



## Letter from HCS President-Elect Paul Goodwin



Greetings. I hope that you have had or are having a relaxing holiday season. I hope that you are taking time to renew friendships and reacquaint yourselves with your families. It is so easy to get swallowed up into the vortex of our daily activities that we forget our true legacies: our families, our friends, and the positive influence that we can make on this world.

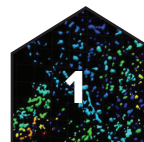
Let me introduce myself. I am Paul Goodwin. I am the President-Elect of the Histochemical Society. My background is a bit different than previous Presidents of the Society. I am the Science Director for GE Healthcare, Life Sciences. I have been an active member of the Society since 2010 when Chuck Frevert talked me into presenting a poster at the annual meeting, then held at the Marine Biological Laboratory (MBL) in Woods Hole, MA. You find that the MBL is a recurring theme in my story. I became a member of the Histochemical Society Council in 2013 and until this year was the Chair of the Communications Committee.

My academic and career journey is a bit different than most people in the Society. I studied Physiology and Biophysics at the University of Washington. My impatience led me to leave my studies with a Master's degree rather than complete my Ph.D. For those of you who know me, you know that impatience has followed me all of my life. My graduate work was in auditory physiology and I helped to develop a method for dynamically measuring blood flow in the cochlea. That method is still widely in use today. It was then that I realized that my personal strengths lied in developing new technologies that enabled scientific advancement. I am equally

comfortable discussing Fourier Transforms and mechanical hysteresis with engineers as I am discussing immunohistochemistry and organelle synthesis with biologists. I worked for five years in experimental pathology at the University of Washington and it was there that I was fortunate to become an early developer of digital microscopy and image analysis techniques. I know it seems obvious now but trust me, it was a major step to move from a film camera on microscope to digital camera and an automated microscope. I was then recruited by the Fred Hutchinson Cancer Research Center to develop and manage the Image Analysis Lab, one of the first core facilities dedicated to quantitative imaging in microscopy and biochemistry.

In 1997, I was recruited to work at Applied Precision, a small company in the Seattle area that I had been consulting with for about five years. We grew that small company to a major player in high-end automated microscopy for Life Sciences. I served a number of roles in the company from Applications Scientist to Product Manager to Director of Advanced Applications. In 2011 the founders and funders were ready to reap their rewards and move on to other ventures and we sold the company to General Electric Healthcare. In 2013, my role moved from the local business to helping the entire Life Sciences organization as a member of the CTO R&D organization where I now serve as the Science Director. In this role, I report to the Chief Technology Officer of Life Sciences and act as a consultant to him and each of the separate businesses.

I live in the Seattle area but you will most often find me on an airplane. I travel a lot for work. You will often find me at the MBL teaching microscopy to anyone who will listen including Immunohistochemistry and Microscopy led by the Histochemical Society. Outside of work, I am a husband of over 37 years and the father to two wonderful women. I am a firm believer in building local communities in which we share our lives. I love to cook, play my guitar, and help tame my fur-baby, Sam the yellow Labrador Retriever.





## KEEP TEACHING AND SEE THE WORLD

by Stephen Carmichael, Ph.D., D.Sc.

Professor Emeritus of Anatomy and  
Orthopedic Surgery  
Mayo Clini  
Rochester, Minnesota  
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I was fortunate to have a career that included teaching and bench research. My extra-mural research funding was modest but sufficient to run a reasonably productive lab. My research centered on the adrenal medulla and the chromaffin cell and I used histo/cytochemistry to answer several important questions.

