

Winter 2003 - 2004

An Official Publication of The Histochemical Society

A Letter From the President



Greetings and best wishes to all HCS members and friends. I hope 2004 brings success and fulfillment. As the New Year begins, we are putting the final touches to the program for the 12th International Congress of Histochemistry & Cytochemistry. The Congress is held under the auspices of the International Federation of Societies for Histochemistry & Cytochemistry and on behalf of the Histochemical Society, I can say that it is with great pleasure that we serve as hosts. The meeting is to be held on the campus of the University of California at San Diego from July 24-28, and I hope you will agree that the science promises to be of the highest quality. We have workshops, plenary lecturers, symposia, poster sessions and time for informal gatherings. The details can be found elsewhere in the newsletter, and on the website www.ichc2004.org The tenor of the meeting will be set by **Dr. Roger** Tsien (UCSD) with an opening keynote lecture entitled "*Breeding* Molecules to Spy on Cells". This is scheduled for the afternoon of July 24, 2004. Many of you will know

of Dr. Tsien's numerous outstanding contributions to the field, and we look forward to hearing the latest developments. He will be the recipient of the 2004 David Glick Award at our Congress. In total we have wide-ranging science brought together under the umbrella of the latest developments in visualizing cells, their interactions and metabolic pathways.

The meeting promises to have something for everyone, and I would strongly encourage all our members to make plans to be there. The time to register, arrange accommodation and submit abstracts is now. All of these can be easily accomplished on-line using the ichc2004 website. One of the real bonuses of our meetings is their informality and the opportunities for students to meet and present their work. There are a number of opportunities for students from HCS members' laboratories to obtain financial support to attend ICHC 2004. As long as students are presenting a poster they are eligible

Inside This Issue:

Call for Nominations Call for Awards Leonard Kaplow ICHC2004 Plenary Speakers ICHC2004 Preliminary Program ICHC2004 Preliminary Schedule Knowledge Base On-Line JHC Web Page for Vector or Lillie awards, or from a special allocation of travel awards made available by the Histochemical Society. Abstracts entered for consideration of an award should be sent to Dr. Ray Papka **rpapka@neoucom.edu** by January 14, 2004, so that judging can be completed in good time. Details can be found on the ichc2004 website under "awards info".

Pride of place among the social events will be the Banquet, to be held at the Birch Aquarium of Scripps Institute of Oceanography in the evening of July 27. This is a wonderful venue, the exhibits and the backdrop of the Pacific ocean providing a perfect place to meet friends and colleagues. Please make a point of including this in your registration; at \$35 per person it represents great value.

We are confident that ICHC 2004 will be a success, and an event not to miss, held in the wonderful *continued on page 2*

2

2

3

4

6

7

8

8



www.histochemicalsociety.org

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Executive Director STAHL, William L. E-mail: <u>wlstahl@u.washington.edu</u> ambience of UCSD and Southern California. Please join the session organizers, speakers, members of the International Federation of Societies for Histochemistry and Cytochemistry, exhibitors and me in San Diego. I look forward to welcoming you on July 24. With my best wishes,

John Couchman President

Call For Nominations Officers and Councilor

Nominations for President-Elect-Designate and Councilor are now being accepted. Nominations may be made by any Society member. Nominees for President-Elect-Designate (President 2007) must have at least one year's service on the Council prior to the start of his/her term. Councilors shall have held regular membership in the Society for at least two consecutive years prior tot he start of their term. The individual making the nomination must secure permission of the nominee. Nominations should be made in writing and include a brief biographical sketch of the nominee. Nominators should contact Past-President Elizabeth Unger eru0@cdc.gov for more details.

The Histochemical Society Awards

Several awards will be presented at the 55th Annual meeting of the Histochemical Society, held jointly with the International Congress of Histochemistry and Cytochemistry 2004 (ICHC2004).

Please go to the Histochemical Society webpage:

www.histochemicalsociety.org for information and instructions on how to apply for the awards described below.

The Ralph D. Lille Award

This award consists of a certificate,

a \$200 cash prize and a travel award to support attendance at the annual meeting of the Society. It is given each year to an applicant who submits an outstanding oral poster presentation for inclusion in the annual meeting program. The applicant must be a doctoral student or a first year postdoctoral fellow (i.e. within one year of having received the doctoral degree at the time of the annual meeting) and be the senior (or sole) author of an abstract selected for presentation. Membership in the Society is encouraged but not required.

