Pathology has long been considered a “bridge” medical discipline, one in which clinical diagnosis and clinical decision making is closely juxtaposed to the rapid transition of new knowledge into clinical practice, and to discovery through translational and basic research. This ideal is reinforced in one form or another by most if not all descriptive materials associated with the 123 ACGME accredited Medical School based Pathology Residency Programs (out of a total of 152 accredited pathology programs), as judged from materials published on their respective Web sites. The development of investigative skills and an understanding of the role of research in revealing pathologic processes, clinical decision making, test development, and continuing education is also among the articulated learning objectives of Pathology Post-Graduate training programs put forth by both the ADASP (for Anatomic Pathology) (ADASP, 2003) and the ACLPS (for Clinical Pathology) (Smith et al., 2006). Perhaps responding to this favorable intrinsic positioning of Pathology between clinical practice and investigation, Pathology training programs have historically attracted a disproportionate share of trainees holding dual MD-PhD degrees (7.8% of trainees in 1990) (Vance et al., 1991). Yet today, topics traditionally within the purview of Pathology, such as reports detailing mechanisms of disease, disease markers, disease risk factors, novel pathophysiologic mechanisms, and animal models of human disease, while once largely confined to pathology-oriented journals, have now entered the mainstream of scientific inquiry and are widely published in journals of biology, genetics, and immunology. In this exciting era of discovery and rapid translation to clinical practice, and given the many theoretical advantages that a Pathology training program should enjoy as a bridge between practice and discovery, the question has arisen: are our programs doing as well as they should in recruiting and nurturing individuals with an aptitude and desire for an investigative pathology career? Are our programs instilling a spirit of inquiry and discovery for all individuals, regardless of their long-term career goals? In short, are current trends in training sustaining Pathology’s legacy as a bridging discipline? (cont’d on page 8)
A Message from the Executive Officer’s Desk

By Mark E. Sobel, MD, PhD

This issue of ASIP Pathways comes to you along with several additional pieces of information: registration forms for special events associated with our annual meeting at Experimental Biology ’07, a Guide to Benefits for FASEB Society Scientists, and a poster that features the twelve covers of the 2006 issues of The American Journal of Pathology as well as important ASIP, API, ISBER, and PPS dates for 2007.

Host a student in your laboratory this summer! ASIP, with matching funds from the Intersociety Council for Pathology Information (ICPI) and support from FASEB’s MARC program, has launched the 2007 Summer Research Opportunity Program in Pathology (SROPP), a scholarship program to provide underrepresented minority college students with financial support to participate in summer research internship programs in the laboratories of ASIP members. The ASIP member’s institution will receive up to $1,000 for the student’s use of laboratory supplies and reagents, and your laboratory will be featured in the SROPP section of the ASIP website. The students will be provided with a stipend of $2,500 from ASIP, as well as a travel and living allowance (for airfare, ground transportation, meals, lodging and related expenses), and up to $1,450 in travel support to submit and present an abstract at the 2008 ASIP Annual Meeting at EB’08 in San Diego. Students are currently applying to the FASEB SROPP website, and will be referred to ASIP mentors who are willing to host the students. Please contact me at mesobel@asip.org if you are interested in hosting a student in your laboratory, and visit the ASIP website at www.asip.org/sropp.htm for more information.

The 2007 ASIP Annual Meeting will be the most complex meeting that the Society has ever held since we are hosting a record number of 8 guest societies. The deadline for discounted early registration for EB’07 is March 2nd. Also remember that the deadline for submitting a late-breaking abstract is February 28th (see the ad on Page 14 for more information).

New this year, the American Association of Neuropathologists (AANP) has merged its annual meeting with ours. This has necessitated some program changes, such as moving the ASIP Business Meeting and Awards Reception to Sunday evening, so please study the meeting agenda on the ASIP website (http://www.asip.org/mtgs/eb07/) carefully. Of particular note is an optional course that AANP is offering on Friday, April 27th entitled “Update on Brain Tumors: Prognostic Markers and Controversies in Diagnosis.” The special course requires a registration fee since it is held the day before the official start of
EB’07. ASIP members (including API, ISBER, and PPS) are eligible for a $50 discount on registration for this special course, which is an option when you register for EB’07.

Complimentary lunches at the ASIP Annual Meeting. See the special registration forms in your envelope to register for complimentary lunches at special events at the ASIP Annual Meeting, such as the Graduate Program Directors’ Meeting on Saturday, April 28th, the 7th Annual Career Developmental Program & Lunch (formerly known as the Mentoring Lunch) on Sunday, April 29th, and the special ASIP Public Affairs Workshop on understanding the United States Federal budget process on Tuesday. The deadline for receipt of these forms is March 23rd.

ASIP Journal CME Programs. Originally launched in 2006, ASIP is continuing its Journal Continuing Medical Education Programs based on reading articles in *The American Journal of Pathology* and *The Journal of Molecular Diagnostics* this year. For more details, see the back page of this newsletter. Registration is available at www.asip.org/CME/JournalCME.htm. ASIP and members of Divisions are eligible for a $30 discount. Participants must answer 50 questions based on selected articles of the journals. They will receive 50 CME credits for each program if they answer 75% of the questions correctly. Although we are still processing the 2006 results, I am pleased to report that all registrants in last year’s programs who have submitted their answers have received a passing score.

The FASEB Member Online Directory has been resurrected, restructured, and revitalized with several new user-friendly features. The new directory is now password protected; only members of the constituent societies of FASEB will have access to member information. You will soon be receiving a message from FASEB with log-in information, requesting that you proofread and update your member information. ASIP has provided the information that we have in our own database to FASEB and will continue to provide periodic updates to FASEB to maintain current contact information about you. When you update your member profile on the FASEB directory, you will have the option to be excluded from member searches. ASIP and FASEB have strict privacy policies to not divulge email addresses of members to outsiders or commercial sources. Please note that the FASEB member online directory is separate and distinct from the ASIP member directory, which includes member information only about ASIP, API, and PPS members, and is available at http://www.asip.org/membersaccess/LoginPage.asp in a password protected area of the ASIP website. The ASIP member directory currently requires you to use your ID number and a password that ASIP provides. However, the ASIP member directory will also undergo a major upgrade this Spring, and you will be able to log onto the ASIP member directory with your email address and a password of your own choosing later this year.
You’re a scientist...

Scientists need to decide what’s best for science...

FASEB can help YOU speak out for science!

Become a member of FASEB’s e-Action list, and make your voice heard in Washington!

Members of the e-Action list receive:
- Timely alerts to take action on breaking legislative issues
- Updates and analyses of important science policy issues
- Subscription to the FASEB Washington Update, providing you with the latest events on Capitol Hill relevant to scientists.

To join, visit the Legislative Action Center: http://opa.faseb.org

You’ll also find advocacy tools to help you take action, free downloadable materials, educational resources, and in-depth analyses of biomedical research policy issues.

Federation of American Societies for Experimental Biology (FASEB)
9650 Rockville Pike, Bethesda, MD 20814

Become a science advocate TODAY.

Capitol Hill News for ASIP Members

NIH Reauthorization Passes -- FY2007 Funding Stays on Continuing Resolution

In the last moments of the 109th Congress, the NIH Reform Act of 2006 (HR 6164), or NIH reauthorization bill, was passed and was later signed by the President (for more details on the Bill, see the November 2006 issue of ASIP Pathways at www.asip.org). Just before its passage, Rep. Joe Barton (R-TX), House Energy and Commerce Committee Chair, who sponsored the bill, made a special point of attending the FASEB Board’s winter meeting to inform them of the impending vote. In his words, Rep. Barton came only to say “thank you” to FASEB for its support of the bill which he clearly felt was key to its expected passage. With emotional, unprepared comments, Rep. Barton spoke of the value of the bill and how much it meant to him to see this come to completion before his term as Chair ended. As he described, the bill would not make the front pages of the news, but early in his term as Chair, Rep. Barton made a personal commitment to passing NIH’s reauthorization because he believed that nothing was more important.

