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A Letter From the President



Dear Members of HCS,

Our annual meeting in Hawaii is approaching, now is the time to plan your attendance! My coorganizer, Toyoshi Fujimoto of The Japan Society of Histochemistry and Cytochemistry, and I have put together a program appealing to a broad range of interests. The meeting is scheduled for late August on the Big Island of Hawaii at the Marriott Resort located north of Kona. The hotel rate is particularly attractive and the registration fee for the meeting includes several meals.

Please consider what a great opportunity this is visiting with colleagues, participating in the scientific program and taking some extra time to enjoy a few days of vacation with friends and family. The University of Hawaii has extended a unique opportunity to us by adding an optional tour of Hawaii Volcanoes National Park to our meeting. The tour will be

on Wednesday, August 23rd and includes a geologist guiding us through the area. The joint meeting begins on Wednesday evening with a reception on the grounds of the Hotel.

The science focuses on live cell imaging, and the detailed schedule for the meeting can be found in this issue of the Newsletter and on the meeting webpage at: www. histochemistry2006.org

Remember, the deadline for registration at the lowest rate for the meeting is May 22, 2006 and the deadline for submission of abstracts is May 8, 2006. Several travel awards to support student attendance at the meeting are available and you should encourage your students to apply. The deadline for those applications is April 10, 2006.

The organizers and staff of the Business Office continue the task of raising funds to help support the meeting. Your suggestions about commercial support are always welcome; these funds help to defray the overall cost of the meeting for our societies and allow us to expand the travel award grants for students.

I look forward to seeing you in Hawaii.

Aloha!

Joe Mazurkiewicz

President



Visit The HCS Web Site at: www.histohemicalsociety.org

On-line HCS Directory and Abstracts of past meetings

The HCS membership directory is available at the Society's webpage (www.histochemicalsociety.org). To access the PDF with the directory, go to the webpage and then to "Society Membership" and "Members Only!" on the left navigation bar. You will need your login and membership number to access this part of the HCS website. In addition files with abstracts from several of our recent meetings can be found at this site.

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A Letter From the Executive Director

Dear Members of The Society,

A number of important changes have occurred in the past year for the Society.

First, Kevin Roth has been selected as the new Editor-in-Chief of the *Journal of Histochemistry and Cytochemistry*. Kevin brings enthusiasm and new ideas to his role as Editor. We welcome him and wish him well. Denis Baskin retired after ten years of leadership as Editor-in-Chief. Denis has done an excellent job and leaves behind a legacy of development, a high level of quality in its publication and continued growth for the Journal. A gradual transfer of duties to Kevin occurred during 2005 and the January 2006 issue

of the Journal was Kevin's first full issue as Editor. Denis will continue as Executive Editor and will help with issues related to the publication of the Journal.

"I am enthusiastic about the new direction that Council has taken for future meetings."

Although the editorial office will move to Kevin's office in Birmingham, the Publications Office will stay in Seattle. The Journal will continue to publish as both print and on-line editions for the foreseeable future. Open access issues are bringing dramatic changes to the scientific publishing community that will be a challenge for the Society. The Journal continues to maintain a strong position in its field and is in excellent financial condition. However, we continue to plan for the future changes that are developing for scientific journals.

The Society remains financially secure due to resources provided by the Journal and investments. We have an excellent staff in the Journal Publications Office and the Society Business Office where we share space and at times responsibilities that cross between both activities.

Many of you have been proponents of a more stable, continuing relationship with one or more of the FASEB societies at the Experimental Biology meetings. Council has recently agreed that meeting with a FASEB society shall become our routine plan for annual meetings. One of our most successful meetings was with the American Association of Anatomists (AAA) at Experimental Biology 2003. AAA leaders were enthusiastic about our involvement at that meeting and they have invited us to participate at future meetings. With that success in mind we will meet with the investigative pathologists (ASIP) in 2007, with the biochemists/molecular biologists (ASBMB) in 2008 and again with the AAA in 2009. Relationships

> with FASEB societies should raise the profile of the Society and should help to maintain an active cadre of members who attend our sessions at the Experimental Biology

meetings. We will strive to maintain our identity at these meetings. We hope that you and your students will attend HCS symposia, workshops, poster sessions and social functions at the Experimental Biology meetings.