The Vector Laboratories Young Investigator Award

To be eligible for this award applicants should be either junior faculty members or postdoctoral fellows within three years of their thesis earned doctorate at the time of the annual meeting of the Society. Applicants must submit an abstract accepted for presentation at the annual meeting of which he/she is the senior (or sole) author. Membership in the Society is encouraged but not required. This award consists of a certificate and a \$500 cash prize to defray travel expenses to the annual meeting.

Travel Awards For Students And Post Doctoral Fellows

Up to ten (10) awards, each for \$500, will be given to young histochemists in training to attend the annual meeting of the Society. Students who are working toward a doctoral degree and students in postdoctoral fellowships are eligible to apply. The application process involves submitting an abstract for presentation at the annual meeting (poster or platform), and a cover letter from the student's mentor verifying that the applicant is a histochemist in training. Young histochemists are encouraged to apply and higher priority will be given to applicants

from North American and to those whose mentors are members of the Society.

The following awards may be presented.

HCS Outstanding Young Investigator Award

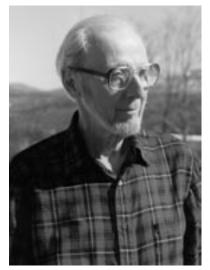
(Nominations accepted every year for presentation at annual meeting.) The HCS Council solicits nominations for this award to be presented at an annual meeting. A cash award in the amount of \$1,000 will be given to a junior investigator (e.g. instructor, assistant professor, or early in associate professor rank) who demonstrates exceptional potential as a histochemist. The Awardee will submit an abstract and give a platform presentation highlighting his/her contributions involving histochemistry. This award may not be presented annually, but rather when the Awards Committee and Council determine that a meritorious recipient has been identified.

The Anna-Mary Carpenter -Ellen M. Rasch Award

(Nominations accepted every year for presentation at annual meeting.) This award recognizes the outstanding efforts and contributions by Drs. Anna-Mary Carpenter and Ellen M. Rasch, and to recognize individuals who have made outstanding contributions and service to the Society. The award may not be presented annually, but rather when the Awards Committee and Council determine that a meritorious recipient has been identified. Nominations are accepted annually at a time designated by the Society. Eligible members include those who have made significant contributions to the Society and to the scientific community. Nominations must include a curriculum vitae or biographical sketch of the nominee,

and a nominating letter describing the contributions or service of the nominee in the field of histochemistry and cytochemistry and/or the Society. The award consists of a cash prize of \$1000; an award plaque; and reimbursement for reasonable travel expenses and registration at the annual meeting.

Leonard Kaplow, M.D.



It is with sadness that we report on the death of **Leonard Kaplow**, **M.D**. Dr. Kaplow of Bradford, VT, passed away June 5, 2003, at the Veterans Affairs Medical Center in White River Junction. He was considered by many to be Mr. Myeloperoxidase for his early work on the cytochemistry of blood cells.

Leonard Kaplow was born in New York City on February 11, 1920 and received his B.S from Rutgers College in 1942, and enlisted in the US Army. He subsequently received his commission through the Officer Candidate School, serving as a Chemical Officer, and was later reassigned to the Medical Department. He was serving as Laboratory Officer on board the Hospital Ship USS Comfort when a Kamikaze plane attacked the ship off the coast of Okinawa. He was awarded the Purple Heart and retired from the Army and earned

his M.D. in 1959.

Dr. Kaplow had a distinguished career in pathology, beginning with a residency at Georgetown University in clinical and anatomic pathology: he completed the residency at the Medical College of Virginia in Richmond, where he became an Assistant Professor of Pathology. In 1964 he became affiliated with Yale University and the Veterans Administration Hospital in West Haven, CT, where he became the Chief of Laboratory Service and, in 1975, Professor of Pathology and Laboratory Medicine at Yale. He published over 100 scientific articles, in journals ranging from *The Journal* of Histochemistry and Cytochemistry to *Nature*, book chapters, monographs and abstracts. Subjects ranged from measurement of myeloperoxidase activity to the use of commercial hair sprays as cytological fixatives. He was a Past President (1985) of the Histochemical Society, and had served as a Guest Editor for The Journal of Histochemistry and Cytochemistry and was a member of The Histochemical Society and the Royal Microscopical Society.

