



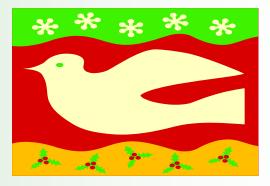
The Georgia Society for Histotechnology

Inside	
Presidents Message	Page 2
Message from Associate Editor	Page 4
GSH Membership Form	Page 6
GSH Board of Directors	Page 7
Histo Techs Needed 2015	Pages 8 & 9
GSH Meeting 2010	Page 10 12-14
NSH Membership Form	Page 16

Hope Your Holidays Were Happy!

Have a Great

2010





#### President's Message

This is a time of the year for not only celebrating with family and friends the joyous season of Christmas, but for also reflecting on what has happened in your lives this past year. I hope it was a year of good memories and I hope each of you find your stockings were filled with all the equipment that you've been asking and begging for. Well it was a magical season and it never hurts to wish, "it could happen".

As we prepare for the coming new year, I hope each of you have taken to heart the articles in the past issues of Microtime and the seriousness of the shortage of qualified people in our field. Many of us are on the down side of our careers and I for one want to feel that someday I can hand over the reins of this Lab to someone who will have a sense of pride and professionalism about the serious nature of our chosen fields.

I hope you will offer suggestions for recruiting young people to Histology. You might think that your thoughts are too easy or corny, but great solutions sometimes are the simplest. As we enter into another year, the BOD and I are seeking volunteers who want to be actively involved helping with the seminars and other needs of our Society. Our meeting needs people to help with registration, introduction of speakers and liaisons for the workshops and lectures. Our committees need additional members

There is no charge for membership, but you must renew each year. This allows us to ensure we have the correct address and email for you, so that you don't miss the newsletter (which we hope will take the NSH award as "Best Newsletter" back where it belongs) and other important information. From my house to yours, I sincerely hope you had the best Christmas ever and that your New Year will be the most wonderful of your life.

Mike Ayers President Georgía Society For Histotechnology







This is a time of the year when we reflect on the past year and decide what sort of positive change will be coming in the new one. Weight loss, stop smoking, be a better person, go to the gym, be nicer to your spouse (sound familiar?). I have never really espoused the whole idea of making this change for the New Year. Call me a scrooge, cynic or whatever you like but most of these ideas seem to go down in flames. Don't get me wrong. It is important to have individual goals and the ability to achieve drives us all.

With that in mind I have a goal which relates to us as a collective but also as individuals. For the past several years I have read (and written) countless articles on the shortage of qualified histotechs. There is no need to rehash the issue as we all know the problem does exist. Presumably, you have heard about all the solutions (or lack thereof). The ones floating out there include opening up more schools, distance learning options and the like.

The importance of supporting such measures goes beyond just starting a new school, program option or clinical affiliate. Those are just the initial processes in getting a student from interested candidate to able bodied histotechnician. The bulk of an education of a student comes with the support of US. A school can only provide the framework on which expertise and knowledge is added.

How can YOU help? Individually, you can help out with histotechnology programs like the one at Darton College by donating expired reagents or used equipment from your place of employment. With budgetary constraints at a high level, the need for donated items such as these is significant. Many of the vendors that visit you on a daily basis have donated and/or supplied reagents, equipment to our program and I implore you to follow their lead.

YOU can also participate with the program as a mentor at one of our clinical affiliates. Right now this is the most challenging aspect of getting students the proper training they need and deserve. Department short-falls across the country are putting a strain on the time qualified histotechs can devote to education. This in turn is leading programs like mine to limit the number of available spots since the clinical externship component is necessary for completion of the course. It seems to be a vicious cycle in that many histology departments are looking for qualified histotechs yet they are strapped to the point where any additional workload (i.e. taking a student) is not plausible. I think they call this stagnation but the trend needs to change in this regard.

How do all of these things relate to us a collective? As a society we have the responsibility of passing on our knowledge for future generations of histotechs. I know this mandate is not listed in your job description but if not YOU or I then who? Yes we could all go about our daily business and just watch the clock run out. Or WE could work together to bring about positive change for someone who has never heard of Histology. For this New Year, I will be hoping for the latter.

Regards,

Carl Sagasser, BS, HT (ASCP) Microtime Associate Editor

Educational Coordinator Histotechnology program Darton College 2400 Gillionville Road Albany, GA 317071 (229) 317-6974





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## GEORGIA SOCIETY FOR HISTOTECHNOLOGY MEMBERSHIP OR RENEWAL FORM

Membership in GSH is free to anyone active, retired from or a student in histology in Georgia. Please fill out all blanks completely. This should be done each year in January to be counted as a GSH member for representation in the NSH House of Delegates held at the annual Symposium/Convention. You will be mailed a current Membership card upon submission.