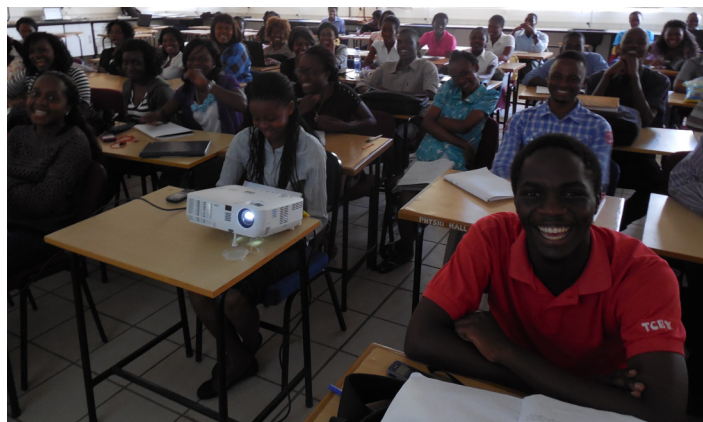
When I retired in 2007 it was not practical for me to continue running a laboratory because that was a full-time job. However, teaching was every bit as important and enjoyable to me as research and can be done part-time as my schedule permitted. Luckily for me I was trained as an anatomist and there is currently a global shortage of teachers of gross anatomy. Whereas most of my retirement teaching has been at medical schools in the Caribbean I will begin with my experience in Africa to illustrate the global nature of teaching opportunities.

## Teaching in southern Africa

This experience started, I later learned, when the gross anatomist at the University of Malawi took a leave of absence to campaign to be the president of his country. He didn't win. The Dean at the University sent out a request for help to Seed Global Health (<http://seedglobalhealth.org>), an American organization that helps with various

health care needs in southern Africa. Dr. Vanessa Kerry, the CEO of Seed Global Health, contacted colleagues at Mayo to see if an anatomist was available for short term assignment. I was identified as retired and, therefore, likely available. She called me to see if I would be interested and, of course, I was. I agreed to work gratis as long as they covered my expenses and we had a deal. Incidentally, her father was our Secretary of State at the time.

My two weeks at the University in Blantyre, the commercial hub of Malawi, were both interesting and challenging. A consistent supply of electricity and running water is something we take for granted in the States, but that wasn't the case there. Internet service was so slow as to be practically unavailable. One could occasionally watch TV in the evenings, as long as you wanted to watch BBC News. This was in March 2014 when a Malaysian airliner mysteriously disappeared, so that was just about the only thing to watch. But I adjusted to these everyday situations and soon it wasn't too bad.



The best part of the experience was the people, both the students and others who had volunteered to work there. My relationship with the students evolved incrementally every day while I was there. On the first day it seemed to me their main thought was "What's that old white guy doing here?" and I just wasn't able to engage them. But each day we made progress to the

point they felt free to ask questions and take part in discussions. We parted as friends and I kept in touch with a few of them. As a parting gift they gave me a carved wooden map of their county that now hangs in my living room.

I lived in University-provided housing that was very simple. There was no air conditioning, but I had a ceiling fan in my room. There were others staying there: a pharmacist from Sydney who was teaching, a young engineer from Germany who was working on sewage disposal, a community health nurse from Albany, NY and several others who came and went while I was there. Sitting around after a simple meal, talking about the world with these diverse colleagues, is my idea of a good time, as those of you who know me can appreciate.

## Caribbean medical schools



Teaching in Africa was a one-time experience but there are many opportunities closer to home. According to an article I read in the New York Times there are over 70 for-profit medical schools in the Caribbean, often referred to as “off-shore” medical schools. I have taught at five of them. It is well-known that an American student would prefer to attend a stateside medical school, but these Caribbean schools offer them

an opportunity they don't have in this country. The students I talked with had a story that is a variation of this theme: they didn't know what they wanted to do when they went to college and they partied, or had other serious distractions, and earned a less-than-exemplary grade point average for the first year or two. By the time they discovered they wanted to become physicians it was mathematically impossible to elevate their grades to a competitive level. The off-shore school offered them a “second chance” and what they may have lacked in academic credentials they seemed to compensate for with enthusiasm and dedication.