After retiring Dr Kaplow was active in many community affairs. He was an avid tennis player, gardener, and photographer whose photos appeared in Vermont Life as well as the covers of medical journals.



ICHC2004 PLENARY SPEAKERS



Roger Y. Tsien, recipient of the **David Glick Award** at the ICHC2004 meeting in San Diego will present the keynote lecture entitled "**Breeding Molecules to Spy on Cells**". He is an Investigator of the Howard Hughes Medical Institute and Professor in the Depts. of Pharmacology and of Chemistry and Biochemistry at the University of California, San Diego.

His research has been at the interfaces between organic chemistry, cell biology, and neurobiology, starting long before such interdisciplinary efforts became fashionable. He is best known for designing and building molecules that either report or perturb signal transduction inside living cells. These molecules, created by organic synthesis or by engineering naturally fluorescent proteins, have enabled many laboratories including his to gain new insights into signaling via calcium, sodium, pH, cyclic nucleotides, nitric oxide, inositol polyphosphates, membrane potential changes, protein expert of proteins from the nucleus, and gape transcription.

phosphorylation, active export of proteins from the nucleus, and gene transcription.



Peter Friedl will deliver a plenary lecture entitled "**5-D Imaging of Tumor and Immune Cell Migration and Communication**" and sponsored by *Histochemistry and Cell Biology*. He is professor and head of the Molecular Cell Dynamics Laboratory of the recently founded Rudolf-Virchow Research Center for Experimental Biomedicine at the University of Wuerzburg, Germany.

His research focus is the visualization of cell-matrix interactions and dynamic cell patterning during immune cell interactions and tumor invasion by using 3D ECM-based cell culture models and advanced imaging procedures. Recently, the group moved into *in vivo*-imaging of tumor and immune cell migration by multi-photon microscopy, which complements the *in vitro* culture technology. In the past years, his group has provided insight into the serial dynamics of T cells scanning across antigen-

presenting cells (serial encounter model), the diversity of tumor invasion mechanisms (individual, collective), as well as novel escape responses in tumor cell migration (mesenchymal-amoeboid transition, collective-amoeboid transition).



Jiang Gu is the Dean of the School of Basic Medical Sciences, Peking University, Beijing, China and also Clinical Professor, SUNY-Health Science Center at Brooklyn, NY. He will deliver a plenary lecture entitled "**The Molecular Morphology of SARS**", and sponsored by *Applied Immunohistochemistry and Molecular Morphology*.

Dr. Gu was the Founding President of the International Society of Analytical and Molecular Morphology, Editor-in-chief of *CellVision* and Co-editor-in-chief of *Applied Immunohistochemistry and Molecular Morphology*. He has published over 100 original research articles and six books on the topics of molecular morphology and pathology.

During the SARS epidemic, he served as the Head of the Task Force of SARS Research at Peking University. He is the recipient of a number of major research grants on SARS from the Chinese government and organized the "2003 International Symposium of the Pathogenesis of SARS" in Beijing in July, 2003. Through the effort of his research team, significant progress has been made in understanding the pathogenesis of SARS.



Antonio Nanci will deliver a plenary lecture entitled "Calcified tissues: the backbone of life" sponsored by *The Journal of Histochemistry and Cytochemistry*. He is Professor of Cell Biology, Associate Dean of Research and Director of the Laboratory for the Study of Calcified Tissues and Biomaterials at the Faculty of Dentistry at the Université de Montréal, Canada.and Past-President of the Canadian Association of Dental Research. He is an associate editor for *the Journal of Histochemistry and Cytochemistry*. His research interests include normal and pathological calcified tissues using a combination of cell biological approaches, and hard tissue repair and engineering. He was first to apply high-resolution colloidal gold cytochemistry to investigate the formation and extra-cellular distribution of matrix proteins in calcified tissues. Alexandra Newton will deliver a plenary lecture entitled "Visualizing signaling in living cells". She received her Ph.D. in Chemistry from Stanford University in 1986 working on membrane biochemistry. She spent two years doing postdoctoral research in Daniel E. Koshland's laboratory at the University of California, Berkeley where she was first introduced to protein kinase C. She was on the faculty in the Chemistry Department at Indiana University from 1988-1994, before joining the University of California, San Diego, where she is now Professor of Pharmacology. Her research investigates the molecular and spatiotemporal regulation of protein kinase C and its upstream kinase, the phosphoinositide-dependent kinase, PDK-1.

