Letter from the Editors
Shane Stecklein, University of Kansas School of Medicine
Daniel Matson, University of Virginia School of Medicine
Hung Doan, University of Texas Medical Branch

In this winter edition of the Phi Psi newsletter, we again focus our efforts on bringing you up to date with events and progress within APSA. Towards this end, President David Braun has contributed a piece outlining the current state of the organization and opportunities to get involved in APSA. Ivayla Geneva, APSA Finance Chair, has written in with a review of the 3rd Annual New York Regional Symposium. This event was a tremendous success, hosting 258 of our peers, and a handful of eminent scientists. On the topic of upcoming meetings, Jarish Cohen, APSA Annual Meeting Chair, has written a preview of 6th Annual APSA Meeting to be held April 23-25, 2010, in Chicago, IL. This year’s meeting, like in years past, will prove to be a fruitful intellectual and social experience for the physician-scientist in training. One of the Phi Psi co-editors, Hung Doan, has authored this edition’s “Physician-Scientist Spotlight,” highlighting the scientific achievements of Francis S. Collins, MD, PhD, the renowned human geneticist, pioneer of the Human Genome Project, and current director of the National Institutes of Health. This spotlight is timely, as Dr. Collins will be delivering an address at the ASCI/AAP meeting in April. Richard Price, APSA Public Relations Chair, has provided this edition’s book review: Better, by Atul Gawande, MD. The second of Dr. Gawande’s three books, this narrative details the continuous struggle of physicians to improve and enrich themselves in the emotionally and physically trying medical profession. Lastly, Jennifer Kwan of the APSA Policy Committee has provided a summary of the results of the recently completed F30 Survey. This important survey highlights deficiencies and gaps in the funding of predoctoral research focused on important health issues and may provide some impetus for the NIH and affiliated institutes to consider expanding NRSA F30 funding opportunities.

We again wish to extend our gratitude to those who contributed to this edition of Phi Psi and we hope that each of you find these peer-contributed articles insightful and edifying. Please stay tuned for the spring edition of Phi Psi!

From the President
David Braun, Mount Sinai School of Medicine

In these difficult and stressful economic times, I am particularly happy to bring some good news. During this academic year, APSA has had a banner performance. As you know from previous writings, the major New York Regional Meeting at Mount Sinai was a tremendous success, and has been institutionalized into a major yearly event. I want to congratulate the organizers, Michael Green, Jennifer Miller, and Jedd Sereisky, for their exceptional work in putting together an event that not only attracted some of the most influential physician scientists as speakers, but also generated a record turnout of participating leading schools and members.

Further, we have built on this strength to enhance chapter involvement, member communication, and association networking. The dynamism of our organization and the commitment of our members is clearly one of our major strengths.

We are very much an organization where interaction and networking have generated important ideas and vital information. Every member in every chapter is therefore profoundly important. Our overall strategy is not only to better inform our members, but also to generate a better understanding of what physician

(See President on Page 7)
Review of the 3rd APSA New York Regional Physician-Scientist Symposium
Ivayla Geneva, State University of New York Upstate Medical University

On the warm NYC Saturday of November 21st, 2009, Mount Sinai School of Medicine hosted yet another exquisite physician-scientists symposium. This was the American Physician Scientists Association’s 3rd NY Symposium, and akin to all past events, the meeting was a great success!

APSA’s own Policy Chair, Jedd Sereisky, together with Jennifer Miller, Mike Green, and the generous support of APSA, Mount Sinai School of Medicine, Doris Duke, and AMWA worked hard as a team to make this event a reality.

Among the 258 attendees there were MD/PhD/DO students, residents, fellows and a fair number of undergraduates eager to learn about the physician-scientist career path through interaction with APSA mentors. Being a regional East Coast APSA meeting, the highest represented states were NY, NJ, PA, NH, MD, MA, CT, and RI but also physician-scientist trainees from the far away VT, IL, RI, DC, and CA were drawn to the event. In addition, two international trainees from Portugal and France attended the meeting and were able to gain an insight into the US model of training the future physician-scientists.

After registration and a brief get-together in the morning, the APSA NY Symposium attendees had the opportunity to listen to the carefully-selected keynote speakers of the morning.

“There was something for everybody to enjoy at the meeting—the diversity among keynote speakers, small-group discussions, as well as the social gatherings were truly spectacular.”