All the schools had their charms, and, of course, Caribbean islands are beautiful, but St. George's University (SGU) on Grenada has been my favorite and I've gone there every year since I retired. SGU is a very large school and because of its size it is run on a model that I have not encountered elsewhere. I was teaching about 50 medical students a year at Mayo Medical School; SGU admits about 800 students per semester, twice a year! I was told that about 94% of their American students pass Step I of the USMLE Boards. There are a lot of practicing physicians educated at SGU!

To run these large classes the faculty of the Department of Anatomical Studies, led by Marios Loukas, M.D., Ph.D., devised a clever system. They have about 25 resident faculty who, for the sake of continuity, give almost all the lectures. They then hire a “small army” of Visiting Professors as Laboratory Instructors. I am proud to think of myself as a private in this “army”, which suits me fine after decades of having a higher rank. I typically go to Grenada for a period of two weeks, always in the winter. SGU pays a small stipend, but the main benefit is that they not only cover my expenses, but also the expenses of a guest. Most of us bring along our spouse, but some have brought a sibling and in one case a parent. The University has its own hotel called the University





Club. The rooms are clean, safe and adequate, but the real positive aspects are the Green Flash Lounge and the restaurant. We eat very well during our stays.

Another impressive feature at SGU is a very tasteful memorial the school erected. If you're of my generation you remember when President Reagan sent troops to Grenada in 1982, ostensibly to rescue American students at SGU. The memorial, which is located just outside the Anatomy building, is dedicated to the 19 American soldiers who were killed in that military engagement.

The other medical schools where I taught are much smaller and I was usually the only visiting faculty member there. This created an entirely different social environment that was not as enjoyable as the one at SGU. I did visit a medical school on St. Lucia a few times, but I to date I have only visited St. Kitts, Antigua and St. Maarten each once. I would go back to St. Maarten because this island has a Dutch side and a French side. The school is on the Dutch side, but I enjoyed the restaurants on the French side immensely.

## Pros and Cons of teaching in the Caribbean

The major positive factor for me is escaping Minnesota in the winter. If you watched the coverage of the Super Bowl in February you got a glimpse of what it's like here. A sunny beach certainly has appeal in February! Since SGU covered her expenses, my wife usually comes with me to Grenada. At every medical school I enjoyed working with the students, both in the lab and the lecture hall, and they have been grateful for my help. That is a considerable reward.

One negative aspect of living in the Caribbean is that everything runs on "island time", which means things don't run on a schedule. It took me a while to adjust to this after having classes meet at a specified time throughout my career. Depending on airline schedules transportation to and from the Caribbean can take one or two days. Frequently I've had to overnight in Miami or Atlanta. Travelling has certainly gotten easier with Global Entry and recent improvements such as TSA PreCheck, but spending that much time in planes and airports is not fun. Another negative aspect for me was the relative social isolation at many of the schools. This was not the case at SGU where the lodging and dining facilities promoted social interactions that I found very rewarding.

As I mentioned, the demand for anatomy instructors is significant and has clearly opened doors for me. I am not aware of opportunities for teaching in other disciplines but they may exist. If you want to explore these possibilities, I suggest that you first look within your professional network. Talk with other histochemists about part-time teaching opportunities of which they are aware. Attend both meetings of the Histochemical Society at EB and international histochemistry meetings. You never know what opportunities exist out there until you do some exploring!



**FASEB**Federation of American Societies  
for Experimental Biology

## FASEB Public Affairs: Progress toward Strategic Goals (4th Quarter 2017)

### Promote Optimal Funding for Biological and Biomedical Research

#### Advocated for research funding increases

- Tom Baldwin met with Emily Mok, OMB Budget Examiner for NSF (*November 1*)
- FASEB signed onto [Research!America coalition letter to raise the budget caps](#) (*November 14*) and joined the [“Raise the Cap” media campaign](#) (*November 15*)
- [FASEB sent a letter on budget caps to House and Senate leadership](#) (*December 1*)
- FASEB signed onto the Energy Science Coalition letter urging completion of the FY 2018 appropriations (*December 7*)
- FASEB issued a [statement opposing House proposal](#) to fully fund defense spending with no relief for non-defense agencies (*December 19*)
- FASEB had 29 congressional meetings in the fourth quarter

