more slides are desired, dilute the sample with up to 10 ml of 10% neutral-buffered formalin.
3. Fill the Cytospin head with clean blotters and slides which are alcohol cleaned.
4. Using a 1-ml pipette graduated in 0.1 ml, insert a maximum of 0.7 ml of specimen fluid into each well. (In order to get representative sample, be sure to shake bottle before each insertion.)
5. Place cover on head.
6. Set speed at 1200 rpm.
7. Turn right hand dial to 10. The green light will go on, to indicate cover is locked.
8. After a 10-minute spin, remove slides, etch accession number and place on warming plate until ready to stain — at least one hour. (If in a rush, a Gram and Giemsa stain may be performed after 10 minutes.) For the stains most frequently used at present, no further fixation is necessary, except for the Giemsa stain which after drying is pre-fixed with methanol.
9. For each vitrectomy specimen, we stain one slide with Gram and one with Giemsa, two H&E's, and other stains as desired or requested.
10. After using, clean the wells with Zephiran Chloride and allow to dry well before using again.

Note: Since it is necessary to have clean, dry wells, it is recommended that three sets of the wells be ordered. This will allow one set to be used while the others are drying.

This procedure is adaptable to any body fluids, including bone marrow specimens. The user's manual provides further information on the care and operation of the instrument.

*Shandon Southern Instruments, Inc.
Sewickley, PA 15143

Preliminary Program
ASMT Annual Meeting
June 22-27, 1980
St. Louis, Missouri

Histology

June 23
Working with Stained Glass
William Austin, DVM
Muscle Biopsy Procedures
Nathan Brinn
Duke University Medical Center

June 24
Steroid Receptors
Leslie Kane
University of Louisville Cancer Center
Legionnaires Disease
Patricia Greer
Center for Disease Control
Glycol Methacrylate
Nathan Brinn
Duke University Medical Center

June 25
Gross Dissection of the Rat as an Anatomical, Histologic and Histochemical Model
John Koski
McNeil Laboratories
Histopathology — Present and Future
J. Phillip Pickett
Duke University Medical Center
Cytology Preparatory Techniques
Gary Gill
John Hopkins University

June 26
Comparison of Computerized Tomography Scans with Gross Histologic Specimens
Richard Spencer & Alicia McKown
Jewish Hospital of Louisville
Advanced Optics
Hal Simpson
American Optical Corp.
Methyl Green Pyronin Staining Techniques
Sue Beth Landrum
University of Alabama Hospital
Immunohistochemical Approaches to the Lymphoid System
Richard Ford, M.D.
M. D. Anderson Hospital & Tumor Institute

An additional six lectures are scheduled during the week: however, titles were not available for this printing. For registration information, contact: ASMT; 330 Meadowfern Dr.; Houston, TX 77060.

National Society for Histotechnology Symposium Convention
October 27-31, 1980 Atlanta, Georgia

The Sixth Annual Symposium/Convention of the National Society for Histotechnology will be conducted at the Colony Square Hotel, Atlanta, Georgia. The enclosed program is complete with hotel reservation card and registration form. The convention will utilize all sleeping accommodations in the Colony Square, with overflow accommodations in the Riviera Hyatt House. The Riviera Hyatt House is 5 minutes from our headquarters hotel. Room charges are the same at both hotels. All room reservations will be processed through the Colony Square. When the Colony Square is filled, reservations will be forwarded to the Riviera Hyatt House. The Riviera Hyatt House will provide shuttle service each morning and evening between their hotel and the Colony Square. Please make your reservations early since all rooms blocked for NSH will be released one month prior to our meeting date.

Mail hotel reservation directly to: Colony Square, Peachtree and 14th Street, Atlanta, GA 30361.

Symposium registration application may be photocopied if more than one individual from the same activity wishes to attend. To avoid delays and unnecessary complications, registrations awaiting fund approval will be accepted during the final convention month. Please include a note to this effect on your registration form. Mail registration and check to: **NSH, P.O. BOX 36, LANHAM, MD 20801.**

Meeting Schedule and Evening Activities

Activities	Date	Time
Board of Directors Meeting	Sun., Oct. 26	9 AM - 5 PM
Workshops	Mon. & Tues., Oct. 27 & 28	8:30 AM - 4:30 PM
Exhibits Open	Tues., Oct. 28	7 - 9 PM
	Wed., Oct. 29	9:30 AM - 4 PM
	Thurs., Oct. 30	8:30 AM - 10:30 AM
Open Seminar: Diverse Topics in Research Histology	Tues., Oct. 28	1 - 4:30 PM
Open Seminar: How to Plan and Publish a State Newsletter	Tues., Oct. 28	6 - 8 PM
Scientific Sessions	Wed., Thurs., Fri. Oct. 29, 30, 31	8 AM - 4:30 PM
Exhibitors Liaison Committee Meeting	Wed., Oct. 29	1 PM
NSH Membership Meeting	Wed., Oct. 29	4:45 - 6 PM
Career Awareness Presentation Workshop	Wed., Oct. 29	8 - 10 PM
Thomas Edison Exams	Wed., Thurs., Fri. Oct. 29, 30, 31	7 - 9 AM
Lab-Tek Cocktail Hour	Thurs., Oct. 30	6 - 7 PM
NSH Banquet	Thurs., Oct. 30	7 - 10 PM
House of Delegates Meeting	Sat., Nov. 1	9 AM