I am enthusiastic about the new direction that Council has taken for future meetings. The leadership of the Society has perceived that being a part of Experimental Biology will provide a more convenient avenue for our members and their students to join us for HCS events and symposia. The Society will continue to offer student travel awards as well as the Ralph D. Lillie Award, the Vector Laboratories Young Investigator Award (sponsored by Vector Labs.) and the HCS **Outstanding Young Investigator** Award. Other awards include the Anna Mary Carpenter-Ellen M. Rasch Award for outstanding service to the



Society. The George Gomori Award recognizes outstanding contributions to the field of Histochemistry and Cytochemistry and will be awarded in 2007.

Another new initiative developed by Council is a Legacy Program which will fund a high profile, endowed lectureship at the Experimental Biology meetings. Council proposes that the lectureship will be an endowment from donations and bequests of our members and a committee is now working on the details for such a lectureship. Until full endowment is reached, Council

will fund the lectureship from Society resources.

This year we will meet with our Japanese colleagues of the Japan Society of Histochemistry and Cytochemistry on the Big Island of Hawaii. This should be a great meeting and I encourage you to attend. The Marriott Waikoloa Resort is well suited for our meeting with new convention facilities and one of the best beaches on the Big Island. The guest room rates are excellent and the registration for the meeting includes seven meals, making the overall package a very good buy in Hawaii. It will be a

great opportunity for combining a meeting with a family vacation.

Finally, it continues to be important to identify potential members for the Society. Governance and direction for the Society resides with Council and we seek your help to identify potential Councilors within the ranks of the membership.

Your ideas and comments about Society and Journal activities are always welcome.

William L. Stahl
Executive Director



Joint with the Japan Society of Histochemistry and Cytochemistry August 23-27, 2006, Waikoloa, The Big Island of Hawaii www.histochemistry2006.org

Joint with the American Society for Investigative Pathology at Experimental Biology 2007 April 28-May 2, 2007 Washington, D.C.

Joint with the American Society for Biochemistry and Molecular Biology at Experimental Biology 2008 April 5-9, 2008 San Diego, CA

Joint with the American Association of Anatomists at Experimental Biology 2009
April 18-22, 2009
New Orleans, LA

Call for Nominations

Nominations for the positions of President-Elect-Designate (President of HCS for 2009 meeting), Secretary-Treasurer and Councilors (four years term) should be sent **by April 20**, **2006** to the Executive Director by email (wistahlow u.washington.edu). Nominations will be reviewed by the Nominating Committee. The President-Elect-Designate shall have served on Council for at least one year prior to the start of his/her term. Councilors shall have held membership in the Society for at least two consecutive years prior to the start of their terms.



Joint Congress of the HCS and the JSHC August 23-26, 2006

Held under the auspices of the

International Federation of Societies for Histochemistry and Cytochemistry

Preliminary Program

Tuesday, August 22nd

Various times. Arrival at Marriott Waikoloa Resort Hotel for those going on optional excursion to

Hawai'i Volcanoes National Park

Wednesday, August 23rd

8:00 AM (approx.) Departure for optional Volcanoes tour

1:30 PM-7:00 PM Attendees of joint meeting arrive at the Marriott Waikoloa Resort Hotel.

Registration

2:00 PM-7:00 PM Poster Session 1 Setup

6:00 PM-8:00 PM Opening Reception

Thursday, August 24th

7:00 AM-8:00 AM Continental Breakfast provided

7:00 AM-5:00 PM Registration

8:00 AM-9:00 AM **Keynote Lecture:**

Jennifer Lippincott-Schwartz,

Insights into cell compartmentalization and protein trafficking using GFP

technology

9:00 AM-9:50 AM Plenary Lecture:

Tobias Meyer,

Application of live-cell fluorescent biosensors in studies of the control of

specificity of signal transduction processes

9:50 AM-12 NOON Symposium 1

Imaging of protein trafficking and signal transduction pathways in living

cells

10:00 AM-10:15 AM Beverage Break

12:00 PM-12:45PM Lunch provided

12:00 PM-1:00 PM The JSHC Business Meeting

12:30 PM-2:00 PM Poster Session 1 2:00 PM-5:00 PM **Workshop 1**

Laser Capture Microdissection

Workshop 2

New Microscopies

3:30 PM-3:45 PM PM Refreshments

5:30 PM-6:30 PM The HCS Young Investigator Award Lecture

6:30 PM-8:00 PM The Journal of Histochemistry and Cytochemistry Meeting: meet the new

editor of JHC (open meeting)