Dr. Jean-Laurent Casanova, MD, PhD, was the first speaker at the APSA NY Symposium. Being an internationally renowned scholar educated in Europe and currently at Rockefeller University, he achieved multiple goals with his talk. He shared with the audience his passion for immune defense research. He also urged the attendees to look for important scientific questions that were described in older textbooks but who were forgotten even though no answers have ever been found.

The second speaker in the morning, Dr. Elaine Fuchs, PhD, captivated the audience with her elaborate talk on the myriad of functions of skin stem cells in both health and disease. Her impressive knowledge of the stem cell research field and her outstanding sense of humor prompted a high-yield post-talk Q&A session.

During the lunch break, the meeting attendees had the opportunity to meet and talk with one another and to further discuss research topics of common interest with the morning keynote speakers.

Book Review: Better, by Atul Gawande, MD
Richard Price, The Ohio State University

As physician-trainees we all know that we must train and strive to do better. Our job is to learn and practice so that we will become better physicians. In his latest book appropriately named Better, Atul Gawande, MD investigates performance in medicine. Often times the most capable physicians are not capable to perform at their best level. This can stem from many causes such as lack of resources, unfamiliar systems, or, commonly, fatigue. In his book, Gawande examines three core competencies for success in medicine: diligence, doing right, and ingenuity. Although Gawande frames these competencies as a physician, they can just as appropriately be applied to other high risk professions that involve a level of responsibility.

Some people view diligence as simply just paying attention. However, as lives are on the line, Gawande defines diligence as “the constant and earnest effort to accomplish what is undertaken.” In fact, he claims that diligence is the prerequisite of great accomplishment. In his book he goes on to detail several distinct instances in which due diligence has saved many lives. In the first chapter he describes a hand washing campaign. It seems silly now, but not too long ago hand washing was not a common practice in hospitals. Through the diligence of like-minded physicians, such as those detailed in the book, as well as mandates and awareness raised by the

(See Book Review on page 5)
Preview of the 6th Annual APSA Meeting
Jarish Cohen, University of Virginia School of Medicine

The 6th APSA Annual Meeting aims to be the most ambitious to date. This year’s program is loaded with world-renowned keynote speakers, exciting panels, and informative breakout session. For the first time, we will have not one, but two Nobel laureate keynote speakers: Dr. Joseph Goldstein, who along with Dr. Michael Brown, pioneered the discovery of the LDL receptor, and Dr. Ferid Murad, who discovered the effects of nitric oxide signaling on cardiovascular biology. In addition, Dr. Jennifer Grandis, a otolaryngologist, will deliver this year’s Saturday night dinner keynote talk and brings the unique perspective about running a successful research program in a medical specialty that physician-scientist trainees do not often enter. Sunday will feature a social sciences/humanities focused talk by Dr. Rita Charon, who will share about narrative knowledge in the clinical sciences, and a talk by Dr. John Niederhuber, Director of the National Cancer Institute.

(See Preview on Page 5)

Physician-Scientist Spotlight: Francis Sellers Collins, MD, PhD
Hung Doan, University of Texas Medical Branch

Dr. Francis S. Collins, MD, PhD, will be delivering an address at the 2010 ASCI/AAP Joint meeting. APSA is delighted to highlight Dr. Collins’ distinguished career in this issue of Phi Psi. Dr. Collins was sworn in as the sixteenth director of the National Institutes of Health (NIH) in August, 2009, before which, he served as the Director of the National Human Genome Research Institute (NHGRI). His distinguished career began when he received a Bachelors of Science degree in Chemistry at the University of Virginia, Charlottesville. From there, he attained his Doctor of Philosophy in Physical Chemistry at Yale University and later his Doctor of Medicine from the University of North Carolina, Chapel Hill in 1977.

Dr. Collins, as chief in the Division of Medical Genetics at the University of Michigan, Ann Arbor, was part of the team to discover the DF508 mutation of the CFTR gene that causes the majority of cases of cystic fibrosis. In 1993, Dr. Collins was tapped to become the Director the NHGRI, succeeding James Watson, and has since served in that capacity until recently when he was nominated by President Obama to become the Director of the NIH.