#### Strengthened liaisons with Congress and federal agencies

- Bob Matthews met with Rep. Jim McGovern’s office (D-MA) (*October 19*)
- Chuck Frevert met with Rep. Pramila Jayapal’s office (D-WA) (*October 20*)

#### Strengthened strategic partnerships with other organizations

- Anne Deschamps was invited to be a member of NAS/ILAR committee to plan a workshop on “Future Directions for Laboratory Animal Law in the United States” (*October 2*)
- Bethany Drehman created an updated NIH funding trends slide for Research!America (*October 12*)
- Jennifer Zeitzer gave a presentation on the federal budget at the COGR annual meeting (*October 26*)
- Sheenah Miche and JR Haywood were invited to discuss the FASEB shared research resources report with the Steering Committee of the AAMC GRAND group (*November 3*)
- Jennifer Zeitzer served on the Steering Committee of the Ad Hoc Group for Medical Research and the Board of Directors of the Friends of the VA
- Yvette Seger was Vice Chair and liaison to Advocacy Committee of the National Postdoctoral Association
- Anne Deschamps served on the Board of Directors of Americans for Medical Progress

### Improve the Climate for Research

#### Developed and presented advocacy priorities and perspectives

- FASEB commented on NIH [proposed changes to genomic data sharing policy](#) (*October 2*)
- FASEB released a report, [Maximizing Shared Research Resources](#) (*October 3*)



- FASEB signed onto a [multi-society letter on immigration policy](#) (October 13)
- FASEB-AAMC-COGR published a report, [Reforming Animal Research Regulations: Workshop Recommendations to Reduce Regulatory Burden](#) (October 24)
- FASEB responded to Department of Health and Human Services Strategic Plan (October 26)
- FASEB issued a [response to the USDA RFI on regulatory reform](#) (November 7)
- FASEB issued a [response to the NLM RFI "Next-Generation Data Science Challenges in Health and Biomedicine"](#) (November 7)
- FASEB wrote to the Senate Appropriations VA Subcommittee about the importance of [canine research](#) (November 7)
- FASEB responded to a GAO survey on animal research transparency in federal research labs (November 14)
- Yvette Seger gave a presentation on FASEB's work to the NAS committee on rigor and responsibility (December 13)
- FASEB issued a statement opposing the proposed elimination of the [tuition tax waiver](#) for graduate students (November 9); It was later cited in a press release by Democratic Whip [Steny Hoyer](#) (November 16)
- Yvette Seger was a panelist for "What Can You Be With a PhD?" a two-day series of workshops convened by NYU School of Medicine and 14 other New York City research institutions (November 5)
- Libby Barksdale was a member of a career panel at the SfRBM annual meeting (December 1)
- FASEB issued an e-Action alert on tuition tax waivers and the tax legislation (December 5) In the first three days, the alert generated 22,451 messages from 7,150 individuals. They reached all 100 Senate offices and 414 House offices
- Yvette Seger served on a careers panel at the ASCB annual meeting (December 5)
- FASEB wrote a [letter to House and Senate conferees on tuition tax waiver](#) (December 12)

### Promoted training and sustainable careers

- FASEB submitted a response to the National Academies RFI on the [Next Generation Researchers Initiative](#) (October 3)
- FASEB submitted a response to the National Academies RFI on [Revitalizing Graduate Stem Education](#) (October 3)
- Yvette Seger gave a presentation at Penn State College of Medicine Graduate and Postdoctoral Career Day (October 21)