Among other things, the NIH reauthorization bill hails 6.5% increases per year in appropriations. However, incoming Democratic leaders of Congress announced plans to extend the current (FY2006) funding levels of all presently unfunded agencies (including NIH) until the 2008 budget year begins on October 1, 2007. The objective is not to spend time completing the FY2007 appropriations bills that should have been passed by the prior Congress, but to focus on the FY2008 recommendations that will be handed down by President Bush in February in the hope of debating and passing FY2008 appropriations on time in 2007. The impact of this move on NIH is obviously flat funding for FY2007, or decreased funding considering inflationary increases. At the same time, Congress expected that approximately $7 billion would be available in FY2007 as a result of flat funding of all remaining budgets, and is weighing how that money should be allocated. FASEB legislative affairs officers promptly began a campaign on the Hill to advocate for some of those available discretionary funds to be allocated to NIH.
A recent FASEB Action Alert to the 80,000 members of FASEB societies yielded almost 4,000 responses, which translates to nearly 12,000 letters to members of Congress. The outcome will likely be decided by February 15, 2007, when the existing continuing resolution to fund unfunded agencies expires.

NIH issued a notice on December 15, 2006 outlining its plans for dealing with the flat funding and increased numbers of applications in FY2007. According to the notice, NIH will cease to make inflationary increases for non-competing renewal awards or modular grants. Based on programmatic or scientific priorities, Institutes and Centers (ICs) will have the flexibility to supplement these awards on a case-by-case basis. The money saved from eliminating the inflationary increase will be put toward an estimated 9,600 new and competing research project grants (RPGs). These RPGs will be prioritized, with ICs first considering new investigators, followed by first-time grantees seeking their first renewal, then established grantees with insufficient other support. IC’s will have some flexibility, based on programmatic and scientific priorities. All of these criteria will be dependent on the applicant having a review score near the payline of the relevant IC. For more information, please see the NIH website: http://grants1.nih.gov/grants/guide/notice-files/NOT-OD-07-030.html.

Meet your Congressional representatives and give input on the NIH budget for FY2008!

EB Hill Days are planned from April 30 through May 2, 2007. This is an exciting opportunity to meet your Congressional representatives and give valuable input into science funding at a critical point in the FY2008 budgetary process. All U.S. members of ASIP are urged to participate. Coordination, support and talking points will be provided by the cooperating Public Affairs officers of participating societies. Advance plans must be made - these arrangements cannot be made onsite at EB. For more information or to sign-up, please contact Priscilla Markwood at pmarkwood@asip.org or 301-634-7408.

Budget Expert to Address ASIP Session Attendees

A new public affairs session has been added to ASIP’s program at EB 2007. The program entitled Understanding the Federal Budget Process: Secrets to Science Policy Revealed will feature Kei Koizumi, Director of R&D Budget and Policy at AAAS. Kei will provide an overview of how science policy is made in Washington by explaining the Federal budgetary process, 30-year trends in Federal funding for research and development, and prognostications on the impact to science of the newly-released 2008 Presidential budget recommendations.

The session is open to all societies and lunch will be provided for attendees. Registration is required and a registration form is enclosed with this newsletter. For more information, contact Priscilla Markwood at pmarkwood@asip.org or 301-634-7408.

Reviewing the Review Process: FASEB’s Science Policy Committee Offers Recommendations to NIH

An ad hoc Peer Review Subcommittee of FASEB’s Science Policy Committee was developed in the Summer of 2006 to address a request from Toni Scarpa, NIH’s Director of the Center for Scientific Review, regarding his ongoing assessments of the peer review process. ASIP members Nelson Fausto (UW) and John Smith (UAB) participated in the Subcommittee. Dr. Scarpa asked FASEB to give recommendations that would encourage innovative research in peer review and improve the quality of review. The Subcommittee completed its recommendations and sent a letter to Dr. Scarpa on December 7, 2006. The subcommittee emphasized that the quality of review is paramount and that efficiency goals must not compromise the quality of review. In order to maximize the quality of review, the subcommittee raised several key issues: 1) the use of 50% “forced triage” and particular concern about its impact on new investigators; 2) the increasing number of ad hoc reviewers; 3) shorter grant applications; and 4) recruitment and retention of expert, senior reviewers.

A follow-up meeting with FASEB representatives and Dr. Scarpa was held on January 10, 2007, in which Dr. Scarpa responded by sincerely addressing the concerns and in some cases proposing solutions, as well as describing current and planned efforts at CSR. FASEB and the Peer Review Subcommittee believe the overall outcome was positive and are hopeful that NIH will revitalize the grant reviewing process in the coming months and years. Furthermore Dr. Scarpa’s assessment of the system, six open house workshops will be held at NIH through 2007 to discuss how peer review of specific disciplines could be improved. Institute and Center Directors, Scientific Review Administrators, professional society leaders and senior society staff are encouraged to attend. For more information, visit http://cms.csr.nih.gov/AboutCSR/OpenHouses.htm.
American Society for Investigative Pathology

2007 Annual Meeting at
Experimental Biology
April 28 - May 2, 2007 - Washington DC

www.asip.org/mtgs/eb07

Lectures

- **KEYNOTE LECTURE:** New Strategies for Defining Critical Neuropathology in Neurodegenerative Disorders
  Floyd E. Bloom (The Scripps Res. Inst.)

- **AANP SAUL KOREY LECTURE:** Neuropathology and Genetics of Parkinsonism
  Dennis W. Dickson (Mayo Clinic Coll. of Med, Jacksonville)

- **ASIP AMGEN OUTSTANDING INVESTIGATOR AWARD LECTURE:** Expression and Maintenance of Mitochondrial DNA: New Insights Into Human Disease Pathology
  Gerald S. Shadel (Yale Univ. Sch. of Med.), Supported by an educational grant from Amgen

- **ASIP ROUS-WHIPPLE AWARD LECTURE:** Genetics and Pathogenesis of Autoimmunity
  Abul K. Abbas (UCSF)

- **NAVBO EARL P. BENDITT AWARD LECTURE:** H.F. Dvorak

- **TARGETING AND TRACING ANTIGENS IN LIVING CELLS WITH FLUORESCENT NANOBODIES**
  Heinrich Leonhardt, Sponsored by ISAAM

Symposia

- **AANP Presidential Symposium:** Updates in Neurodegenerative Diseases
  Chair: Barbara Crain (Johns Hopkins Univ. Sch. of Med.)

- **ACVP Symposium:** Emerging Infectious Diseases
  Chair: William Castleman (Univ. of Florida Col. of Vet. Med.)
  Co-Chair: Matthew R. Starost (NIH)
  Sponsored by ASIP and ACVP

- **ASIP Presidential Symposium:** Viruses and Human Cancer
  Chair: Peter M. Howley (Harvard Med. Sch.)
  Supported by an educational grant from Merck

- **ASIP Symposium:** Autophagy and Disease Pathogenesis: Cell Suicide or Self Preservation
  Chair: Xiaoming Yin (Univ. of Pittsburgh)
  Co-Chair: Kevin A. Roth (Univ. of Alabama at Birmingham)

- **ASIP Symposium:** Developmental Pathways in Cancer Progression
  Chair: Carlos Moreno (Emory Univ.)
  Co-Chair: Giancarlo Vecchio (Univ. of Naples "Federico II")
  Co-sponsored by NAVBO

- **ASIP Liver Pathobiology Symposium:** Pathobiology of ASH and NASH
  Chairs: Anna Mae Diehl (Duke Univ. Med. Ctr.) & Satdarshan P.S. Monga (Univ. of Pittsburgh)

- **ASIP Symposium:** Molecular Determinants of Epithelial Polarity
  Chair: Asma Nusrat (Emory Univ.)