Through his tireless efforts as the Director of the NHGRI, the 3-billion-plus base pair sequence of the human genome was completed under budget and ahead of schedule. His tireless efforts at that institute saw the culmination of decades of efforts at sequencing the human genome, allowing the scientific community at large the opportunity to further extend the frontiers of disease-oriented research and understanding the human condition. It leaves little wonder why Dr. Collins was unanimously approved by the Senate for the NIH Directorship. As the present Director of the NIH, Dr. Collins has the unique opportunity to set this institute’s research agenda, implicitly setting the research goals of American science for the next generation of biomedical researchers. He argues that the projects the NIH supports need to, “make the case for what biomedical research has to offer the public” adding that, “We’re not the National Institutes of Basic Science, we’re the National Institutes of Health.” [1]

Throughout his career, Dr. Collins has published in a wide variety of journals including Science, Nature, and the Proceedings of the National Academy of Sciences of the U. S. A. and has contributed to numerous book chapters and has three books including Principles of Modern Genetics, (2nd Ed) and The Language of Life: DNA and the Revolution in Personalized Medicine. We look forward to Dr. Collins’ keynote speech at ASCI/AAP 2010.

References
Review (cont.)

The small group discussions that followed on the agenda covered a large number of topics pertinent to the physician-scientist training and career options. The small group leaders addressed the issues of “Postgraduate Training Options,” “Being a Successful Physician-Scientist Without a PhD,” “Clinical and Translational Research,” “Balancing the Clinic and the Lab,” “Unconventional Career Pathways,” “The Secrets to Successful Grant Writing,” “Negotiating Your Future Career,” “Work-Life Balance,” and “The Management of Career and Family.”

Furthermore, APSA’s goal to outreach undergraduate students interested in a physician-scientist career was beautifully achieved during the NY APSA Symposium. There were several groups of undergraduates, like the one from University of Pennsylvania who traveled to the meeting in order to attend the “What is a Physician Scientist?” and “Training Options and Admissions Advice” small group sessions and to receive guidance and advice from current MD/PhD trainees attending the symposium that day.

Following the successful completion of the Small Group Discussions, the conferees were once again immersed into biomedical research as the afternoon talks began.

The first speaker in the afternoon, Dr. Eric Holland, MD, PhD, provided an intriguing overview of translational cancer research and his numerous contributions to this field.

Dr. Jo Hannafin, MD, PhD, delivered the last talk of the day. Dr. Hannafin belongs to the few female physician-scientists who have chosen orthopedic surgery and related research as their career path. Her success in both made her an excellent role model for MD/PhD trainees and was highly appreciated by the audience.

In the evening of the APSA NY Symposium, the attendees had multiple opportunities to get to know physician-scientist trainees from other schools, to have in-depth discussions of issues pertaining to their career tracks, and much more. The wine and cheese reception was followed by dinner and everyone’s beloved chocolate fountain.

The rich academic program of the APSA NY Symposium as well as the numerous opportunities for social gatherings and networking ensured the great success of our meeting. The excellent feedback from the attendees highlighted once again APSA’s crucial role in the training of the future physician-scientists nationwide.

F30, A Physician-Scientist Trainee Lifeline: Survey Identifies Funding Gaps
Jennifer Kwan, University of Illinois College of Medicine at Chicago

From smallpox and cholera to cholesterol biosynthesis and retroviral oncogenes, physician scientists have played a central role in research, advancing breakthrough innovations in the understanding and treatment of human disease. As academic, industrial and governmental leaders mull over the state of the nation’s biomedical research engine, the jeopardized survival of today’s physician scientist in training must be addressed in order to preserve and revitalize the physician-scientist workforce of tomorrow [1-3]; disappearance of physician scientists from the front lines of biomedical research pursuits would debilitate both the biomedical research enterprise as well as advances in medicine [4]. APSA’s F30 survey results help confirm that one such jeopardy comes from shortfalls in NIH NRSA F30 predoctoral funding and revealed significant funding gaps across a spectrum of biomedical disciplines.

An Endangered Species
It has been recognized that the current pool of physician scientists has grown very little in recent years and is decreasing by some estimates [5]. Physician scientists, in some accounts, have become “an endangered species” due in part to the financial burden incurred from debt deferred from undergraduate studies and accrued during the extended training period in relatively underfunded predoctoral and postdoctoral programs. Thus, funding of the physician scientist pipeline at all training points is critical. In recent years, the NIH has advanced several successful funding initiatives such as the Loan Repayment Programs (LRP) and a variety of career development (K) awards that are aimed at aiding individual graduates and young faculty members [5]. At the predoctoral level, obtaining independent predoctoral fellowships such as the NIH NRSA F30, decreases the loan/debt burden of an already long training process as well as

(See F30 Survey on Page 6)
Book Review (cont.)