8 PM Dinner on your own

Friday, August 25th

7:00 AM-8:00 AM Continental Breakfast provided



8:00 AM-5:00 PM Registration

8:00 AM Deadline for Poster Session 1 Take Down

8:00 AM-8:50 AM Plenary Lecture:

Yoshinori Ohsumi,

Molecular mechanism of autophagy

8:50 AM-12 NOON Symposium 2

Intracellular signal transduction - analysis of potential

surrogate markers for its inhibitors

11:00AM-7:00 PM **Poster Session 2 Setup** 12:00 PM-12:45 PM**The JSHC Award Lecture**

12:30 PM-1:30 PM Lunch on your own. 1:30 PM Free afternoon

6:00 PM-7:00 PM The HCS Business Meeting

7:00 PM-9:30 PM Dessert Social and Evening Workshop 3

Image Acquisition and Publishing

Saturday, August 26th

7:00 AM-8:00 AM Continental Breakfast provided

8:00 AM-5:00 PM Registration

8:00 AM-8:50 AM Journal of Histochemistry and Cytochemistry Plenary Lecture:

Eugene M. Johnson,

GFL Neurotropic factors: discovery, function and therapeutic potential

8:50 AM-12:00 PM **Symposium 3**

Molecular regulation of neurodegeneration

12:00 PM-12:45 PM Lunch provided 12:30 PM-2:00 PM Poster Session 2

2:00 PM-5:00 PM Workshop 4

Advancing in situ hybridization to visualize molecular events

Workshop 5

Quantitation in Microscopy and Imaging

3:30 PM-3:45 PM PM Refreshments.

6:00 PM Deadline for Poster Session 2 Take Down

7:00 PM-8:00 PM Closing Reception

8:00 PM Banquet

Sunday, August 27th

Departure

Joe Mazurkiewicz and Toyoshi Fujimoto enjoy the scenery on the Big Island during a planning visit for the joint meeting.





Member in the Spotlight

Ellen Rasch



The spotlight for this issue of the *Newsletter* focuses on Ellen M. Rasch, a pioneering member of the Histochemical Society. She has been a member of the Society since 1952. How many old-timers can look back on 53 years of service to our Society and still continue a life of productive research up to the present? Let's take a look at this enthusiastic scientist whose career centered from the start on the quantitative behavior of DNA in cells and retains this theme even now.

Ellen Rasch was born in Chicago Heights, Illinois in 1927 and spent more than 25 years in the Chicago area getting a public school education, her college degrees, and doing research. She went next to nearby Marquette University in Milwaukee, where she was a distinguished faculty member before taking a position at

East Tennessee State University College of Medicine.

Plant cytology has always been a favored research field for her. Nowadays, any organism in either kingdom with anomalous DNA behavior is fair game for her quantitative cytochemical probing. She earned her B.S. in 1947 from the Division of Biological Sciences at the University of Chicago. Her M.S. and Ph.D. degrees were obtained in 1948 and 1950 from the Department of Botany at the same university. Her graduate supervising professor was James M. Beal.

Transferring to the Department

of Zoology at the University of Chicago in 1951, Dr. Rasch worked under a twoyear USPHS postdoctoral

"Her work did much to bolster the concept of "DNA constancy" in diverse cell systems."

fellowship from the NCI directed by Hewson Swift. She continued as a Research Associate with Dr. Swift from 1952 to 1959. This mentorship under such a remarkable scientist produced a slew of major book chapters, reviews and research papers in the field of analytical cytochemistry.

In 1962, Ellen Rasch joined the biology faculty at Marquette. Here, she developed a research program and had a distinguished career that included holding the endowed Chair of Biophysics. In 1978, she moved to the new College of Medicine in Johnson City, TN. She became a Research Professor in the Department of Cellular Biophysics; this was a family move, as her M.D.-Ph.D.

husband, Robert Rasch, became Chairman of the Department of Physiology there. When the Cellular Biophysics Department became a part of the Department of Anatomy and Cell Biology, she was named Research Professor.

In the epoch of genomics, it is fitting to reflect on the recent fiftieth anniversary of the discovery of the structure of DNA. We also celebrate more than 50 years of scientific contributions from Ellen Rasch, whose studies helped to set the groundwork for genomics. Experts would probably agree that Dr. Ellen Rasch has been among the top cytochemical researchers worldwide who are examining DNA

levels and genome sizes with respect to evolution, embryogenesis, and meiosis. To understand the significance of her current investigations on genomic restructuring

during development and differentiation, we need to recognize that early in her career she took the technique of Feulgen cytophotometry, improved it, and ran with it to measure the DNA content of a whopping number of organisms. Her work did much to bolster the concept of "DNA constancy" in diverse cell systems.