Katsuhiko Mikoshiba will deliver a plenary lecture entitled "Molecular Dynamics of Intracellular Ca^{2+} Signaling", sponsored by Acta Histochemica et Cytochemica. Dr. Mikoshiba is Professor of Molecular Neurobiology at the Institute of Medical Science, University of Tokyo and Director for The Developmental Brain Science Group, Brain Science Institute, RIKEN (Institute of Physical and Chemical Research).

His research interests include the mechanisms by which neurons and glia cells differentiate, and also mechanisms that determine the form and positioning of elements in the developing brain. He has identified the gene Zic as being of critical importance for the process of neural induction and has shown that the concentration of Ca²⁺ released from IP₃ receptors plays an important role in

dorso-ventral axis formation in early development. To address these different issues of brain development, he is using a number of different experimental techniques, including chromophore assisted laser-inactivation, electrophysiology, and fluorescence imaging in addition to molecular and cellular biology.

Anton Raap will deliver the Piet van Duijn lecture entitled, "Genes and gene transcripts under the microscope".

He received his Ph.D. from Leiden University in 1983 working on basic enzyme chemistry in Piet van Duijn's lab. He is Professor of Cell Biology at the Leiden University Medical Centre. His current research efforts focus on molecular cytogenetics as well as mitochondrial dysfunction and its consequences on cellular signalling and disease development. His scientific work is published in more than 160 peer-reviewed papers and several book chapters. He has organized multiple international courses and meetings and is or has been editor of Histochemistry and Cell Biology, Cytometry, Cytogenetics and Cell Genetics.

Robert M. Hoffman will deliver a plenary lecture entitled "Rainbow Imaging In Vivo", sponsored by Acta Histochemica. He is Professor of Surgery at the University of California, San Diego and President, Chairman of the Board and CEO of AntiCancer, Inc. in San Diego. Dr. Hoffman is on the editorial boards of Anticancer Research, In Vitro-Cellular and Developmental Biology and is an Associate Editor of Clinicial Cancer Research. Major research accomplishments in his laboratory have included development of: a highly-selective anti-methionine cancer therapy based on methioninase; DNA-containing liposomes – the enabling technology for non-viral *in vivo* gene therapy; an animal model for cancer, the "MetaMouse"; an in vivo-like model of human tumor culture and drug-sensitivity testing; an in vitro hair growth model from human and animal skin; a hair follicle-specific drug and gene targeting system; whole-body fluorescence imaging for cancer metastasis, gene expression, and bacterial infection; enzymeactivated prodrug gene therapy with the methioninase gene and selenomethionine.; the concept of cancer epigenetics; the first single enzyme assay for homocysteine; and the first homogeneous assay for vitamin B_c.











HCS Annual Meeting held jointly with the International Congress of Histochemistry and Cytochemistry, July 2004

Visit the ICHC2004 Website www.ichc2004.org The meeting will be held on the campus of the University of California San Diego at La Jolla. Scientific sessions will be held at the Price Center on campus.

More detailed information on the scientific program, award/grant

applications, abstract submission, meeting registration, and housing will be found at www.ichc2004.org.

Important Dates

Student travel grants deadline: 14 January, 2004 Student awards (Vector, Lillie) deadline: 14 January, 2004 Abstract (all on-line) submission deadline:14 February, 2004 Early Meeting Registration deadline: 31 March 2004 Off-campus housing at nearby hotels will be found on the ICHC2004 webpage.

Preliminary ICHC 2004 Program KEYNOTE SPEAKER

Title

Breeding Molecules to Spy on Cells (David Glick Lecture)

SYMPOSIA

Title

Muscle cell differentiation Genome organization: basic principles and clinical implications

Extracellular matrix and inflammation

In situ visualization and manipulation of functional molecules Is histochemistry an omic? Visualizing proteolysis

Neuropeptides, signaling and gene expression Visualization of signal transduction Angiogenesis and vasculogenesis Mast cell development and disease Development and regeneration in the nervous system Discovery and development of tissue-based biomarkers in prostate cancer Adhesion molecules and cancer Speaker Roger Y. Tsien