### Educated and engaged scientists, the public, and policy makers

- Bethany Drehman presented a webinar on the FASEB Benefits of Biomedical Research Slide Set (October 11)
- Tom Baldwin published a commentary on U.S. investment in science and education in [The Hill](#) (October 16)
- Nature published a commentary by Tom Baldwin, "[Stifled by budgets, not irrelevance](#)" (October 19)
- Jennifer Zeitzer gave a Congressional Management Foundation webinar on how



messages are processed in congressional offices (*November 9*)

- OPA announced the [2017 BioArt competition winners](#) (*December 12*). The announcement had over 50,000 views

## Expand the Community that FASEB Represents

### Educated scientists to become more effective advocates

- Yvette Seger, Jennifer Zeitzer, and Anne Deschamps presented a course on Science Policy for NYU graduate students and postdocs (*October 7-8 and 14-15*)
- Jennifer Zeitzer spoke at the Ad Hoc Group Professional Development Workshop on Constituent Advocacy (*October 6*)

## Provide Value for the FASEB Societies and Their Members

### Improved communication with member society leadership to promote participation

- Yvette Seger invited Laure Haak of ORCID to give a presentation to FASEB society staff on new technologies for managing membership and meeting submissions (*November 9*)
- Jennifer Zeitzer spoke at the Physiology Chairs meeting (*December 1*)

### Encouraged participation of individuals in FASEB and member society activities

- Jennifer Zeitzer and Ben Krinsky participated in ASN Hill Day Orientation webinar (*November 28*)
- Jennifer Zeitzer and Ben Krinsky provided support for AAI Capitol Hill Day (*December 6*)
- Anne Deschamps and Bethany Drehman provided support for ASN Capitol Hill Day (*December 6*)

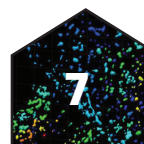
### Strengthen Effectiveness and Sustainability of the Federation

- Scott Simon spoke to the BMES Council about FASEB (*October 11*)
- Hud Freeze spoke to the SGB Council about FASEB (*November 5*)
- Tom Baldwin spoke about FASEB to the SfRBM Council (*December 2*)

### Developed new sources of revenue

- Libby Barksdale obtained a grant from HHMI to support the FASEB T-32 workshop (*December 11*)

### Connect with us!







# Histochemical Society

## Capstone Grants

The purpose of the Histochemical Society's Capstone Research Grant is to provide assistance to further the research projects of undergraduate students who propose to use immunohistochemistry or other histochemical techniques in their projects. We aim to encourage undergraduate students to effectively utilize

histochemistry as an analytical method for biological research. The Histochemical Society will award \$1000 to successful applicants. Recipients will be given approximately one year to perform the research. Grant recipients will be required to report their findings to the Histochemical Society Education Committee upon the completion of the project.

**Applicant Requirements:** Applicants must be undergraduates and current members of the Histochemical Society. Ideally, applicants will have conducted research previously and this award will be used to help the students to collect remaining data to prepare the project for publication or presentation.

**Evaluation:** Applications will be evaluated on the effective and necessary use of immunohistochemistry or other histochemical techniques toward completion of the project. Likelihood of successful completion of the project (based on availability of appropriate laboratory space, equipment and institutional support) and significance of the question being addressed will also be considered.

**Reporting:** Successful applicants should submit a summary of their project in the form of a scientific manuscript. This should be submitted within 2 months of the project's completion date.

**Timeline:**

March 1 to May 15: Application site open

May: Applications reviewed

June: Applicants notified; Funds disbursed

August of following year: Project completion

October of following year: Report submitted to the HCS Education Committee

**Acceptance of funding:**

The Histochemical Society will work with awardees and their institution to determine the best mechanism for delivering the funds. The HCS reserves the right to publish names and photographs of the awardees on the HCS website and other informational forums, including social media sites such as Facebook and Twitter. Funds will only be disbursed to HCS members in good standing