NSH Thomas Edison Program
Monday - October 27:
Review sessions will be conducted from 9:00 AM to 4:00 PM for the following:
INTRODUCTORY HISTOTECHNOLOGY/HISTOCHEMISTRY
(Richard Schroeder)
CURRENT CONCEPTS IN DIAGNOSTIC HISTOPATHOLOGY
(Jules Elias)
9 AM - 12 NOON: HUMAN MICROSCOPIC ANATOMY
(Tom Palmer, Ph.D.)

Tuesday - October 28:
Review session from 9 AM to 4 PM for:
HUMAN MICROSCOPIC ANATOMY
(Freida Carson, Ph.D.)
7 - 10 PM CHEMISTRY: If registrant has pre-paid and will definitely be taking the Chemistry examination, this review session will be given. However, if no one will be taking the exam, review session will not be presented. **You must prepay for this examination before coming to the symposium/convention in Atlanta.**

There is no charge for attending review sessions.

COURSE EXAMINATIONS WILL BE ADMINISTERED THREE MORNINGS TO ALLOW PARTICIPANTS TO TAKE MORE THAN ONE EXAM DURING THE WEEK. EXAMS ARE SCHEDULED **WEDNESDAY, THURSDAY AND FRIDAY, 7:00 - 9:00 A.M.** Highlands Room.

COLONY SQUARE HOTEL
Attention: Reservations
Peachtree & 14th Streets, NE
Atlanta, Georgia 30361

Reservations are cancelled after 6 p.m. on day of arrival unless secured by a one night's deposit per room or accompanied by a written guarantee of payment for the first night's stay. No refund of the deposit will be made if cancellation is made less than 24 hours in advance of arrival date. This reservation request must be received 30 days in advance of arrival date. Room rates are subject to applicable taxes.

NATIONAL SOCIETY FOR HISTOTECHNOLOGY
October 25 - November 2, 1980

I will arrive on _____ (Day) _____ (Date) and depart on _____ (Date)

Name: _____

If sharing room, name of other occupant: _____

Mailing Address: _____ (Street and number)

City _____ State _____ Zip _____

To hold room after 6 p.m., indicate method of guarantee: ☐ One nights deposit enclosed $_____ or
(Please circle type)
☐ Credit Card: BAC/V - AE - MC - DC - CB Acct. No. _____ Exp. Date _____

Signature (required): _____

ACCOMMODATIONS REQUESTED

Single:	$40.00
Twin/Double:	$48.00
Triple/Quad:	$55.00

Reservations to be received no later than September 26, 1980

Check or money order **must accompany** registration! Payable to: National Society for Histotechnology. Mail registration to: NSH, P.O. Box 36, Lanham, Maryland 20801.

Reimbursement Policy: Reimbursement of registration fees will be made upon receipt of cancellation notification prior to October 10th. **No refunds will be made after this date.** Refunds for unattended workshops, sessions or banquet ticket will not be made after arrival to the meeting. Refund will not be made when changing workshop attendance after arrival to the meeting.

Name: _____ (Last) (First)

Home Address: _____ (Street) (City) (State) (Zip)

Employer: _____

Address: _____

Employer Telephone No: (Area Code) _____

DO NOT USE THIS SPACE

Please check functions you desire to attend:

Scientific Sessions: _____ **$50** (Includes Wed. - Fri.)

Banquet: _____ **$18** (Thursday evening)

EXAM REVIEWS:

_____ Histotechnology/Histochemistry (Monday)
_____ Concepts in Dx. Histopathology (Monday)
_____ Human Microscopic Anatomy (Mon. AM)
_____ Human Microscopic Anatomy (Tuesday)

WORKSHOPS

Monday		Tuesday	
No. 1	___ $40 (all day)	No. 11	___ $40 (all day)
No. 2	___ $40 (all day)	No. 12	___ $40 (all day)
No. 3	___ $40 (all day)	No. 13	___ $40 (all day)
No. 4	___ $40 (all day)	No. 14	___ $40 (all day)
No. 5	___ $20 (½ day AM)	No. 15	___ $20 (½ day AM)
No. 6	___ $20 (½ day AM)	No. 16	___ $20 (½ day AM)
No. 7	___ $20 (½ day AM)	No. 17	___ $20 (½ day AM)
No. 8	___ $20 (½ day PM)	No. 18	___ $20 (½ day AM)
No. 9	___ $20 (½ day PM)	No. 19	___ $20 (½ day PM)
No. 10	___ $20 (½ day PM)	No. 20	___ $20 (½ day PM)
		No. 21	___ $20 (½ day PM)