Dr. Rasch is remembered for her work on the Feulgen reaction and for her important technique using cellular reference standards to determine genome size in terms of the absolute amounts of DNA per nucleus. Her 1971 paper disclosed the first accurate haploid genome size of *Drosophila melanogaster* which was confirmed by others 30 years later



by DNA sequence analysis.

In recent years the exceptions to the concept of DNA constancy have been scrutinized by Dr. Rasch. She attacked some ageold problems of atypical chromatin changes recognized, but not understood, by the cytology masters of a century ago. These interesting deviations in DNA amounts are associated with the

For short,

she could be called

"Dr. Quantitative DNA"

phenomena of chromatin diminution, repetitive DNA, endopolyploidy, and

endoduplication

that occur during speciation, development, and meiosis. The information gained illuminates our understanding of chromosome organization and behavior. These studies centered on changing DNA ploidy levels of certain tissues in Drosophila during development, DNA puffs in Sciara, chromosome replication in Drosophila, DNA levels in abnormal sperm from endangered species of great cats, genomic DNA sizes in bryophytes and the protozoan Giardia, and phenomena of chromatin diminution in spiders.

Her most recent investigations, done in concert with Grace Wyngaard, concern the genome size in copepods, which exhibit a regulated loss of DNA during embryogenesis. They found that endoreduplication occurred prior to chromatin diminution during early stages of development. One of Dr. Rasch's current papers in press deals with small RNAs that mark the position of heterochromatin formation. This work reflects her vision in correlating inactive chromatin DNA with the current

interest in small RNAs.

The work of Dr. Rasch with Joseph Balsano on the "Amazon molly" fishes from Texas and Mexico is a fascinating example of how an unresolved genetic problem in speciation was solved by quantitative DNA analyses. Briefly, it was known that this species of unisexual females reproduce by gynogenesis, a process by

which sperm from another species initiates embryogenesis. The sperm pronucleus is discarded by the diploid egg before fertilization can occur,

so that progeny are genetic diploid duplicates of their mothers. In one river system, molly populations exhibit much more variable morphology. Dr. Rasch measured the nuclear DNA content of the aberrant types and compared them with normal examples. She found to everyone's surprise that the abnormals were triploid, the first documented case of triploidy in fishes. Apparently, the "host" or egg pronucleus "captures a sperm" to produce a triploid progeny. Her DNA measurements demonstrated a whole new class of reproductive dynamics in vertebrates that was not suspected by standard morphological criteria. This discovery uncovered by Dr. Rasch caused a whole generation of workers in fish reproductive biology and speciation to rethink their previous ideas and recognize that tetraploid ancestry occurs in some fish groups. DNA measurements became an essential tool in fish genetics.

Dr. Rasch has published more than 100 papers on the quantitative behavior of DNA in diverse cell systems. For short, she could probably be called "Dr. Quantitative DNA" or "Dr. Quantitative Nucleic Acids" or "Dr. Quantitative Nucleoproteins." Take your pick!

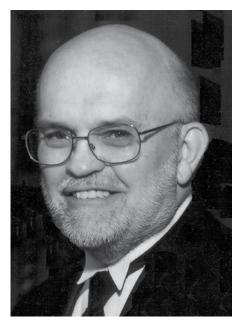
Officially retired in 2004, Dr. Rasch continues to work daily in her research laboratory. She collaborates with researchers at neighboring colleges, is an active supporter of seminars, encourages students to do research, is recognized as an active scholar, and is a Distinguished Faculty Awardee.

Younger members of the Histochemical Society may not realize that Dr. Rasch has supported the Society for many years with her attendance and participation at annual meetings. She was present at the Society's first meeting in 1951. After becoming a member the following year, she continued to attend sessions and present papers. She was a Council member (1968-1972), Secretary (1972-1979), member of Council and Program Chairman (1979-1984), and Treasurer (1985-1986). In 2002, Dr. Rasch and Dr. Anna-Mary Carpenter were given the first Award for Outstanding Service by the Histochemical Society. The award now carries their names. As part of her effort to gain new, younger members to the Society, she played a major part in establishing the R.D. Lillie Prize awarded to a student participant at each annual meeting. No individual can top Dr. Rasch in research contributions and long-term lovalty to the Histochemical Society.