**Contact Information:**

Please contact Education Committee Chair, Scott Tanner ([smtanner@clermson.edu](mailto:smtanner@clermson.edu); 864-656-3826) or HCS Executive Director, Kendra LaDuca ([kladuca@faseb.org](mailto:kladuca@faseb.org)) regarding any questions. [Click here to begin your application.](#)



# HCS/EB2018 Annual Meeting

**Saturday, April 21st to Wednesday, April 25th, 2018**

San Diego, CA, USA



**HCS PRELIMINARY MEETING PROGRAM**    Monday, April 23rd, 2018

## **HCS/ASIP Symposium: Imaging Biometals in Disease** (8:30-10:30 am)

**Symposium Chair: Margarida Barroso, Ph.D.**

**8:30 – 9:10 am:** Three-dimensional Primary Enteroids as an Experimental System to Study Copper Homeostasis in Intestine Svetlana Lutsenko, *Johns Hopkins University*

**9:10 – 9:50 am:** Moving Metals, Marianne Wessling-Resnick, *Harvard T.H. Chan School of Public Health*

**9:50 – 10:30 am:** Heme Trafficking from the Ground-up, Iqbal Hamza, *University of Maryland*

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## **Journal of Histochemistry & Cytochemistry Lecture** (10:30-11:30 am)

**Symposium Chair: Stephen M. Hewitt MD, Ph.D**

**10:30 – 11:30 am:** Targeting FcRn to modulate IgG dynamics E. Sally Ward, *Texas A&M Health Science Center*

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## **HCS/AAA Workshop: Specimen Quality Drives Reproducibility** (2:00-3:30 pm)

**Workshop Chair: Douglas L. Rosene, Ph.D.**

**2:00 pm:** Long-term Cryopreservation and Batch Processing for Quantitative Histochemistry, Douglas L. Rosene, Ph.D., *Boston University School of Medicine*

**2:30 pm:** Tissue Preservation, Matching Mechanism to Utility, Stephen M. Hewitt, M.D., Ph.D., *National Cancer Institute*

**3:00 pm:** The Biophysics of Freezing Tissue, Allison Hubbel, Ph.D., *University of Minnesota*

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**HistoChemicalSociety.org**