- **ASIP Symposium:** New Developments in Vascular Biology
  Chairs: Myron I. Cybulsky (Univ. of Toronto - Toronto Gen. Res. Inst.) & Martin A. Schwartz (Univ. of Virginia)
  Co-sponsored by NAVBO

- **ASIP Symposium:** Novel Therapies Based on Molecules of the Innate Immune System
  Chairs: H. Anne Pereira (Univ. of Oklahoma Hlth. Sci. Ctr.) & Gregory L. Stahl (Brigham & Women's Hosp.)

- **ASIP Symposium:** Pharmacogenomics & Targeted Therapies

- **ASIP Symposium:** Stem Cell Engineering for Therapeutics

BASIS RESEARCH - TRANSLATIONAL DISCOVERY - CLINICAL APPLICATIONS
Symposia (continued)

- ASIP/HCS Symposium: Trends in Experimental Pathology: Imaging and Histochemistry
  Chairs: Hinkle A.B. Multhaupt (Imperial Col. London) & Elizabeth R. Unger (CDC)
  Sponsored by ASIP and the Histochemical Society
  Supported by an educational grant from the Robert E. Stowell Endowment Fund

- NAVBO Symposium: Hereditary Vascular Disorders: From Cloning to Pathology
  Chair: Douglas A. Marchuk (Duke University Medical Ctr.)

- NAVBO Symposium: Proteogenomic Mapping of Vascular Phenotypes in Health and Disease
  Chair: Jan E. Schnitzer (Sidney Kimmel Cancer Ctr.)

- NAVBO Symposium: Vascular Smooth Muscle Cell Heterogeneity and Signaling
  Chairs: Giulio Gabbiani (Ctr. Med. Univ., Geneva) & Gary K. Owens (Univ. of Virginia)

- NAVBO Vascular Development, Growth & Adaptations Mini-Meeting
  Chair: Robert Tomanek (Univ. of Iowa)
  Co-sponsored by the American Association of Anatomists

- PPS Symposium: The New Frontiers in Pulmonary Hypertension Research
  Chair: Rubin M. Tuder (Johns Hopkins Univ Sch of Med)
  Sponsored by ASIP and the Pulmonary Pathology Society

Workshops & Special Sessions


- AAAP Course: Update on Brain Tumors: Prognostic Markers and Controversies in Diagnosis
  Satellite Meeting on April 27, 2007 - Special Registration Required
  Organizer: Barbara Crain (Johns Hopkins Univ. Sch. of Med.)
  Chair: Gregory Fuller (Univ. of Texas MD Anderson Cancer Ctr.)

- AANP Diagnostic Slide Session
  Chair: E. Tessa Hedley-Whyte (Massachusetts Gen. Hosp.)

- ASIP 7th Annual Career Development Program & Lunch: Dancing with Journals: A Guide to Submission and Review
  Chairs: Luisa DiPietro (Univ. of Illinois at Chicago Col. of Dentistry) & Dani S. Zander (Penn. State Milton Hershey Med. Ctr.)
  Sponsored by the ASIP Committee for Career Development, Women & Minorities, the American Association of Neuropathologists and the Histochemical Society
  Supported by educational grants from Cadmus and the FASEB Minority Access to Research Careers (MARC) Office

- ASIP Graduate Program Directors Workshop
  Funding graduate students - The training grant situation and interdisciplinary awards, Program identification and recruitment strategies - What's in a name?, and Mentoring guidelines - What is expected of faculty and student?
  Chair: Diane L.M. Bick (Univ. of Texas Med. Sch.), Sponsored by the ASIP Education Committee

- ASIP Highlights: Graduate Student Research in Pathology
  Chairs: Vallie M. Holloway (Mayo Clinic of Jacksonville) & Scott A. Tomlins (Univ. of Michigan)
  Sponsored by the ASIP Committee for Career Development, Women & Minorities

- ASIP Workshop: Funding Your Research Through Alternative Sources
  Chairs: Gary R. Pasternack (Aqua Partners Inc.)
  Sponsored by the ASIP Committee for Career Development, Women & Minorities

- BLOOD VESSEL CLUB: Showcase of Recent Breakthroughs in Vascular Biology
  Chairs: William A. Muller (Weill Med. Col. at Cornell Univ.) & Klaus Ley (Univ. of Virginia)
  Sponsored by ASIP and the North American Vascular Biology Organization

- HCS/ASIP Workshop: Tissue Banking & Sample Preparation
  Chair: Gavin J. Gordon (Brigham & Women's Hosp./Harvard Med. Sch.)
  Co-Chair: Hinke A.B. Multhaupt (Imperial Col. London)
  Sponsored by ASIP, the Histochemical Society and the International Society for Biological and Environmental Repositories

- HCS Workshop: Tissue Fixation for Molecular Analysis in Pathology & Cell Biology
  Chairs: Denis G. Baskin (VA Puget Sound Hlth. Care Systems) & Shan-Rong Shi (USC Keck Sch. of Med.)
  Co-sponsored by ASIP and the International Society for Biological and Environmental Repositories

www.asip.org

Late Breaking Abstracts Deadline: February 28, 2007
Early Registration Deadline - March 2, 2007
Housing Reservations Deadline - March 23, 2007
Current Trends in Path Training
(continued from page 1)

This topic was a major focus of discussion at the October 2006, meeting of the Northeast Association of Pathology Chairs (NEAPC). It has also been increasingly discussed in other forums since 2002, when the “credentialing” year was eliminated from Pathology certification requirements. Prior to 2002 (back to 1985), certification in AP/CP required five years of post-graduate training. Single certification in AP or CP alone required one less year. However, prior to 2002, one-year’s credit could be granted for an advanced degree (Ph.D.); for prior clinical training; and for a year of post-sophomore experience in Pathology, effectively reducing the training requirement from five to four years (or to three for single-track certification). Other changes made by the American Board of Pathology in 2002 included reducing the allowed research time within a program from one year to six months, and proscribed a more standardized and structured curriculum. It was hoped that reducing the required length of time for certification would enhance the overall appeal of the discipline to matriculating Medical Students. These changes also responded to a variety of other forces and trends, as have been well-reviewed elsewhere (Alexander, 2001; Alexander, 2006; Bennett, 2006). While early results suggest no differences under the new certification requirements in the rate at which trainees pass their Board examinations (Bennett, 2006), concern has been expressed whether the effectiveness and appeal of Pathology training as a gateway to a research-oriented academic career has diminished. As a first step to understanding the extent of research training or research opportunities that now exist in Pathology Residency programs under the new certification requirements, and the overall attitude of training programs to research activity as part of a structured program, a survey was prepared in anticipation of the NEAPC meeting. The results of this brief survey are summarized here.

The survey instrument consisted of a series of questions designed to evaluate the level of commitment of programs to research training or research experience, both within the residency and as a gateway to post-residency research activity. Survey questions were distributed by email to the program directors of all accredited US training programs (152 programs). It was also sent to the chairs of several of the larger programs in the Northeast in an effort to assure a more complete representation of the academic programs in this region. Thus, the survey did not represent a statistically random sample. Thirty-five programs responded (23%), and respondents included representation from all geographic regions of the continental USA. The distribution of program size among respondents is presented in Figure 1. The majority of respondents were from programs with less than 15 total resident positions, a distribution that closely mirrored the national distribution of training programs, over 60% of which have fewer than 15 residents (Alexander, 2006). A total of 226 positions were represented in the respondent’s programs, of which 82% were combined AP/CP positions, 11% AP only, and 7% CP only positions.