Non-NSH members must add $5.00 for each workshop and $10.00 for the scientific sessions.
Canadian registrants please remit fees in U.S. currency.
Please Check: Is this your first attendance to an NSH Symposium/Convention?
Yes _____ No _____
Are you an NSH Member? Yes _____ No _____

Workshops

Monday, October 27, 1980

No. 1: Immunofluorescence — 8:30 AM - 4:30 PM
(C.F.A. Culling)
This workshop will cover the current theory and practice of immunofluorescence in the routine and experimental histopathology laboratory. We shall briefly review the current theories of immunity, methods available for frozen and paraffin embedded tissues, and briefly discuss the use of the peroxidase, anti-peroxidase (PAP) technique as a supplementary or alternate technique.

No. 2: Self-Assessment of Special Staining Techniques — 8:30 AM - 4:30 PM
(Deana Sheehan)
This self-assessment workshop will give participants the ability to recognize various special staining techniques. They will understand the mode of action of various special stains with color results using photomicrographs. Demonstration of good quality control will be provided, including those tissues that are natural controls for various special stains. Discussion of the mode of action should make the participant aware of the sources of error and how they may be avoided. A Pre and Post test will be available to the participants.

No. 3: Microtome Knife Sharpening — 8:30 AM - 4:30 PM
(George Harrison & James Harris)
Limit: 25
Primary objective of this workshop is to instruct the participants in good knife sharpening. A number of knife sharpeners will be demonstrated along with a slide presentation. **Bring your problem knives!**

No. 4: Histology for Histotechnologists — 8:30 AM - 4:30 PM
(Margaret E. Wald, M.D.)
Representative normal tissues have been cut from most body sites. Serial blocks have been cut for routine and special stains. The histotechnologist will be load from an H&E to the appearance of the same area in each of the special stains. The goal is better documentation of well stained control slides.

No. 5: Laboratory Mathematics for Histotechnologists — 8:30 AM - 12 Noon
(Jack B. Wenger)
This workshop will cover the mathematics dealing with normal, molar buffers and related solutions. The discussion will include conversion factor; i.e., preparation of dilute solution from one which is stronger, mathematical rules and examples, pH and pH factors centigrade to fahrenheit degree conversion. Numerous other items necessary in the preparation of solutions in the Histopathology Laboratory will be discussed. Weak and strong electrolytes will also be discussed if time permits.

No. 6: Staining Characteristics of Legionella Pneumophila — 8:30 AM - 12 Noon
(Patricia Greer & Avis Van Orden)
Limit: 25
One difficulty in diagnosing Legionnaires' disease is the inability of the usual tissue gram stains to demonstrate the organisms in paraffin embedded tissue sections. However, *Legionella pneumophila* is readily demonstrated by using the Dieterle silver impregnation procedure in paraffin embedded sections and the Gimenez stain or the Brown-Hopps procedure in frozen sections or tissue scrappings of formalin fixed tissue. Workshop participants will perform these procedures on appropriate specimens for the demonstration of *Legionella pneumophila*.

No. 7: Quality Sections from Paraffin Embedded Eyes — 8:30 AM - 12 Noon
(Mary Knight)
This combined workshop and lecture will demonstrate the special techniques necessary from fixation to staining, to obtain quality sections on eyes (human or animal) embedded in paraffin. It will include fixation, grossing, processing, cutting and staining; basic anatomy and histology of the eye; some common pathological conditions of the eye; and special tips on adapting the routine histology lab to accommodate opthalmic specimens with a minimum of inconvenience.

No. 8: Professional Burnout — 1 - 4:30 PM
(Beverly Lynskey, M.Ed., B.A.)
Participants attending this workshop will be able to: provide a working definition of burnout to other interested professionals; describe sources and symptoms of burnout; recognize and practice techniques for treating burnout and its symptoms; achieve heightened individual awareness of aspirations, motivations and career status; and develop a concrete strategy for preventing burnout in their organization.

No. 9: Self-Assessment Cytology — GYN — 1 - 4:30 PM
(Elizabeth Plott & Fonda Martin)
Limit: 25
This workshop is a voluntary self-assessment exercise in two parts. During the first session, participants will screen and interpret a number of actual unmarked glass slides (gynecological Pap smears) in a time-limited, round-robin fashion. All cases are obtained from well known cytology laboratories throughout the country and are fully documented as to diagnosis.
The second session will consist of a review and discussion of selected cases from Part 1. Kodachromes and other visual aids will be used to supplement this discussion.
Test format and scoring will be based on a developmental computer-gradable system. Results will be analyzed in a completely anonymous manner. Each participant will be able to compare their performance with the target diagnosis and with the performance of other participants in the group or throughout the country. A numerical score will not be assigned.