Fred Kasten
Department of Anatomy and Cell
Biology
East Tennessee State University



Stanley L. Erlandsen (1941-2005)



Regretfully, we report the death of a great supporter of the Histochemical Society and a good friend to many Histochemical Society members. On Monday, December 5th, Stan Erlandsen passed away peacefully after suffering a cerebral hemorrhage.

Stan was a Councilor of the Histochemical Society and served as President in 1987. His presidency shepherded the transition of the Histochemical Society to self-publishing, a watershed event that ensured the continued prominence and financial stability of the Journal of Histochemistry and Cytochemistry. Stan served on the Editorial Board for 25 years, most recently as an Associate Editor. He contributed unselfishly of his time, energy, and leadership skills to the activities of the Histochemical Society and JHC, contributing many papers to JHC and organizing numerous

workshops and symposia over the years. He was well known and respected internationally for his seminal research on *Giardia* cell biology and was a frequent invited speaker. Stan was also active in the Microscopy Society of America and served as MSA president in 2002.

A native of Chicago, Stan attended Dana College in Nebraska as an undergraduate and received his Ph.D. in Anatomy/Cell Biology at the University of Minnesota in 1967. After a postdoctoral fellowship in the Department of Biological Structure, Stan returned to the Department of Anatomy at the University of Minnesota where he rose to the rank of Professor of Cell Biology and Neuroanatomy and more recently served as Professor in the Department of Genetics, Cell Biology, and Development. At the University of Minnesota, Stan was a popular teacher and graduate student mentor. He was director of the departmental electron microscope facility for many years. He had a love for microscopy in all forms, especially high resolution imaging modalities. This passion can be seen in the beautiful micrographs and images that he included in his many publications. In addition to his seminal work on the intestinal parasite Giardia, he contributed to the use and application of high-resolution field emission SEM as well as the application of cryo-methods for preserving and detection of cell adhesion molecules on cell surfaces.

Stan's first paper, published in the Anatomical Record in 1967 with Arnold Lazarow - a distinguished diabetes researcher - described the effects of beef insulin on

pancreatic beta cells in fetal rats. After several papers on diabetic pancreases, he began a lifelong interest in intestinal physiology and microbiology. In 1974 Stan began a long collaboration with Jonathan Parsons that extended him into the endocrinology arena with studies on pituitary gland hormones. It was in the mid-1970's that together they began using immunocytochemistry as an analytical approach for studying endocrine and intestinal secretion, and together they made important contributions to immunocytochemical methodology. Stan's bibliography reflects his eclectic interests. The papers on immunocytochemistry of prolactin cells are accompanied by those on Giardia ribosomal RNA, on Giardia in beavers and ibises, on enterocyte cell junctions, on cell adhesion molecules of leukocytes, on backscatter electron detection of platelet surface molecules. and fluorochrome techniques for FISH and immunocytochemistry, to mention just a few. In recent years, Stan published a series of outstanding papers on microbial structure and surfaces with his wife, Carol Wells, a Professor of Laboratory Medicine and Pathology at the University of Minnesota. His bibliography lists over 200 published papers and monographs. Of these 25 were published in the Journal of Histochemistry and Cytochemistry.

Stan was a great friend and colleague, and I owe him a great debt of gratitude for the role he played in my own career. A man of diverse interests and endless energy, Stan was always the life

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Stanley L. Erlandsen cont...

of the party and had an infective sense of humor. Those who worked with him will recall the ceaseless laughter and jokes (some were very good!), the clutter of his office (although he knew where to locate everything), and the cartoons plastered all over his lab. Stan loved outdoor sports, especially skiing, golf, and fishing. He was a fierce competitor and tough to beat on the tennis court (this I know from personal experience); but somehow, losing to Stan was always fun. A quick mind and intellect, always ready with challenging questions and

new ideas, fair and kind, giving of his time and resources, these are but a few of the traits that endeared Stan to his friends. students, associates, and family.

To honor his service and contributions to the Histochemical Society and JHC, the Histochemical Society has established the Stan Erlandsen Travel Award for a student to present a poster at the annual meeting of the Society.

Denis Baskin

Hawai'i Joint Meeting Deadlines

Awards: April 10, 2006 Abstracts: May 8, 2006

Early Meeting Registration (lowest rate): May 22, 2006

Hotel Reservations: May 22, 2006 Meeting website: www.hisochemistry2006.org

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