All but two programs (6%) provide a research experience as an option within their accredited curriculum. Most programs allow residents to participate in a full six months of research (average = 4.9 months), although in only 8 programs (23%) could the entire 6 months of research be done as an uninterrupted block. More commonly, research experiences were provided as a project or observation within an existing clinical elective. Three program directors commented that Pathology Residents were not even interested in research. Others commented that the introduction of a new commercial test in the laboratory might be the type of research done on a rotation.

The survey also revealed a significant variation among programs in how they defined “research”. The survey proposed a hypothetical scenario in which a resident spent six months doing a loss of heterozygosity analysis from matched tumor/control tissue from 50 colon cancer cases. Asked whether this was research, 16/30 (53%) of respondents agreed, 8/30 (27%) disagreed, and 6/30 (20%) were divided. These results are included in Table I. Recognizing that only a small subset of Pathologists-in-training are destined for an investigative career, programs were queried to see how many would support the entry of a promising resident into an extended research activity post-ACGME training. Fifteen programs (43%) responded that they supported such trainees after appropriate screening (mentor selection, chair approval, etc) from Departmental or training-grant funds. The period of support was most commonly 1 year, and ranged from 2 to 36 months. Seven of the programs offering post-ACGME funding placed no restrictions on the types of research that they would support, but eight programs required as a condition for Departmental contribution that the research must be relevant to Pathology, be methods-oriented, or must enhance the Department in some way such as by leading to a fiscally remunerative test or procedure. Another albeit less direct measure of the effectiveness of training programs as a gateway to preparing residents for entry to a research career is the degree to which their programs utilize the resources and strengths of their institution’s graduate training programs.
in science. Nine programs (26%) allowed residents to participate in graduate courses on an audit basis, and two institutions had organized degree-granting Ph.D programs tailored to MD's into which residents could matriculate post ACGME training. No institutions incorporated any graduate courses into their formal ACGME curriculum; all resident participation in graduate school coursework, seminars, or technique laboratories was permitted only after all clinical duties were satisfied.

So, what can one conclude from this brief survey? While each reader can find cause for hope or concern in these findings, as well as in the findings of another similar survey recently carried out for PRODS by Bruce Alexander and Steve Black-Schaffer (personal communication; to appear on the APS/PRODS web site), we believe that there are indeed troubling findings in both surveys. The Alexander & Black-Schaffer survey, with 44 responding institutions, found that 46% of the ACGME programs reported fair or inadequate research conferences; only about a quarter of the programs provided 4-6 months of research experience within the program, and three quarter of their respondents (ACGME accredited program directors) were not in favor of substantially expanding (by more than two months) research opportunities either in Residency or fellowship training. With the exception of a handful of the largest teaching and research institutions, these results closely parallel the sentiments and data reported here. It would seem that the ever increasing demands of clinical training, coupled with diminishing fiscal resources and a shortened training period, are conspiring to potentially diminish Pathology as an attractive gateway for MD’s seeking a competitive investigative career. This is certainly not a problem unique to Pathology, but perhaps in comparison to its promise as a bridge discipline, the growing asymmetry between applied clinical work and investigative endeavor is troubling.

Is this erosion in research opportunities in Pathology inevitable, and if not, what might be done to mitigate this trend? There are no simple answers. Internal medicine responded by creating an investigative track leading to subspecialty certification (requiring one additional year of training); should this be done for Pathology? This might be a solution for individuals who enter the training program knowing that they want to pursue a research career, but does not provide an avenue for those who become enamored with the possibilities of translational research during their post-graduate training. Within existing programs, could the time available for research be better utilized? Can flexibility be gained by better defining what is research, and by not utilizing the allowed research time within a program on what may be validly defined as a clinical experience (e.g. molecular diagnosis per se is not research). Should more effective use by made of the burgeoning interest throughout the scientific community in Pathology, not by just providing tissues and reading slides, but by involving basic scientists more effectively in translational studies and in the mentoring and training of our most promising pathology residents? Should better coordination between institutions be established to create career development pathways wherein the most promising research-oriented residents are steered to those few large institutions that can provide the depth and quality of investigative opportunities needed to be competitive in today’s scientific environment? Can better use be made of graduate-school courses, seminars, and laboratories to familiarize our residents with a broader range of molecular and informatics technologies that most surely will not only impact their practice, but are also the tools of modern research? We would encourage an active discussion of these issues among the ASP membership and other members of the Pathology community. Our future as a bridge discipline may be at stake.

### Literature Cited:


### About the Authors:

Dr. Morrow is the Raymond Yesner Professor and Chair of Pathology and Professor of Molecular, Cellular, and Developmental Biology, Yale University, Chief of Pathology, Yale-New Haven Hospital, and a member of the ASP council. He may be contacted at jon.morrow@yale.edu. Dr. Sinard is a Professor of Pathology and Ophthalmology at Yale University, and Director of Residency Training at Yale. He may be contacted at John.Sinard@yale.edu.

### Table 1: Research offered in ACGME Accredited Pathology Programs

<table>
<thead>
<tr>
<th>Item</th>
<th># programs (total =35)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programs offering time for research</td>
<td>33 (94%)</td>
</tr>
<tr>
<td>Average time offered</td>
<td>4.9 months</td>
</tr>
<tr>
<td>Uninterrupted research time</td>
<td>8 (23%)</td>
</tr>
<tr>
<td>LOH analysis tumor samples considered to be:</td>
<td>(30 responses)</td>
</tr>
<tr>
<td>Pure Research</td>
<td>16 (53%)</td>
</tr>
<tr>
<td>Mdx clinical experience</td>
<td>10 (33%)</td>
</tr>
<tr>
<td>Mixed clinical/research (50:50)</td>
<td>4 (11%)</td>
</tr>
<tr>
<td>Post ACGME support by Department or Training Grant</td>
<td>15 (43%)</td>
</tr>
<tr>
<td>Period of post ACGME support</td>
<td>2 to 36 months</td>
</tr>
<tr>
<td>median period post ACGME support</td>
<td>1 year</td>
</tr>
<tr>
<td># not restricting topic of research</td>
<td>7 (21%)</td>
</tr>
<tr>
<td>Allow participation in Graduate School Courses</td>
<td>9 (26%)</td>
</tr>
</tbody>
</table>
By Jennifer A. Hobin, PhD
Science Policy Analyst
FASEB Office of Public Affairs

It’s no surprise to scientists that evolution is a critical component of science education. As a fundamental and unifying principle documented by volumes of evidence, evolution has earned its place in science textbooks. Perhaps more surprising is that nearly 150 years after Charles Darwin described evolution in The Origin of Species a significant number of Americans still do not accept it as the only scientific explanation for the development and diversity of life.

Unlike the Tennessee teacher made famous in the 1925 “Scopes Monkey Trial,” today’s science educators are not likely to be arrested for teaching evolution; nonetheless, the topic still generates considerable controversy in school districts around the country. Current challenges to evolution education take many forms, including removing evolution material from textbooks, mandating the introduction of creationist beliefs such as intelligent design in science classes, and requiring the “critical analysis” of evolution, but not other scientific concepts. These challenges impair students’ understanding of evolution and science in general. As a result, anti-evolution efforts may compromise our nation’s ability to produce future generations of well-trained scientists and medical professionals.