No. 10: Electron Microscopy for Histotechnologists — 1 - 4:30 PM
(Freida Carson, Ph.D.)
Limit: 35
This workshop will introduce the participants to basic electron microscopy techniques particularly useful in anatomic pathology. The ultrastructure of tissue will be examined together with some pathologic changes that can be seen.

Tuesday, October 28, 1980

No. 11: Tissue Identification
(Lee G. Luna & Edna Prophet) 8:30 AM - 4:30 PM

Primary objective of this workshop is to give each participant a basic knowledge of the microscopic structures of some of the commonly processed organs in the histopathology laboratory. It is anticipated that each histotechnologist will be sufficiently motivated to do further study on his/her own to gain in-depth knowledge of histology. The knowledge gained can then be applied to determining properly stained slides. In addition to learning the morphology, participants will be taught how to recognize proper staining qualities of numerous special stains.

No. 12: How to Plan an Experiment, Write a Scientific Paper and Present Data at a Scientific Meeting
(C.F.A. Culling) 8:30 AM - 4:30 PM
Limit: 25

This will be a hands-on workshop where participants will actually write a paper for publication. One participant will be selected and placed on the Scientific Session Program for Friday, to present their paper written during this workshop.

No. 13: Glycol Methacrylate and Other Water Soluble Embedding Media
(Walter McAllister) 8:30 AM - 4:30 PM
Limit: 40

Workshop will involve processing, embedding, sectioning and staining of water soluble plastics. Sectioning of plastic on glass and steel knives will be discussed and demonstrated. Low temperature processing with ultraviolet polymerization for enzyme histochemistry will also be discussed.

No. 14: Specimen Photography
(Robert Kershaw, E. Leitz Co. & Jerry Binder, Trek Photography) 8:30 AM - 4:30 PM

The morning session in photomicrography will include: Basic Microscope: use, alignment, cleaning. Materials: films, glass slides, specimen preparation. Photomicrography: brightfield, darkfield, fluorescence, and special effects. There will be an hour of demonstration slides and practical exercise. The afternoon session will deal with how to set up and operate your own laboratory within your hospital. Techniques on developing film will be discussed. Pictures taken during the AM will be developed during this time.

No. 15: Impact of Good Laboratory Practice Regulations on Histology Laboratories
(John Berky, M.D.) 8:30 AM - 12 Noon

A review of FDA and EPA Good Laboratory Practice regulatory requirements. Discussion of specific issues and examples of the impact of GLP on histology laboratories in non-clinical research: Requirements for standard office procedures; requirements for documentation of equipment maintenance and calibration; the effect of computerization; storage and retrieval of raw data; reporting requirements; the relationship of the histology laboratory with the quality assurance unit.

No. 16: Immunoperoxidase Applications in Diagnostic Pathology
(Jules Elias) 8:30 AM - 12 Noon

The introduction of immunohistochemical methods has greatly increased the efficiency of the diagnostic process. Although the end result of these very special techniques is the production of a final (color) reaction, the high specificity and sensitivity of immunohistochemical reactions makes these (colors) more meaningful to the pathologist. The original fluorescent antibody methods have now evolved into the more current immunoperoxidase methods which are exquisitely more sensitive. The unlabeled antibody method of Sternberger offers the pathologist a most sensitive probe for the detection of most tissue antigens. This will be a demonstration workshop with lectures explaining the chemistry and diagnostic applications of the Sternberger PAP method.

No. 17: Microwave Fixation — A Routine Method for Rapid Fixation in a Surgical Pathology Laboratory
(Richard Ellis, M.D. & Kenneth Pittman) 8:30 AM - 12 Noon

Workshop will consist of a combination of lecture and demonstration for the practical use of microwave fixation in routine histology. This method of fixation has been used for nearly two years as our routine for fixing nearly all tissues and has been used in place of and in conjunction with formalin fixation. The result has been complete replacement of formalin in many instances and accelerated fixation time from overnight or several hours to less than two minutes in most instances. Results and comparison with other methods of fixation will be demonstrated. The effect on special stains and the advantages and disadvantages of this approach will be demonstrated.

Background and theory of microwave fixation as well as detailed aspects of the safety will be covered. The practical application of adapting a standard microwave oven to tissue fixation will be emphasized. The accelerated fixation time is of particular value in the rapid processing of small biopsies since it reduces fixation time to less than two minutes. Several unique uses of microwave fixation will be discussed. In addition to actual demonstrations in using the microwave for fixation, microscopic slides of tissues (both routine and special stains) that have been processed with the microwave will be available for on-site evaluations by participants. Several unique uses of microwave fixation will be discussed. Participants can expect to be able to use a microwave oven for this application in their own laboratories by following the relatively simple procedures that will be outlined.

No. 18: Analytical Histochemistry
(Frank Johnson, M.D.) 8:30 AM - 12 Noon
Limit: 50

There will be a presentation of simple, effective procedures for the recognition of inorganic substances in tissue sections. There will be special emphasis on microincineration.