Organizer

Antonio de Luca (Italy) Martin Werner (Germany) & Franz Wachtler (Austria) Thomas Wight (US) & Charles Frevert (US) Tetsuro Takamatsu (Japan) Gary Coulton (UK) CJF van Noorden (The Netherlands) Pertti Panula (Finland) Naoaki Saito (Japan) Dale Abrahamson (US) Constance Oliver (Brazil) Wenqin Cai (China) Beatrice Knudsen (US) John Couchman (UK)

International Congress of Histochemistry and Cytochemistry 2004

WORKSHOPS

Title

Application of quantum dots to fluorescence histochemistry Automated histochemistry The impact of microscope-based technology on problems in diagnostic pathology Retrieval of DNA, RNA and protein from archival tissues by AR based methods Spectral Imaging siRNA techniques

PLENARY LECTURES

Title

Visualizing signaling in living cells 5-D imaging of tumor and immune cell migration and communication The molecular morphology of intercellular Ca²⁺ signaling Calcified tissue: the backbone of life? Genes and gene transcripts under the microscope (Piet van Duijn Lecture) The molecular morphology of SARS Rainbow imaging in vivo TBA TBA

Organizer Denis Baskin (US) Hinke Multhaupt (UK)

Allen Gown (US) Clive R. Taylor (US) & Shan-Rong Shi (US) Richard Burry (US) TBA

Speaker

Alexandra Newton (US) Peter Friedl (Germany) Katsuhiko Mikoshiba (Japan) Antonio Nanci (Canada) Ton Raap (The Netherlands) Jiang Gu (China) Robert Hoffman (US) Erkki Ruoslahti (US) Pearse Prize Lecturer

Preliminary Schedule

Saturday 24 July 2004

Registration begins at noon, Keynote Lecture, Welcome Reception at Price Center

Sunday 25 July

Plenary lectures, exhibits open, symposia, poster session, afternoon reception

Monday 26 July

Symposia, special lectures, exhibits, poster session, workshops, afternoon reception, plenary lectures.

Tuesday 27 July

Symposia, special lectures, exhibits, poster session, workshops, afternoon reception plenary lectures, banquet at Birch Aquarium at Scripps. Exhibits close in the afternoon.

Wednesday 28 July

Symposia, special lectures, exhibits, poster session, workshops, plenary lectures, afternoon reception and Closing Ceremony.

Thursday 29 July

On campus housing package includes Wednesday overnight campus accommodation. Participants may depart on Thursday.

Knowledge Base On-Line.

One of the initiatives of the Publication Committee has been the development of the **Histochemistry and Cytochemistry Knowledge Base, http://www.histochemicalsociety.org/hckb**, with the goal to share techniques and knowledge in the field of histochemistry and cytochemistry.

The website has links to useful technical articles and experimental protocols, as well as review articles. There is a gallery of pictures displaying stained cells and tissues using different histochemical techniques. The web page is still in its early development and needs continuous expansion and addition of protocols. If you are willing to share some of your experimental protocols and technical tips with other histochemists, please contact me, or you can simply send your procedures to the following email address **h.multhaupt@imperial.ac.uk**. We would very much like to have protocols for immuno electron microscopy, newer technologies such as microarrays, quantum dots, live cell imaging, visualizing metabolic pathways, siRNA and fluorescence techniques. To expand the picture gallery, we are also looking for any type of histochemically stained cell or tissue. Therefore, I would urge you to send some of your nicest pictures for display on the web page. We shall acknowledge all images on the website, and guarantee authorship. *Hinke Multhaupt*

Improved Journal of Histochemistry and Cytochemistry Webpage

•Search functions have been added. The page has crisp, new colors and a clean, uncluttered interface. Additional links have been added and even downloaded PDFs of articles now feature the JHC racing stripe banner. •Quick Search allows searching from the JHC homepage or any content page on the site. You can search by institution, reagent, technique, author, title or subject. We also added "newest first" or "best match" in "the search result sorting."

•Citation Map is both useful for searching the literature citing or cited by selected articles. The map is based on the references found in the full text articles of the HighWire-hosted journals. Citation maps are useful for developing reading lists to get up to speed on a new topic, generating bulk citation lists and assisting in refereeing, or writing a review article. •Google recently partnered with JHC, allowing them to crawl all JHC content.

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