The scientific community has a key role in promoting high standards for science education. As a fundamental and unifying principle documented by volumes of evidence, evolution has earned its place in science textbooks. Perhaps more surprising is that nearly 150 years after Charles Darwin described evolution in The Origin of Species a significant number of Americans still do not accept it as the only scientific explanation for the development and diversity of life.

Unlike the Tennessee teacher made famous in the 1925 “Scopes Monkey Trial,” today’s science educators are not likely to be arrested for teaching evolution; nonetheless, the topic still generates considerable controversy in school districts around the country. Current challenges to evolution education take many forms, including removing evolution material from textbooks, mandating the introduction of creationist beliefs such as intelligent design in science classes, and requiring the “critical analysis” of evolution, but not other scientific concepts. These challenges impair students’ understanding of evolution and science in general. As a result, anti-evolution efforts may compromise our nation’s ability to produce future generations of well-trained scientists and medical professionals.

The scientific community has a key role in promoting high standards for science education. As a fundamental and unifying principle documented by volumes of evidence, evolution has earned its place in science textbooks. Perhaps more surprising is that nearly 150 years after Charles Darwin described evolution in The Origin of Species a significant number of Americans still do not accept it as the only scientific explanation for the development and diversity of life.
placing stickers on science textbooks describing evolution as “a theory, not a fact,” the scientific community took action. Fifty-six scientific organizations including ASIP and the Federation of American Societies for Experimental Biology (FASEB) jointly submitted an amicus curiae, or “friend of the court,” brief expressing the scientific community’s acceptance of evolution as well-established science. The brief also stated that the disclaimer sticker “propagates an incorrect view of the status of scientific theories in general and of evolution in particular.” In settling the lawsuit the school board agreed not to restore “any stickers, labels, stamps, inscriptions, or other warnings or disclaimers” to the books. Scientists also stood up for evolution in Kitzmiller v. Dover, a high profile case that challenged a requirement that biology teachers read a statement to their classes questioning evolution and promoting intelligent design. Relying heavily on the testimony of scientists who had served as expert witnesses, the judge ruled that the Dover, Pennsylvania school district could neither denigrate evolution nor refer to intelligent design as an alternative.

As scientists and medical professionals you can make a difference! But you should not wait to act until anti-evolution stirrings reach the courts as they did in Georgia and Pennsylvania. By taking action early scientists can help to put anti-evolution initiatives to rest before they consume a lot of time, effort, and resources. First, stay informed of community news—if your school board has plans to alter its treatment of evolution you’re more likely to find out about it in the local gazette than in the pages of The New York Times. When anti-science initiatives emerge, bring attention to them by writing letters-to-the-editor or op-eds to local papers. These are easy and effective ways to communicate the scientific viewpoint to a wide audience and to begin to mobilize the community and policy makers.

While letter writing is a good start, nothing beats meeting directly with your target audience. Meet with teachers, school board members, parents, or public officials to share your concerns. While scheduling, preparing for, and attending a meeting can be time consuming, it allows you to provide detailed information and begin a dialogue with folks with whom you may not always agree, but with whom you might find common ground. You might also consider asking local teachers how you can help. As experts on a wide range of topics, teachers may appreciate your assistance developing curricular materials, bringing expert speakers to their classrooms, or discussing the importance of evolution education with parents or school boards. Are you more comfortable working within the structure of your college or university? If so, think about establishing a public lecture series on evolution or incorporating the topic into the courses you teach. Recruit your colleagues to help!

These are just some of the ways that scientists can take a stand for evolution, but there are more! FASEB has put together a variety of resources to help. Freely available on our website, FASEB’s evolution advocacy materials include background information and talking points as well as tips for communicating with the public and policy makers, testifying before school boards, and working with teachers. There are also sample letters-to-the-editor, opinion pieces, and modifiable PowerPoint presentations to get your advocacy efforts underway.

For more information on how you can support evolution education and to view FASEB’s evolution resources please visit www.evolution.faseb.org.
ISBER 2007 Annual Meeting

International Biobanking Standards
May 30 - June 2, 2007 - Singapore

Scientific Sessions:
- International Harmonization of Biobanking Standards
- Informatics Systems for Biobanking
- Biobanking Portal
- Biobanking of Non-Human Specimens
- Cost Recovery Models
- Repository Challenges: Quality Assurance & Control
- Population Biobanking
- Legal and Ethical Issues

Focused Scientific Interest Sessions:
- Biospecimen Research, Cell Culture, Cryopreservation,
- Legal and Ethical Issues, Repository Automation
- Technologies, & Repository Information Systems

Additional Special Events:
- Tour the Singapore Tissue Network Facility (the National Tissue and DNA Repository) featuring a demonstration of the facility’s ‘cradle to grave’ automation and state-of-the-art robotics

Early (Reduced) Registration Deadline: April 20, 2007
Advance Registration Deadline: May 18, 2007

www.isber.org
ISBER is a Division of ASIP

Experimental Biology 2007

What Not to Miss - Highlights of the Upcoming ASIP Meeting

by Charles A. Parkos, MD, PhD
ASIP Program Committee Chair

The Annual Meeting for ASIP will be held from Saturday, April 28th through Wednesday, May 2nd in the Washington, DC Convention Center in conjunction with Experimental Biology 2007. This year, we are pleased to announce there were 723 abstract submissions, all of which were programmed into minisymposia or poster sessions. This represents a 40% increase in abstract submissions over the previous year, in part due to involvement of new guest societies in the ASIP program, including the American Association of Neuropathologists, the Histochemical Society, the Society for Cardiovascular Pathology and the Società Italiana di Patologia/Italian Pathology Society. The scientific content from abstract submissions was sufficient to program 24 minisymposia on a wide array of topics ranging from organ-systems based disease and basic cell/molecular pathobiology to therapeutics. To complement minisymposia, 30 poster sessions were programmed on related topics. You won’t want to miss this meeting as there are certainly scientific presentations of interest to everyone! Brief highlights of the meeting are outlined below. The complete schedule of symposia, workshops, award lectures and other special events is available on the ASIP web site at http://www.asip.org/mtgs/eb07/. Important links for meeting registration and housing can be found at the ASIP web site or by visiting http://www.eb2007.org. Details on submitting late breaking abstracts can be found on page 14 in this issue of ASIP Pathways.

Several award and keynote lectures from distinguished scientists will be delivered during the meeting. The first day of the meeting will finish with an exciting keynote lecture from the prominent neuroscientist, Dr. Floyd Bloom who will discuss strategies on defining neuropathology in neurodegenerative disorders. To complement this topic, a full symposium on updates in neurodegenerative disease will precede the keynote lecture and be followed by a lecture on Monday, April 30th on neuropathology and genetics of Parkinsonism.
by Dr. Dennis Dickson. ASIP-sponsored award lectures will come from Dr. Abul Abbas on the genetics and pathogenesis of autoimmunity and from Dr. Gerald Shadel on mitochondrial DNA and disease pathology.

ASIP and guest societies will also host 17 major symposia on cutting edge biomedical science topics. The American College of Veterinary Pathologists will sponsor a symposium on the emerging infectious diseases that will highlight avian influenza. The North American Vascular Biology Organization has organized symposia on vascular mechanosensing/signal transduction, proteogenomic mapping, hereditary disorders, and biology of smooth muscle cell heterogeneity. Major ASIP symposia will include intracellular transport, oncogenic viruses, current imaging technologies, autophagy, new therapeutic strategies for cancer and immune modulation, stem cells, pulmonary hypertension, fatty liver disease, and molecular basis of epithelial cell polarity.