No. 19: The Histopathology Supervisor and the Interview
(Lee Getzy, M.A., HT(ASCP)) 1 - 4:30 PM

Many histotechnologists find themselves being thrust into a managerial position. Many of these promotions are based on seniority, competence, laboratory skills, and/or educational and professional credentials. However, rarely has a technician been adequately prepared for the additional responsibility that managing laboratorians effectively and efficiently requires in this capacity. Workshop discussions will include some basics of laboratory management and will concentrate heavily on interviewing techniques. As managers of histopathology laboratories, you will be faced with interviewing on a daily basis. How can you become more effective in this task? How can you more efficiently and effectively carry out entrance/exit interviews, salary reviews, and handling problem situations and employees?

In addition to the interview, we will explore the psychology of the laboratory. Didactics will include the nature of interviewing, the interviewer's and interviewee's points of view, barriers and biases, how to question and listen, how to prepare strategies for the interview, and how to interview problem people.

The second half of the discussion will be geared to applying interviewing techniques to the laboratory setting, using audience participants and experiences.

No. 20: Cryotomy
(Frank Avallone, B.A.) 1 - 4:30 PM

The aim of this workshop is to instruct the histotechnologist, novice and experienced, and associated individuals in the fine art of Cryotomy. The course content will include a brief synopsis of frozen sectioning techniques and the instrumentation used.

The integral part of the workshop will deal with the art of cryotomy itself. Discussions on tissue preparation, use of matrix, basics of freezing and effects on tissues and their components, microtomes, microtome knives, angles and sharpening procedures, temperature, sectioning, section evaluation, causes and solutions, mounting media, coating of slides, care and maintenance of equipment and associated problems. Also, how to shop for a new cryostat.

Basic staining of sections using routine stains, H&E, fat stains, histochemical methods, acid and alkaline phosphatase and immunofluorescence techniques. Discussion of kidney, skin and muscle biopsies, proper handling and collection. Cryostats will be available for class use.

No. 21: Proceedings on the Second Basic Science Workshop in Histology
(Antonio Villaneuva, M.A. & Jules Elias, M.A.) 1 - 4:30 PM

The following topics will be covered in this workshop.

1. Controls in Immunohistochemistry for Methods, Sensitivity, and Specificity: Controls for immunohistocytochemistry may be divided among several categories. First, agent characterization and physiochemical parameters must be established before specimen testing. Secondly, controls must be carried out simultaneously with the test specimen. Further, controls may be divided into those for methods, sensitivity, and specificity. Controls for methods assure the proper application of the technique while those for sensitivity and specificity are immunological in nature and will demonstrate the action of biological molecules involved in the antibody antigen reaction. The discussion will cover the use of appropriate controls for the fluorescent and peroxidase labelled antibody techniques as applied to tissues. It will be shown that performance testing, absorption with known antigen and primary antibody solution studies are the most appropriate controls to demonstrate method and antibody sensitivity and specificity.

2. Cytofluorographic Analysis — A New Dimension in Analysis and Separation of Cells: The cytofluorograph, more commonly called the fluorescence activated cell sorter, rapidly measures the size and degree of fluorescence of individual cells as they flow single file past a laser coupled to sensitive detectors. The degree of light scatter and/or fluorescence of these cells is channelized to create an analytical profile of the cell population. This profile provides the basis for definition and separation of cell sub-populations. The separation procedure does not impair viability of the cells: subsequent analysis of the functional activities of these isolated cells can therefore be accomplished.

Our laboratory personnel are currently utilizing the cell sorter for enumeration and isolation of DNA antigen binding cells in Systemic Lupus Erythematosus and in lupus mice. Initial data indicates that increased numbers of DNA-binding cells can be detected 2-3 weeks prior to the flare-up of the disease. In addition, the sorter is being used for isolation of specific T-lymphocytes, namely T-helper, and T-suppressor cells. This is accomplished by using monoclonal fluorescein-labelled anti-Thy 1.2, Ly-1.2, and Ly 2.1 sera. Cytofluorographic analysis via the fluorescence activated cell sorter has allowed investigators to approach a new dimension in cellular biology, that being the analysis of a pure, viable cell population involved in the regulation of one specific biological function.

3. Developmental Disturbances During Tooth Formation: The formation of a tooth can be detected as early as three to four weeks in utero. Tissue differentiation, matrix formation and mineralization begin after 6 weeks in utero. Genetic, metabolic, and environmental disturbances can affect these processes. The teeth can serve as stable markers for developmental disturbances. This presentation will include a review of the physiologic and morphologic stages of tooth formation and consider the clinical consequences resulting from developmental disturbances during tooth formation.