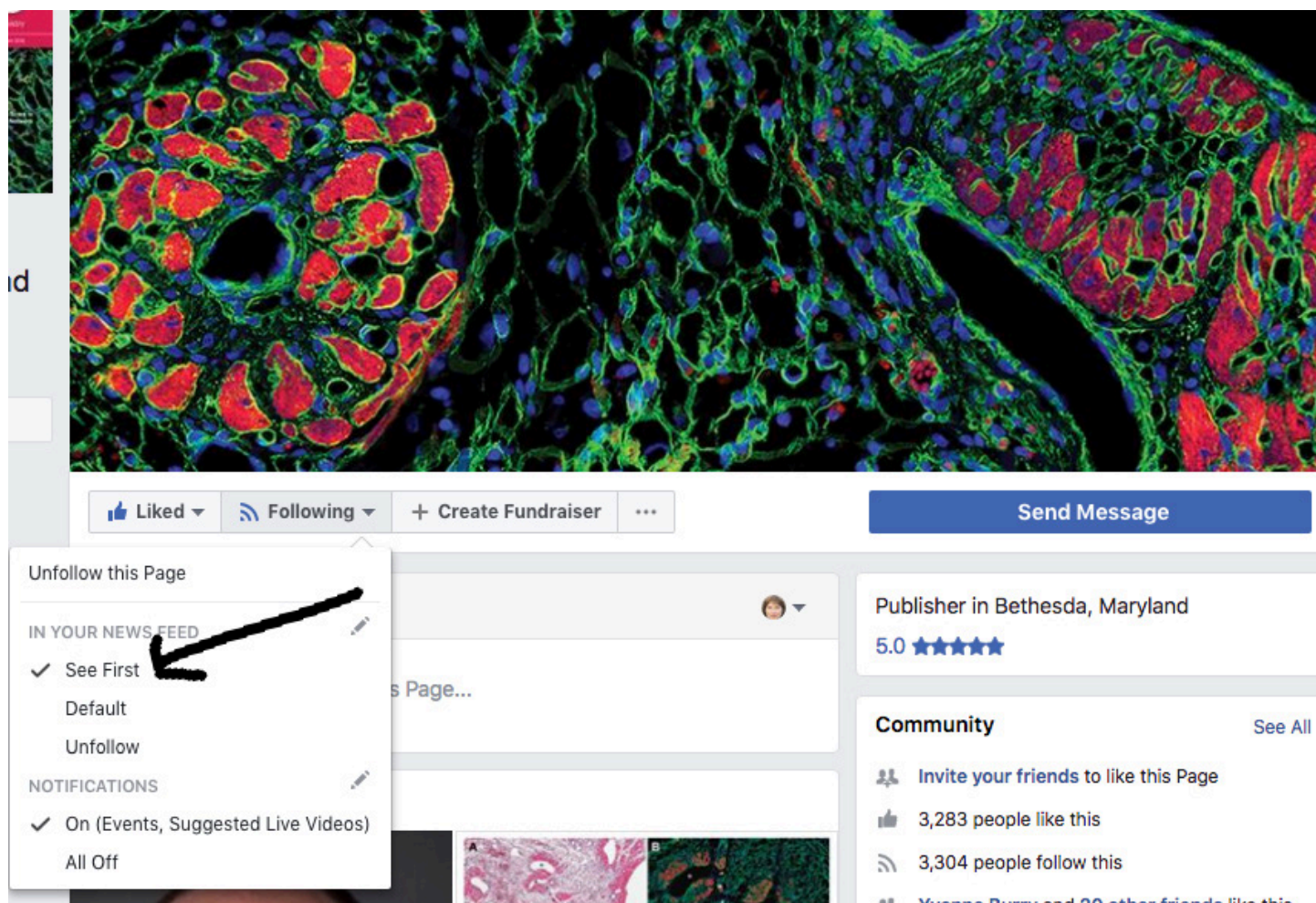
## Are You Missing HCS and JHC Facebook Posts?

Solve that problem by using the Facebook feature called '**See First**'. When you select '**See First**' the posts from that page (HCS and "JHC") will appear at the top of your News Feed.

Here's How It Works:

1. Sign on to your Facebook Page
2. Go to:  
<https://www.facebook.com/jhc.org/> - for the 'JHC' page  
or  
<https://www.facebook.com/histochem/> - for the HCS page

Mouse over the Following sign at the top of each page. From the drop down list, select – '**See First**'







## Share Your Good News and Cool Images on the HCS Facebook Page!

HCS members are invited to share their images as well as announcements about grants, publication, presentations and other events they would like to share. Here are couple of great examples of posts that were recently shared by HCS members.

This first one was shared for Valentines Day by MaRyka Smith.