In addition to the science, there are exceptional Committee-sponsored sessions. In response to the success of a previously held event, the Career Development, Women & Minorities Committee will hold again “Dancing with Journals,” a lunch session with the editors of several prominent journals highlighting the ins and outs of manuscript submission and review. The Education Committee will offer a workshop for graduate program directors on the critical topics of funding, recruitment, and mentoring. On public affairs, there will be a lunchtime session sponsored by ASIP on the Federal budget (see details on this page) that complements FASEB’s session on how scientists can have an impact on the NIH funding crisis.

The ASIP Program Committee is pleased to announce that planning for the 2008 scientific meeting to be held at the San Diego Convention Center is well underway. ASIP will host many of the same guest societies as in 2007 in addition to anticipating an increased number of scientific sessions with the return of AAI to the EB meeting. The preliminary program will feature 15 major symposia, many of which will be jointly sponsored by guest societies. Some of the themes will include genetics of human developmental disorders, antibody-based immuno modulation, genetics/epigenetics of cancer/metastasis, endo/epithelial junctions and molecular motors, obstructive/inflammatory lung disease, complement, leukocyte-endothelial cell interactions, vascular/immune system dysfunction and disease, and liver regeneration. There will also be workshops centering on the stem cell controversy, and molecular/cellular biology of heart disease. These symposia and workshops will be in addition to an outstanding palette of award lectures, a keynote lecture, and presidential symposia to be announced in the upcoming months.

The program committee would like to remind the membership that ideas for content and topics of scientific sessions, workshops, and lectures at our national meeting are derived from the members of the ASIP and guest societies. Suggestions for speakers for the 2008 meeting are welcomed and can be forwarded to the Committee Chair at cparkos@emory.edu.

We look forward to seeing you in Washington!
ASIP
2007 Annual Meeting at Experimental Biology
April 28 - May 2, 2007
Washington DC

Time is running out!
Late Breaking Abstracts Deadline:
February 28, 2007

A Joint Annual Meeting of
- American Society for Investigative Pathology
- American Association of Neuropathologists
- Histochemical Society
- North American Vascular Biology Organization

Guest Societies
- American College of Veterinary Pathologists
- American Society for Matrix Biology
- Association for Pathology Informatics
  (A Division of ASIP)
- International Society for Analytical and Molecular Morphology
- International Society for Biological and Environmental Repositories
  (A Division of ASIP)
- Pulmonary Pathology Society
  (A Division of ASIP)
- Society for Cardiovascular Pathology
- Società Italiana di Patologia/Italian Pathology Society

www.asip.org/mtgs/eb07

Early Registration Deadline:
March 2, 2007

Housing Reservations Deadline:
March 23, 2007
Dr. Robert Jennings has led a group of investigators in cardiovascular research. He has made many important conceptual contributions which have had a major impact on the treatment of myocardial ischemia. In the 1950's and early 1960's, he was the first to demonstrate that reperfusion of ischemic myocardium causes massive calcium overload, cellular swelling and edema, and other major morphological and functional derangements. In one of the most frequently cited papers in basic cardiovascular research, he demonstrated that cell death following coronary occlusion progresses as a wavefront from the subendocardium to subepicardium, and that after 6 hours of ischemia little or no salvage is possible in the canine model. This finding had enormous conceptual and therapeutic significance, implying that therapeutic reperfusion strategies need to be implemented very early in patients with acute infarction if significant tissue salvage is to be achieved.

His pioneering work on coronary reperfusion in the 1960's and 1970's paved the way for therapeutic utilization of reperfusion in the 1980's. In 1986, Dr. Jennings published a paper demonstrating that the heart responds to a mild ischemic stress by becoming remarkably resistant to a subsequent ischemic insult. This dramatically changed the understanding of ischemic biology as well as the approach to cardioprotection, by focusing the interest of investigators on endogenous protective responses. No other paper has had a greater impact on the field of ischemic biology in the last two decades.

Dr. Salvatore Pizzo adds that "Bob Jennings has made outstanding contributions in every area of modern pathology." Dr. Jennings' phenomenal research contributions span over 50 years. His earliest work was in renal disease. Using the newly developed percutaneous renal biopsy technique, he applied what was new in 1955 to a scientific study, rather than just diagnosis, defining a form of glomerulonephritis he termed laboratory disease, which healed without serious consequences. He also defined the natural history of membranous glomerulonephritis, which was the first such definitive study of its kind.

For the last 40 years, Dr. Jennings has led a group of investigators in cardiovascular research. He has made many important conceptual contributions which have had a major impact on the treatment of myocardial ischemia. In the 1950's and early 1960's, he was the first to demonstrate that reperfusion of ischemic myocardium causes massive calcium overload, cellular swelling and edema, and other major morphological and functional derangements. In one of the most frequently cited papers in basic cardiovascular research, he demonstrated that cell death following coronary occlusion progresses as a wavefront from the subendocardium to subepicardium, and that after 6 hours of ischemia little or no salvage is possible in the canine model. This finding had enormous conceptual and therapeutic significance, implying that therapeutic reperfusion strategies need to be implemented very early in patients with acute infarction if significant tissue salvage is to be achieved.

Dr. Roberto Bolli, M.D., Professor of Medicine, Physiology and Biophysics at the University of Louisville Health Science Center, a colleague of Dr. Jennings for 20 years said, “Simply put, he is the ‘founding father’ of modern ischemic biology....More than anyone else, Dr. Jennings must be credited with crafting the conceptual, pathophysiologic and preclinical framework that enabled the development of thrombolysis, percutaneous coronary angioplasty, and other forms of therapeutic recanalization in patients with acute myocardial infarction—one of the most spectacular triumphs of modern clinical cardiology.”

Dr. Jennings earned his B.S. from Northwestern University and his M.S. and M.D. from Northwestern University Medical School. After completing his clinical training, he started his academic career at Northwestern University Medical School. He moved to Duke University Medical Center in 1975 as Professor and Chair of the Pathology Department. During the course of his distinguished career, Dr. Jennings has led a very strong Department of Pathology at Duke University, has trained a number of residents and research fellows and has nurtured many clinician-scientists who have then gone on to successful careers.

Dr. Jennings will receive the Gold-Headed Cane, a mahogany cane topped with a 14-karat gold head and engraved band, at the ASIP annual meeting in Washington, DC at an awards ceremony on April 29, 2007.
The Pulmonary Pathology Society overwhelmingly approved new Operating Procedures on January 5, 2007, by an electronic vote of its members, replacing the previous By-Laws from 1999. The new Operating Procedures were recommended by a Committee on PPS By-Laws composed of Kevin Leslie, MD, (Chair), Aliya Husain, MD, Mary Beth Beasley, MD, and Timothy C. Allen, MD, JD, with input from Tara Snethen, Alta Wallington and Mark Sobel, MD, PhD, (Executive Officer) and were approved by the PPS Council in late November before going to the members for a vote.

The new Operating Procedures update and streamline PPS procedures, make operations more transparent and enhance opportunities for all members to actively participate. A major change is in membership criteria. Membership is no longer restricted to board-certified pathologists. Clinicians, radiologists and non-M.D. researchers who have a major interest in pulmonary pathology are no longer prohibited from joining the PPS. The new Operating Procedures are posted on the PPS website at http://www.pulmonarypath.org.