4. New Methods and Stains for Demineralized and Mineralized Bone: This presentation is designed to provide histotechnologists with knowledge on how to improve their technique of decalcifying bone by selection of decalcifying solutions and proper standardization of procedures. They will learn to establish certain laboratory standards which can be used for the successful evaluation of various demineralizers along with the criteria for establishing standard staining characteristics of demineralized bone. Also included in this presentation are new techniques in mineralized bone as it relates to histotechnology. Newest staining methods and applications will be discussed with emphasis on its usefulness to bone pathology, to the evaluation of metabolic bone diseases and as a research tool to study aging and drug effects.

5. Enzyme Cytochemistry for Diagnosing Leukemia: The utilization of specific enzyme cytochemical stains as a means of identifying cells by their functional traits will be presented. The sub-typing of the major forms of leukemia as classified by the FAB system is achieved by observing characteristic stain patterns in particular blood elements.

Faculty: Roland Heinzelling, Ph.D.; John A. Hess, D.D.S.; Robert Weimer, Jr., B.S.; A. R. Villanueva, M.A.; and Jules Elias, M.A.

Tuesday, October 28 1 - 4:30 PM
Open Seminar — No Fee Required
Diverse Topics in Research Histology: Applications in Industrial, Veterinary, and Other Research Histotechnology
(Barbara Kirkhart HT (ASCP), Kitty Enneking, & Tom Palmer, Ph.D.)

This seminar will consist of six to eight 20 minute presentations by histotechnologists engaged in various non-clinical applications, with a short discussion period after each. The actual topics are yet to be determined, as there will be a call for papers in the Journal of Histotechnology.

Tuesday, October 28 6 - 8 PM
Open Seminar — No Fee Required
Newsletters — "Words Ring Louder than Bells"
(Glynton Hammond)

Seminar will provide useful information to individuals interested in successfully planning and publishing a State Newsletter. Techniques to be presented are format, layout, phototechniques, source of materials and discussion.

Wednesday, October 29 8-10 PM
Open Seminar — No Fee Required
Career Awareness Presentations Workshop
(Ed Sokol)

The Career Awareness films and video tapes have been developed and are being used, the career booklets and information packets have been distributed and put to use — it is now time to complete the last phase of the Career Awareness Program sponsored by Lab-Tek. This phase is a workshop that will focus on how to effectively conduct a better career awareness session.

Subjects covered will be: (1) An Overview of Effective Presentation Skills; (2) Use of Audio Visual Aids and Equipment; (3) Sources of Materials and Other Career Information; (4) Tips on Gaining Access to Career Programs; and (5) Career Counseling Techniques.

The emphasis of this workshop will be on increasing skills, developing confidence and exchanging ideas on how to effectively conduct career awareness contacts.

This workshop will better equip you to carry out your responsibility of advancing your profession through the recruitment of highly qualified, future histotechnologists.

Scientific Sessions

Wednesday, October 29, 1980

A.M. Session:

Laboratory Studies of Legionnaire's Disease	*Martin Hicklin, M.D.*
Substitution of Lead Nitrate for Uranium Nitrate as Used in the Steiner Silver	*Claire Greene, HT (ASCP)*
How to Set up Your Own Photography Lab in a Small Hospital	*Mike Ayers, HT (ASCP)*
Asbestosis: Vital Role of Histotechnology in its Identification	*Frederick Gilbert, Jr., M.D.*
Muscle Biopsy Histochemistry and Special Staining	*Susi Schwarz, HT (ASCP)*

P.M. Session:

Developing an Approved School of Histotechnology	*Gerre Welles, HT (ASCP)*
Hazards of Infection in the Histology Laboratory	*John Otis, M.D.*
Histopathologic Diagnosis of Fungus Diseases	*Francis Chandler, DVM, Ph.D.*
Communication Between Cytotechs and Histotechs: Better Specimen Preps	*Ann Clark, B.S. & Fonda Martin, B.S.*
Quality Control Guidelines for the Histopathology Laboratory	*Joyce Eaton*
An Objective Tool for Grading Student Histoslides	*Walter Scott, Ph.D.*

Thursday, October 30, 1980

A.M. Session:

Preparing for Laboratory Surveys	*Billie Swisher, HT (ASCP)*
The Utilization of a New Emerging Health Professional — The Pathologist Assistants	*Denis Akim, P.A.*
Does the Oncologist Really Need to See Those Slides?	*Melvin Moore, M.D.*
Histochemical Demonstration of Hepatitis B Antigen: Technical and Diagnostic Considerations	*Barbara Tersolo, HT (ASCP)*
Medical-Legal Aspects of Histopathology	*John Feegel, M.D.*
The Relevancy of Histopathology and Clinical Methodology in USDA Field Service Laboratories Serving Federal Meat and Poultry Inspection Programs	*Karl Langheinrich, DVM, M.S., B.S.*

P.M. Session:

Update on Rabies in the U.S.	*William Winkler, DVM*
Cytogenetics	*Jack Reidy, Ph.D.*
Forensic Pathology	*Larry Howard, Ph.D.*
Time Utilization	*Betty Devon*