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Would you be interested in serving on a committee?	Yes	No	
Specify and contact any of the officers or committee ch	airs on the home	e page.	
MEMBERSHIP YEAR IS FROM JANUARY TO DECEMBER			

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#### Sectioning Productivity

#### By René J. Buesa, B.Sc., HTL (ASCP) (Ret.)

Sectioning, cutting, or microtomy are three designations for the most important manual task in the histolab (histology laboratory), often referred to define dexterity for any histotech (be it technician or technologist).

If you ask any histotech "how many blocks can be cut each hour" the most likely answer will condition the productivity to the type of tissue and the number of sections per slide needed from each. The experienced histotech will probably also add some caveats about adequate fixation and infiltration of the tissues in absence of which microtomy is very difficult and sometimes altogether impossible. Consequently, proper infiltration during tissue processing plays an important role in sectioning productivity.

The National Society for Histotechnology published in 2002 the results of a survey <sup>(1)</sup> and concluded that "the average tech should be able to section 27 blocks with 1 corresponding slide per hour". This standard, although within the range of another survey <sup>(2)</sup>, is above its average and that of the 24 blocks/hour standard from 188 histolabs recently calculated <sup>(3)</sup>. The weighed average for the productivity of 1,580 US histotechs is 22.5 blocks/hour and the average for 473 histotechs from other countries is 23.4 blocks/hour.

The unweighed averages differences between histotechs from US (23 blocks/hour) and other countries (24 blocks/hour) are not statistically significant in spite of the fact that 23% of Russian and Hispano-American histolabs use sledge microtomes and 32% use permanent steel knives instead of disposable blades. This is a quite conclusive example that histotech's dexterity transcends countries and technical barriers. The need to manually sharpen and hone the steel knives does not really affect the sectioning productivity but rather the overall work flow productivity because those manual operations are not directly related to the production of slides but to the histotechs' total use of their working time.

Also the sectioning productivity differences between human and veterinary pathology, and between different types of histolabs are not statistically significant (Table 1).

The hours per day sectioning are different between US and other countries with some histolabs in the US starting to cut shortly after midnight, with 18% already cutting as early as 4:30AM and 60% cutting before 7AM. In other countries cutting starts at 5AM the earliest but because they have smaller workloads 75% of their blocks have been cut by 8AM, as in the US.

The average daily workload in US histolabs is 280 new blocks/day, and 198 for other countries. This difference explains why the daily cutting period in US histolabs (without considering the number of histotechs involved) amounts to 6.37 hours and to only 4.72 hours in other countries.

Finally, the attempts to automate sectioning have not been as successful as automating embedding with only one automated instrument developed, the Kurabo auto slide preparation system AS-200 (Osaka, Japan). This automated instrument, limited to some research procedures, can cut only 20 blocks every 2 hours which is 2.4 times slower than the average histotech. This means that a highly productive sectioning automaton is likely to be still many years away.

Type of service and (number of	Cases per	Histotechs per	Productivity
histolabs in each)	year	histolab	(blocks/hour)
Human pathology histolabs:			
TOTAL (188)	20,478	7	24
US (106)	25,689	7	23
Other countries (82)	14,823	7	24
(a) Commonwealth of Nations (16)	22,469	10	21
(b) Europe (19)	15,710	8	27
(c) Hispano-America (36)	9,973	4	20
(d) Middle-East and Asia (11)	12,545	6	37
US – GI, Small and Renal Bx (5)	12,261	4	13
US - Reference Labs (4)	84,775	16	22
Veterinary pathology histolabs (15)	2,191	2	22

Table 1. - Sectioning productivity (blocks/hour) by groups of countries

and types of histolabs.

#### References:

1- LaFriniere, M; Lewis, S; Sheppard, B; Carson, F: A report from the National Society of Histotechnology productivity task force. J.Histotechnol, 2002; 27(4):293-295

2- Buesa, RJ: Removing the stumbling blocks [Productivity in the histology laboratory]. <u>Advance MLP</u>, 2006; 18(14):18-20; 29

3- Buesa, RJ: Productivity standards for histology laboratories. (Accepted for publication) Ann.Diag.Pathol., 2010 (vol.14)





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<b>GSH REGISTRATION FORM FOR 2010 MEETING</b>
Evergreen Marriott Convention Resort, Stone Mountain, Georgia
March 26-29, 2010
<b>DEADLINE FOR REGISTRATION IS MARCH 15, 2010,</b>
after which a LATE FEE of will be charged
Please completely fill out a separate form for each attendee

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**REGISTRATION FEE:** \$35 this fee includes luncheon on Saturday. This is a Nonrefundable fee due with this registration form.