The PPS is exploring ways to reach out to its current membership and to potential new members by examining the benefits of membership that might attract specific groups to the PPS. A Committee on New Member Recruitment has been formed and is Chaired by Armando Fraire, MD. Members of the Committee include Richard Brown, MD, Claudia Castro, MD, Sanja Daoc, MD, Megan Dishop, MD, Douglas Flieder, MD and Robert Knapp, MD. A subcommittee for Trainee Members has been formed and consists of resident, fellow and faculty members: Andras Khoor, MD (Chair), Lucian Chirieac, MD, Megan Dishop, MD, Claudia Molina, MD, Fabio Tavora, MD and Victor Zota, MD. Subcommittees for specific regions of the world have been formed and include:

**ASIA & THE PACIFIC RIM:**
- Toshiaki Kawai, MD, Chair
- Khoon Leong Chua, MD
- Soon He Jung, MD
- Supinda Koonname, MD
- Kun Young Kwon, MD
- Nirush Lertprasertsuke, MD, PhD
- Anucha Tangthangham, MD
- Maria Wong, MD

**EUROPE:**
- Keith Kerr, MD, Chair
- Andras Khoor, MD, Chair for Central Europe
- Frederique Capron, MD
- Bruno Murer, MD
- Paaavo Paakko, MD
- Helmut Popper, MD
- Erik Thunissen, MD
- Handan Zeren, MD

**AUSTRALIA:**
- Belinda Clark, MD, Chair
- Edwina Duhig, MD
- Douglas Henderson, MD
- Jenny Ma Wyatt, MD

**INDIAN SUBCONTINENT:**
- Abida Haque, MD, Chair
- Qasim Ahmed, MD
- Kay Guntupalli, MD
- Aliya Husain, MD
- Jaishree Jagirdar, MD

**MEXICO & LATIN AMERICA:**
- Roberto Barrios, MD, Chair
- Daniel Carrasco, MD
- Javier Falcon, MD
- Georgina Chi Lem, MD
- Ericka Peña, MD
- Moises Selman, MD
- Maria Eugenia Vazquez, MD

---

**PULMONARY PATHOLOGY SOCIETY**

**2007 Biennial Meeting**

June 20-22, 2007
El Dorado Hotel & Spa
Santa Fe, NM

*Philip T. Cagle, Program Director*

Register online: www.pulmonarypath.org

- **Pulmonary Neoplasia**
- **Non-Neoplastic Lung Disease**
- **Non-Neoplastic Multidisciplinary**
- **Techniques in Pulmonary Pathology**
- **Brief Case Presentations**
- **Mystery Cases**

**Abstracts Deadline:**
March 30, 2007

**Early (Reduced) Registration Deadline:**
May 18, 2007

**Advance Registration Deadline:**
June 8, 2007
ASIP to Honor
Abul Abbas, MBBS
with the Rous-Whipple Award

Dr. Abul Abbas, Professor and Chair, Department of Pathology at the University of California San Francisco School of Medicine, is the recipient of the 2007 ASIP-Rous-Whipple Award. This award is given to a pathologist over the age of 50 with a distinguished career in research and continued productivity at the time of selection. Not only has Dr. Abbas made significant contributions in the area of immunobiology, he has also strongly influenced the development of scientists in the field of Pathology and has cultivated an extensive commitment to teaching and education.

Dr. Abbas’s research in immunopathology is in the area of cellular interactions in immune responses and in the pathogenesis of autoimmune diseases. His early work elucidated the mechanisms involved in B-cell activation and suppression. This work led him into the study of immune tolerance and mechanisms of autoimmunity. He has contributed critically to an understanding of the cellular and molecular mechanisms of tolerance. His work on CTLA-4 showed the requirement for CTLA-4 engagement in the induction of peripheral T-cell tolerance in vivo. Dr. Abbas is recognized as one of the leading researchers in the area of immunological tolerance.

Dr. Abbas served as President of ASIP in 2003-2004 and received the Warner Lambert/Parke Davis Award from the Society in 1987. He has been a member of numerous NIH study sections and was the founding Editor of the journal *Immunity*, one of the premier journals in immunology. He is the major editor of one of the most popular textbooks of immunology, which is used in graduate teaching and in medical schools. Dr. Abbas is an editor, along with Drs. Vinay Kumar and Nelson Fausto, of the Robbins and Cotran textbook of pathology *Pathologic Basis of Disease*. He has also taken the leadership in founding the *Annual Review of Pathology: Mechanisms in Disease*, introducing groundbreaking work in the pathology research field.

Dr. Abbas became a member of the Institute of Medicine in 2002. He lectures extensively throughout the world, introducing his science and demonstrating his ability to distill complex biological issues into a comprehensive whole.

Dr. Abbas received his medical degree at the All-India Institute of Medical Sciences in New Delhi. He will receive the Rous-Whipple Award at ASIP’s Annual meeting 2007 in Washington, DC on April 29, and will present his paper, “Genetics and Pathogenesis of Autoimmunity” the same day at 5 p.m.

Gerald Shadel, PhD to be Recognized as ASIP’s Amgen Outstanding Investigator

Dr. Gerald Shadel, Associate Professor of Pathology at Yale University, is the recipient of this year’s ASIP-Amgen Outstanding Investigator Award.

The research in Dr. Shadel’s laboratory is directed toward understanding the mechanism of gene expression in human mitochondria and its impact on human aging and disease. His goal is to understand the full impact of dysfunctional mitochondrial gene expression on human health and use this information to design specific interventions to treat mitochondria-based disease. His lab specifically focuses on nucleus-encoded factors that are imported into the organelle to regulate transcription, translation, replication, and maintenance of mitochondrial DNA (mtDNA). Subsequent to his pioneering work on defining the transcriptional machinery of mitochondria, he made contributions to the area of mitochondrial repair after oxidative damage, and has more recently identified an array of polymorphisms that affect the expression of human mitochondrial transcription factor B, and its involvement in the etiology of a maternally-inherited sensitivity to aminoglycoside-induced deafness.

Dr. Shadel’s group is also concerned with signaling pathways that connect the nuclear and mitochondrial genomes to coordinate gene expression patterns in both compartments. They use multiple approaches to this problem including the employment of mouse and yeast (Saccharomyces cerevisiae) genetic model systems, biochemical characterization of mitochondrial transcription events and interactions, and in vivo approaches in cultured mammalian cells.

Jon S. Morrow, M.D., Ph.D., Chairman and Chief of the Pathology Department at Yale University states that Dr. Schadel “is nationally and internationally recognized as one of the best, if not the nation’s top investigator in mitochondrial transcription,” emphasizing that by focusing on the mechanisms of mitochondrial based diseases, he brings needed attention to an area that has long been neglected, but is rich with promise. Dr. Joseph Madri of Yale adds, “Gerry embodies what we all strive for in our pursuit of excellence in scholarship.”

Dr. Shadel received his B.S. from the University of Nevada, a Ph.D. from Texas A&M University and completed postdoctoral training with David Clayton at Stanford University. His first faculty appointment was at Emory University in 1997, and he moved to Yale in 2003.

Dr. Shadel will present his paper entitled, “Expression and Maintenance of Mitochondrial DNA: New Insights into Human Disease Pathology” at ASIP’s Annual Meeting in Washington, DC, on April 30th at 11 a.m. and will be presented with the ASIP-Amgen Award at a ceremony on Sunday evening, April 29, 2007.
ASIP Highlights: Graduate Student Research in Pathology

Chairs: Vallie M. Holloway (Mayo Clinic, Jacksonville) & Scott A. Tomlins (Univ. of Michigan, Ann Arbor)

Sponsored by the ASIP Committee for Career Development, Women & Minorities

Saturday, April 28, 2007 - 1:30PM - 4:30PM

1:30 PM  Welcome and introduction.  V.M. Holloway, Mayo Clinic, Jacksonville & S.A. Tomlins, Univ. of Michigan, Ann Arbor

**ORAL PRESENTATIONS**

1:35 PM  Novel approach for specific delivery of cytolytic peptides (melittin) to cancer cells using molecularly targeted perfluorocarbon nanoparticles.  Neellesh R. Soman, Gregory M. Lanza, Paul H. Schlesinger, Samuel A. Wickline