Friday, October 31, 1980

Meeting Equipment Needs Under Cost Containment	*Ewing Barnett*
Immunohistochemistry	*John Langloss, DVM, Ph.D.*
Dermatopathology — A Challenge for Excellence	*Harold Meltzer, M.D.*
The Frozen Muscle Biopsy — Technique and Interpretation	*Barbara Herr, B.A.*
Paper to be Presented Which was Written During Workshop on Tuesday	
Panel Discussion: The Impact of Federal and State Regulations on Histopathology and Cytopathology	*Patricia Greer, B.S., Fonda Martin, B.S., Ann Clark, M. Ed., Marilyn Gamble, HT (ASCP)*

A Guide for Educational Resources in Histotechnology

The next three issues of **Histo-Logic** will contain the remaining portions of an extensive list of various educational aids applicable to the field of Histotechnology. The July issue will contain a list of "Journals and Publications"; the October issue will feature "Visual and Audio Aids"; and the January 1981 issue will provide a list of miscellaneous training aids. This portion will be titled "Other Gems for Histotechnology."

The suggestion to incorporate this information in **Histo-Logic** was made by Ms. Irma B. Mednicoff, New England Medical Center, Boston, Massachusetts. The enormous task of compiling most of this information was performed by Ms. Gerre G. Welles, University of Tennessee, Center for Health Sciences, Memphis, Tennessee.

Text Books

Author	Title	Publisher	
John D. Bancroft	HISTOCHEMICAL TECHNIQUES 2nd edition	Butterworths & Co.	(1)
John D. Bancroft & Alan Stevens	THE THEORY AND PRACTICE OF HISTOLOGICAL TECHNIQUES (1977)	Churchill-Livingstone (Medical Division of Longman Group)	(2)
John D. Bancroft & Alan Stevens	HISTOPATHOLOGICAL STAINS AND THEIR DIAGNOSTIC USES (1975)	Churchill-Livingstone	(2)
Gerrit Bevelander	OUTLINE OF HISTOLOGY (1971)	C. V. Mosby Co.	(3)
E. B. Brain	THE PREPARATION OF DECALCIFIED SECTIONS (1970)	Charles C. Thomas	(4)
Geoffrey G. Brown	AN INTRODUCTION TO HISTOTECHNOLOGY (1978)	Appleton-Century-Crofts	(5)
H. C. Cook	MANUAL OF HISTOLOGICAL DEMONSTRATION TECHNIQUES (1974)	Butterworths & Co.	(1)
M. B. L. Craigmyle	COLOR ATLAS OF HISTOLOGY (1975)	Year Book Medical Publishers, Inc.	(6)
C. F. A. Culling	HANDBOOK OF HISTOPATHOLOGICAL AND HISTOCHEMICAL TECHNIQUES 3rd edition (1975)	Butterworths & Co.	(1)
Mariano S. H. DiFiore	ATLAS OF HUMAN HISTOLOGY (1974)	Lea & Febiger	(7)
R. A. B. Drury & E. A. Wallington	CARLETON'S HISTOLOGICAL TECHNIQUES 4th edition (1967)	Oxford University Press	(8)
Sister Agnes C. Frenay	UNDERSTANDING MEDICAL TERMINOLOGY (1974)	The Catholic Hospital Assoc.	(9)
Albert E. Galigher & Eugene N. Kozlogg	ESSENTIALS OF PRACTICAL MICROTECHNIQUE (1971)	Lea & Febiger	(7)
Richard J. Henry	SAFETY IN THE CLINICAL LABORATORY (1976)	Bio-Science Enterprises	(10)
John R. Holum	ELEMENTS OF GENERAL AND BIOLOGICAL CHEMISTRY (1979)	John Wiley & Sons	(11)
Gretchen L. Humason	ANIMAL TISSUE TECHNIQUES (1979)	W. H. Freeman & Co.	(12)
Alexander Kennedy	BASIC TECHNIQUES IN DIAGNOSTIC HISTOPATHOLOGY	Churchill-Livingstone	(2)
C. Roland Leeson & Thomas S. Leeson	HISTOLOGY (1976)	W. B. Saunders Co.	(13)
Thomas S. Leeson & C. Roland Leeson	A BRIEF ATLAS OF HISTOLOGY (1979)	W. B. Saunders Co.	(13)
R. D. Lillie & Harold M. Fullmer	HISTOPATHOLOGIC TECHNIC AND PRACTICAL HISTOCHEMISTRY 4th edition (1976)	McGraw-Hill Book Co.	(14)
Lee G. Luna	MANUAL OF HISTOLOGIC STAINING METHODS OF THE ARMED FORCES INSTITUTE OF PATHOLOGY 3rd edition (1968)	McGraw-Hill Book Co.	(14)
J. L. Matthews & J. H. Martin	ATLAS OF HUMAN HISTOLOGY AND ULTRASTRUCTURE (1971)	Lea & Febiger	(7)
Thomas J. McHale & Paul T. Witzke	PERCENT, RATIO, PROPORTION Module 4 (1975)	Addison-Wesley Publishing Co.	(15)
A. G. Everson Pearce	HISTOPCHEMISTRY 3rd edition, Vol. 1, 1968 3rd edition, Vol. 2, 1972	Williams & Wilkins Co.	(16)
Ann Preece	A MANUAL FOR HISTOLOGIC TECHNICIANS 3rd edition (1972)	Little, Brown & Co.	(17)
Fredrick A. Putt	MANUAL OF HISTOPATHOLOGICAL STAINING METHODS (1972)	John Wiley & Sons	(11)
Walter Sandritter & William B. Wartman	COLOR ATLAS AND TEXT BOOK OF TISSUE AND CELLULAR PATHOLOGY (1976)	Year Book Medical Publishers, Inc.	(6)
Dezna C. Sheehan & Barbara B. Hrapchak	THEORY AND PRACTICE OF HISTOTECHNOLOGY 1st edition (1973)	C. V. Mosby Co.	(3)
Arthur Smith & John Bruton	COLOR ATLAS OF HISTOLOGICAL STAINING TECHNIQUES (1977)	Year Book Medical Publishers	(6)
Samuel W. Thompson & Lee G. Luna	AN ATLAS OF ARTIFACTS (1978)	Charles C. Thomas	(4)