HT/HTL REVIEW SESSION FEE: \$25

SYMPOSIUM FEE: \$100 for workshops/lectures both days for current GSH members as of Feb 15, 2010. Non-member fee is \$150.

Member Student fee: \$40 Student Non-member fee: \$60

GSH membership is free, go to www.histosearch.com/gsh to join by Feb. 15<sup>th</sup>

Students should have their school instructor sign here to be eligible for student rates:

Instructor:	School Name:	
PLEASE CHECK DESIRED WORK total of 3 workshops.	KSHOPS in order to have enough han	douts for everyone. You can only attend a
Saturday a.m.: Workshop #1		
Saturday p.m.: Workshop #2		
· · · -	_ OR Sunday a.m.: Workshop	
#3	& #4 workshops run concurrently in	room A & B.
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Member Student	\$ 40.00	\$
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#### Georgia Society for Histotechnology 2010 Symposium

### Evergreen Marriott Convention Resort, Stone Mountain, Georgia

#### March 26, 2010 - Friday

**1 to 5 p.m.:** <u>HT/HTL Review Session</u>: Taiquanda Winbush, HT(ASCP) Instructor, Darton College Online Histology Program – Are you preparing to take the HT/HTL exam and you are nervous about it? In this review class you will learn how to study and what to study. The class will consist of 3-4 hours of Q&A along with presented slides. A handout will be included as part of the program. Topics included in this workshop will include discussion on fixation, microtomy, staining, laboratory operations, safety and processing/embedding. Also included will be general discussion of histology at the microscopic level including images of representative tissues. Students taking this course should have a general knowledge of histological technique and will be taking the National Registry exam in the next few months.

#### 5 to 7 p.m.: Meeting Registration

#### 7 to 9 p.m.: Vendor Reception in Vendor Area – Please visit our supporters

#### March 27, 2010 - Saturday

#### Seminars on Saturday will be held in Room A

#### 7:00-8:00 a.m.: Meeting Registration

#### 8:00-9 a.m.: Damien Laudier – Insect Histology-Historical Overview and Current Perspectives

The practice of insect histology presents unique technical challenges and is a relatively esoteric specialty in the overall field of Histotechnology. This seminar will present a historical survey of the specialty, review the basic concepts of insect morphology, discuss protocols, and provide an overview of how Histotechnology is currently playing a vital role in advancing the understanding insect morphology and physiology

#### 9:00-10 a.m.: James Burchette, HT(ASCP) - Laboratory Math

This seminar presentation is a 50 slide PowerPoint lecture of basic theory and common mathematics used in histology laboratories. We will start with a review of the metric system to include liters, milliliters, micro liters, grams and micro grams. Preparation of percentage solutions, molar and millimolar solutions, antibody dilutions and immunoglobulin concentrations will be discussed along with working examples of each. The goal of this presentation is to improve the participants' confidence, knowledge and understanding of laboratory math and give them resources to solve math problems that arise in the workplace.

#### 10:00-10:30 a.m.: Break in Vendor Area

#### 10:30-11:30 a.m.: Kris Fidler, HT(ASCP)HTL - Xylene Free Processing

Processing and fixation are the key elements in producing quality paraffin sections and subsequent staining. Xylene free processing is a safe and effective alternative to traditional processing. Unlike traditional processing which uses a clearant such as xylene to remove dehydrants from the tissue prior to infiltration with paraffin, xylene free processing employs isopropanol prior to wax infiltration steps. Isopropanol is an excellent dehydrant that results in less shrinkage and hardening of tissues in comparison to ethyl alcohol used in traditional processing (Sheehan and Hrapchak, 1980). As health and safety remain a concern in the laboratory environment, xylene free processing offers an alternative to hazardous chemicals such as xylene while maintaining quality processing and speed.

#### 11:30-1:00 - GSH AWARDS LUNCHEON

#### 1:00-2:00 p.m.: Lualhati Harkins, MS, QIHC(ASCP) - Current CAP Regulations: Impact on How We Conduct Immunohistochemistry in the Future

CAP regulations are constantly changing from year to year. The most recent regulations formulated in 2008 pose one of the most sweeping significant impacts on conducting Immunohistochemistry. Significant points on how complex and non complex testing , regulations and technical and professional requirements will be discussed. How to prepare For CAP inspection with emphasis on Immunohistochemistry and necessary documentations will be presented. Recent requirements involving standardization, quality controls and qualifications in Immunohistochemistry will be discussed. Participants are encouraged to bring specific questions and concerns. Participating laboratories are encouraged to bring in specific ideas on how particular laboratories will comply with most recent regulations.