1:46 PM  Demethylation of the E-cadherin promoter driven by hepatocytes allows for cell fate-determining signals in invasive breast cancer cells.  Christopher R. Shepard, Alan Wells

1:57 PM  The polycomb group protein Bmi-1 collaborates with H-Ras to promote cellular proliferation and transformation of mammary epithelial cells in vitro, and development of poorly differentiated mammary tumors in vivo.  Mark James Hoenerhoff, Syamal Datta, Goberdhan P. Dimri, Mark R. Simpson, Jeff E. Green

2:08 PM  **POSTER PRESENTATIONS**

P2  Tuberculin anergy mediated by humoral immunity.  Viviana A. Romero, Marcelo Fernandez-Viña, Liliana Encinales, Ingrid Almeciga, Carlos Awad, Vilma Collazos, Olga P. Clavijo, Joaquin Zuniga, Edmond J. Yunis

P4  Acetaldehyde-mediated neurotoxicity.  Amy Spaisman, Ming Tong, Fei-Fei Ding, Jack Wands, Suzanne de la Monte

P6  Biosynthesis and plasma elimination of mature prostate specific antigen and its activation peptide.  Laura Voeghtly, Ida Thogersen, Charleen Chu, Tim Oury, Jan Enghild

P8  Retinol inhibits PI3K/Akt activity but does not affect IRS-1 and PI3K levels in retinoic acid-resistant human colon cancer cells.  Eun Young Park, Erik Wilder, Michelle Lane

P10  Biotinylated anti-αβ antibody as a tool to diagnose pre-clinical stages of Alzheimer’s Disease (AD).  Stina Maria Tucker, Esther Oh, David Borchelt, Juan Troncoso

P12  Ultrasound energy markedly and rapidly effects stem/progenitor cell labeling with nanoparticle beacons for molecular imaging and cell tracking.  Kathryn C. Partlow, Jason A. Brant, Jon N. Marsh, Jan A. Nolta, Michael S. Hughes, Gregory M. Lanza, Samuel A. Wickline

2:38 PM  Reduced Rap1 signaling contributes to prostate cancer progression.  Veronica M. Henderson, Mohamed Ali-Seyed, Thomas L. Genetta, Hitoshi Kitayama, Marie E. Csete, Carlos S. Moreno


3:00 PM  PDGFRalpha is an oncofetal target in human hepatocellular cancer.  Peggy Stock, Dulabh Monga, Amanda Micsenyi, Xinpeng Tan, Gang Zeng, Nick Loizos, Satdarshan P. S. Monga

**ORAL PRESENTATIONS**

3:38 PM  Reduced Rap1 signaling contributes to prostate cancer progression.  Veronica M. Henderson, Mohamed Ali-Seyed, Thomas L. Genetta, Hitoshi Kitayama, Marie E. Csete, Carlos S. Moreno


3:00 PM  PDGFRalpha is an oncofetal target in human hepatocellular cancer.  Peggy Stock, Dulabh Monga, Amanda Micsenyi, Xinpeng Tan, Gang Zeng, Nick Loizos, Satdarshan P. S. Monga

**POSTER PRESENTATIONS**

P1  Regucalcin is a novel target of beta-catenin in liver.  Kari N Nejak-Bowen, Gang Zeng, Satdarshan P. S. Monga


P5  +ACA BRCA1 promoter polymorphism occurs frequently in the general population.  Kristen K. White, Dorothy R. Belloni, Jessica Booker, Lawrence M. Silverman, Gregory J. Tsongalis, W. Edward Highsmith, William B. Coleman

P7  Alterations of transforming growth factor-β pathway in cervical cancer.  Jose De La Luz Diaz-Chavez, Rogelio Hernandez-Pando, Paul Lambert, Patricio Gariglio

P9  Tumor necrosis factor receptors play a role in the development of colitis-mediated colon cancer.  Rosemarie Stillie, Andrew W. Stadnyk

P11  Dual over-expression of IRS-1 and hepatitis B X antigen cause pre-malignant alterations in liver.  Lisa Longato, Suzanne de la Monte, Nori Nishiyama, Masayoshi Horimoto, Sophia Califano, Jong Eun Yeon, Nola Monti, Jack Wands

3:41 PM  Informal poster viewing and networking reception.
American Society for Investigative Pathology at USCAP

Molecular Profiling in Neoplasia for the Surgical Pathologist
Sunday, March 25, 2007, 1:30 pm
Moderator: Thomas J. Giordano
University of Michigan, Ann Arbor, MI

- TMPRSS2: ERG Gene Fusion Provide Insight Into The Heterogeneity Of Prostate Cancer
  Mark A. Rubin, Brigham & Women’s Hospital, Boston, MA

- Using Sarcoma Gene Expression Profiles to Study Cancer Stroma
  Matt van de Rijn, Stanford University Medical Center, Stanford, CA

- Translating Mass Spectrometry-Based Proteomics of Malignant Lymphoma into Clinical Application
  Megan S. Lim, University of Michigan, Ann Arbor, MI

- Molecular Profiles of Well-Differentiated Follicular Cell Thyroid Carcinoma
  Thomas J. Giordano, University of Michigan, Ann Arbor, MI

Pulmonary Pathology Society Annual Meeting at USCAP

Pulmonary Pathology of Transplantation
Saturday, March 24, 2007, 7:00PM
Moderator: Michael Fishbein, MD, David Geffen School of Medicine, Los Angeles, CA

- Pathology of Lung Transplantation
  Charles C. Marboe, MD, Columbia University, NY

- Pulmonary Pathology Associated with Bone Marrow and Other Solid Organ Transplantation
  Kevin O. Leslie, MD, Mayo Medical School, Mayo Clinic, Scottsdale, AZ

- Clinical Approaches to Lung Transplantation and Other Transplanted Organs
  Robert M. Aris, MD, University of North Carolina, Chapel Hill, NC

PPS Annual Business Meeting and Awards Ceremony
Follows immediately after the Pulmonary Pathology of Transplantation session.

PPS Dinner, Harbor House Restaurant
Monday, March 26, 2007, 6:30pm (Reservations Required Deadline for Paid Reservations is March 16. Download PDF reservations form at: www.pulmonarypath.org)
The JMD CME Program in Molecular Diagnostics provides The Journal of Molecular Diagnostics (JMD) readership with an opportunity to earn CME credit while renewing and updating their knowledge in the latest advances in molecular diagnostics. This program consists of a series of questions based on selected articles in the 2007 issues of JMD.

- Objectives - Participants of the JMD CME Program in Molecular Diagnostics should be able to demonstrate an increase in, or confirmation of, their knowledge of the latest advances in molecular diagnosis and prognosis and understanding of molecular pathogenesis of disease after reviewing specific articles in The Journal of Molecular Diagnostics (JMD).

- Participants - This program is specifically developed for trainees, clinicians and researchers interested in the molecular basis of disease and the application of nucleic acid and protein assays for diagnostic and prognostic analysis of disease.

- Examinations - Each issue of JMD will include an Examination comprised of 10 questions based on articles appearing in that particular issue.

These activities have been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of the Federation of American Societies for Experimental Biology (FASEB) and the American Society for Investigative Pathology (ASIP). FASEB is accredited by the ACCME to provide continuing medical education for physicians. FASEB designates these educational activities for 50 credit hours each in category 1 credit towards the AMA Physician's Recognition Award. Registration Rates* - AMP, ASIP, API, ISBER, & PPS Member Rates - $95/year, Non-Member Rates - $125/year

Register online at www.asip.org/CME/journalCME.htm

*Note: The ASIP Journal CME Program in Pathogenesis and the JMD CME Program in Molecular Diagnostics are separate programs, and must be registered for individually.