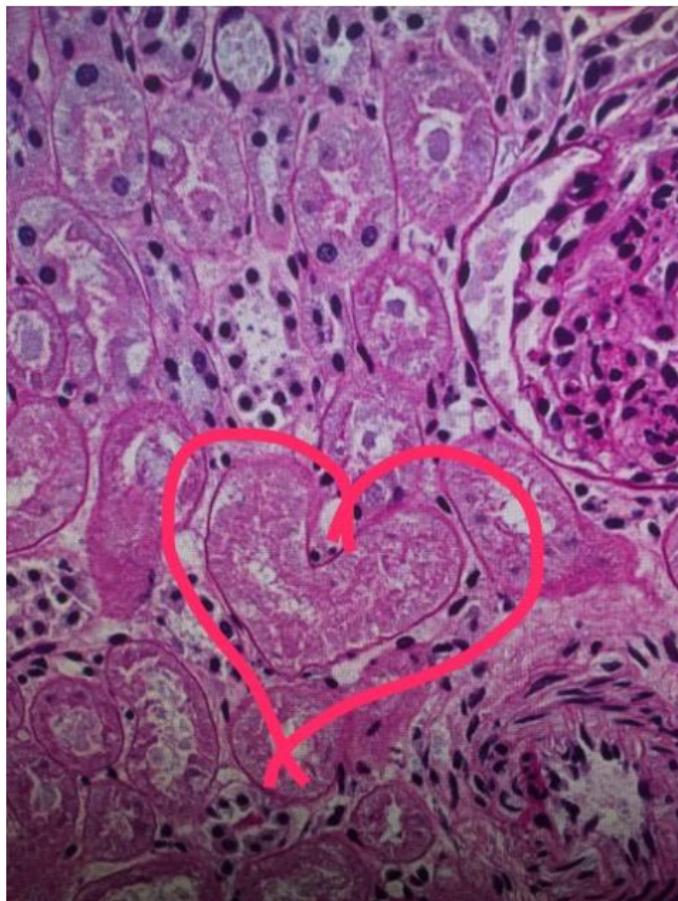
Happy Valentines Day!

Valentines Day Greetings from The Histochemical Society!

Heart shaped image of a kidney tubule is courtesy of MaRyka Smith.

MaRyka is Trans boundary Animal Disease Fellow (2017-2018) at Kansas State University, where she also works as a Laboratory of Investigative Pathology Research Assistant.

MaRyka is a member of The Histochemical Society and volunteers on the Communication Committee.



The second was provided by Ernie Blevins and celebrates receiving funding from both the NIH and the Dept. of Veterans Affairs.



**The Histochemical Society**

Published by Kathy Stahl [?] · Yesterday at 4:36am · 🌐

**Congratulations to Ernie Blevins-**

James E. Blevins, Ph.D. has recently received funding from the NIH and Dept. of Veterans Affairs for research projects related to obesity and weight loss. Ernie is a Research Associate Professor at the University of Washington School of Medicine and a staff scientist at the VA Medical Center in Seattle.

Ernie is a member of The Histochemical Society and received the Outstanding Young Investigator Award from HCS in 2009.

The obesity epidemic and its associated complications have become major health concerns. Data from the Blevins Lab suggest that oxytocin (OT) may elicit weight loss by activating brown fat to increase energy expenditure. They will test if activation of brown fat is required for OT to evoke weight loss.

They will also investigate whether reducing OT signaling in a central nervous system site that controls brown fat contributes to leptin resistance, obesity and the anti-obesity effects of chronic systemic OT.

Ernie is pictured below with his wife, Teri, on one of their hikes in the beautiful Pacific Northwest.



If you have an announcement or image you would like to share with HCS, and other members of the scientific community, please send both the text and image to: [wlstahl@uw.edu](mailto:wlstahl@uw.edu)



# Meet the Editor-in-Chief

## *Journal of Histochemistry & Cytochemistry*

### at EB 2018 in San Diego

Join us at the Histochemical Society Booth #320 for an opportunity to speak one-on-one with the Editor-in-Chief of *JHC*.



Stephen Hewitt, M.D., Ph.D.

Sunday, April 22<sup>nd</sup>, 12 – 1 pm

Tuesday, April 24<sup>th</sup>, 12 – 1 pm

Stephen M. Hewitt, M.D., Ph.D. is a Clinical Investigator within the Laboratory of Pathology, National Cancer Institute and serves as head of the Experimental Pathology Laboratory. Stephen received his BA from the Johns Hopkins University, and his MD and PhD degrees from the University of Texas Health Science Center, Houston. He completed his residency in Anatomic Pathology at the NCI. Dr. Hewitt is Editor-in-Chief of the *Journal of Histochemistry & Cytochemistry*. Dr Hewitt has co-authored over 250 articles and serves on the editorial board of four peer-reviewed journals.