#### 2:00-3:00 p.m.: Gina Rodriguez, HT(ASCP) - The Art of Embedding

This course will address why precision and form matter most in embedding for patient diagnosis. Advantages of knowing how to properly orient your specimen according tissue type, size and depth. In addition, how to embed the more difficult tissues. Understanding and choosing which paraffin that best suits your tissue for infiltration and microtomy. Moreover, things to avoid when embedding. Plus, troubleshooting these problems before permanent damage is done.

#### 3:00-3:30 p.m.: Break in Vendor area

#### 3:30-4:30 p.m.: Marvin Hanna, BS, MBA - Internet Histology Resources

The Internet provides us with a tremendous amount of information and graphics related to histology. There are many websites pertaining to histology available on the Internet. This session will review some of these online histology resources that can aid in solving problems in the histology lab. It will also provide information on how to find these resources fast when you need them. Reviews on these technical and educational resources will include the websites of NSH, ASCP, CAP, state societies, sites with histology protocols, as well as online publications and textbooks. Instructions on subscribing and unsubscribing to list servers such as Histonet and the IHC Resources Group will also be discussed.

#### Workshop # 1: Room B

#### 8:00 to 12 noon: Joe Myers, MS, CT(ASCP) - In Situ Hybridization - "As Easy As I-H-C"-

This presentation is intended to provide a comprehensive review of in situ hybridization (ISH) procedures, from primarily a technical standpoint. Particular emphasis will be placed on the notable similarities and differences between ISH and immunohistochemistry (IHC). Although commonly-studied disease states will be discussed in the course of this lecture, the presenter does not intend to make any claims as to the clinical usefulness of these procedures (since such a discussion would best be presented by a pathologist). Relatively recent developments in nucleic-acid-probe synthesis, resulting in improved sensitivity and specificity, will be discussed along with other specimen and reagent 'handling' methods. Participants will be encouraged to participate in a 'question-and-answer' session at the conclusion of the presentation, as a means of soliciting different opinions and personal preferences. Handout material, including comparison tables, 'flow-diagrams' and sample forms will be provided.

#### Workshop #2: Room B

#### 1:00 to 4:30: James Burchette, HT(ASCP) - IHC Decisions, Decisions, Decisions

IHC Decisions, Decisions, Decisions workshop is designed to challenge the participants with issues that arise in the laboratory. Sections of the workshop include a review of antibody classifications and selection of antibodies. How variables in tissue pretreatment during can affect the end result. The use of proteolytic enzymes as an alternate to heat induced epitope retrieval will be discussed. Basic antibody / antigen relationship with current detection systems and laboratory math importance and how it is used in IHC will be reviewed. We will discuss the selection of positive control tissue and the use of negative controls. An emphasis on basic histology skills and the importance of these skills in relationship to producing quality immunohistochemistry products will be presented. Following the trouble shooting section will be an open forum for questions and audience interaction.

4:30-5:00 p.m.: GSH General Membership Meeting with GSH Board Meeting to Immediately Follow

#### March 28, 2010 – Sunday

#### 7:00-8:00 a.m.: Meeting Registration

#### Workshop #3 in Room A

#### 8:30 to 12 noon: - Jack Ratliff, BA – When Paraffin Won't Cut It – Working with Methyl Methacrylate

Have you ever found yourself needing an alternative embedding method because paraffin won't cut it? Where do you start and how do you begin? This workshop is intended to give a basic to intermediate overview into the application usage of methyl methacrylate (MMA) as an alternative embedding media for those difficult hard tissues. Throughout this workshop, we will first briefly answer "Why" the need for use of this embedding media, define the laboratory equipment needs and safety for working with this embedding media, show how the use of this embedding media relates to the typical histology workflow model (i.e. fixation, processing, embedding, microtomy, staining, and microscopy), and along the way discuss "How" one can get started and/or back on track when working with hard tissues and specifically MMA. Individuals with a current or future intent to process un-demineralized tissue or tissue containing foreign implant materials are strongly encouraged to attend.

#### Workshop #4 in Room B

#### 8:30 to 12 noon - Kris Fidler, HT(ASCP)HTL - <u>Managing a Winning Team, Communication is the Kev</u>

Are you a manager and not sure about the best way to get the most out of your staff? Are you a staff member and don't understand why your manager doesn't seem to notice your hard work? In this workshop you will learn how to communicate in a positive way, and how to motivate others to enable them to be at their best. We will cover topics such as how to raise the expectations of you and your staff, how the words we use can affect a person's self-esteem, and how to listen to those around you more effectively. Today's work force is changing and supervisors need to understand how to change along with it. The days of "do it because I said to" are going away and with a little group discussion, and an open question-and-answer period, we can all learn how to get the best out of each other.

10:00 - 10:30 a.m. Break



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