Publisher Address

(1) Butterworths & Company
161 Ash Street
Reading, Massachusetts 01867

(2) Churchill-Livingstone
23 Ravelston Terrace
Edinburgh EH4 3TL
Scotland
or
Longman, Inc.
19 W. 44th Street
New York, NY 10036

(3) The C. V. Mosby Company
11830 Westline Industrial Drive
St. Louis, Missouri 63141

(4) Charles C. Thomas
301-327 East Lawrence Ave.
Springfield, Illinois 62717

(5) Appleton-Century-Crofts
Route 9W Englewood
Cliffs, New Jersey 07632

(6) Year Book Medical Publishers, Inc.
35 E. Wacker Dr.
Chicago, Illinois 60601

(7) Lea and Febiger
600 Washington Square
Philadelphia, Pennsylvania 19106

(8) Oxford University Press
300 Madison Avenue
New York, NY 10016

(9) The Catholic Hospital Assoc.
1438 Grand Blvd.
St. Louis, Missouri 63104

(10) Bio-Science Enterprises
7600 Tyrone Ave.
Van Nuys, California 91405

(11) John Wiley & Sons
605 3rd Ave.
New York, NY 10016

(12) W. H. Freeman & Co.
660 Market St.
San Francisco, California 94104

(13) W. B. Saunders Co.
West Washington Square
Philadelphia, Pennsylvania 19105

(14) McGraw-Hill Book Co.
1221 Avenue of the Americas
New York, NY 10020

(15) Addison-Wesley Publishing Co., Inc.
Reading, Massachusetts 01867

(16) The Williams & Wilkins Co.
428 East Preston St.
Baltimore, Maryland 21202

(17) Little, Brown & Co.
34 Beacon St.
Boston, Massachusetts 02106

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A Technical Bulletin for Histotechnology

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Cell Blocks from Specimens of Body Fluids

Brenda Cuevas
Gorgas Hospital
Balboa Heights, Canal Zone

Our laboratory had previously centrifuged specimens in glass conical tip tubes; however, even with centrifuge and fixation times of up to 1½ hours, we were often unable to obtain a compact button. I have observed that by substituting plastic conical tip centrifuge tubes (Becton-Dickinson 2087) for glass centrifuge tubes, one can obtain a more compact cell button with a corresponding shorter fixation time. The reason for this phenomenom is unknown and any possible explanation of why this occurs would be welcomed. Send information to the editor.

Helpful Hint for SEM Fixation

Gwen Ramer
University of Alabama Medical Center
University Station
Birmingham, Alabama 35294

Technicians who do electron microscopy procedures may be interested to learn that specimens can be fixed for Scanning Electron Microscopy with 3% glutaraldehyde made up in 0.1 M cacodylic buffer (pH 7.0). The specimen may remain in the fixative for up to three days without noticeable damage. After the fixation period, wash specimen with three changes of buffer and refrigerate until further processing can be carried out.

This technique has proven to be very beneficial for specimens containing bacteria and fungi.

To receive your own personal copy of HISTO-LOGIC, or to have an associate added to the mailing list, submit home address to: Lab-Tek Division, Miles Laboratories, Inc., 30W475 North Aurora Rd., Naperville, Illinois 60540.
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The editor wishes to solicit information, questions, and articles relating to histotechnology. Submit these to: Lee G. Luna, Editor, Histo-Logic, P.O. Box 36, Lanham, Maryland 20801. Articles, photographs, etc., will not be returned unless requested in writing when they are submitted.