CDC, antibacterial soap is a staple of the wards of a hospital. The conscientious effort of a few physicians to improve the practice of medicine has prevented countless unnecessary deaths from infections.

“...become a positive deviant.”

Gawande goes on to write about doing the right thing. Physicians are encountered with a plethora of difficult decisions. The right decision is not always the best decision. Also, doing the right thing is not always apparent or easy. Many of the decisions that are made are clouded by internal feelings, the fear of failure, or ethics of our profession. Gawande tackles tough situations faced by many doctors such as doctors participating in executions and end-of-life decisions. He probes the ethical and situational aspects of these challenging decisions for physicians.

Ingenuity, or new discovery, is primary to the advancement of our profession. It is central to our careers as physician-scientists. After all, our ingenuity and hard work will pioneer the cures of tomorrow, which will pave the way to a better medical practice. In one instance, he examines the innovative approach that leading children’s hospitals have taken to care for cystic fibrosis patients. Cystic fibrosis (CF) used to be a death sentence with children usually dying before their teenage years. Now, through the efforts of industrious doctors, better care for the disease is available. CF is now a manageable disease with patients living well into their adult years.

Perhaps the best part of the book comes at the end in the form of an afterword. To really be the best we can be, we must strive to perpetually do better. Gawande gives suggestions to become a positive deviant. To become better, Gawande suggests that we ask an unscripted question, don’t complain, count something, write something, and change. While reading this book I could not keep from seeing the parallels between what he had written and my own training. As training physician-scientists, we are in the process of learning to be better. By learning from his stories and following his suggestions we can all work towards a better medical practice.

Preview (cont.)

APSA will continue to focus its attention on the important issue of physician-scientist women in academia. The Women in Medicine Panel will discuss the reasons for the dearth of women in higher academic positions, share life experiences, and give advice on how to “weather the storm.” Additionally, breakout sessions will provide attendees to learn about residency decisions for physician-scientist trainees, grants available to physician-scientist trainees and how to write a fundable grant, and strategies to successfully transition from graduate school back to medical school. Finally, a post-graduate opportunities panel will feature successful physician-scientists from academia, government, and industry. Suffice to say, there will be plenty of opportunity to receive advice about career decisions.

In addition to the impressive lineup of keynote speakers and panelists, there will be plenty of time to network and receive mentoring from established physician-scientists. This year’s Friday night Welcome Reception will be held at the Pritzker Stage at Millennium Park. This program will give attendees the opportunity to meet one another as well as the APSA leadership in an exceptional venue overlooking one of Chicago’s most famous parks. Moreover, the Saturday and Sunday Mentorship Breakfasts will provide a forum for aspiring physician-scientists to receive advice and query successful ASCI members. Finally, the Sunday Residency Luncheon affords an opportunity to learn about the different residency options from invited residency directors and representatives from around the country.

Overall, the 6th APSA Annual Meeting will feature the most impressive speakers and panelists thus far, and promises to be a meeting that is not to be missed. The APSA Annual Meeting Committee is dedicated to providing an informative, memorable, and enjoyable experience for all aspiring physician-scientists in attendance. Please go to http://www.physicianscientists.org/meetings/annual/2010 and register today. We hope to see you in Chicago!

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F30 Survey (cont.)

Aids in career development by demonstrating that applicants can be successful in obtaining independent grants early on. Further, successfully obtaining an NRSA predoctoral grant is associated with less time to graduation, long term commitment to research and successful contributions to biomedical research as assessed by publication records [6].

Predoctoral Funding Gaps
Retinal Degeneration, Melanoma, Biomedical Engineering, Stem cell differentiation...these are examples of research topics that are not covered by NRSA F30 predoctoral fellowship granting NIH institutes. The NIH NRSA F30 predoctoral fellowship is an important predoctoral funding mechanism for physician scientist trainees. However, funding of predoctoral MD-PhD, DO-PhD students, much of which is available through the F30 award, is limited to 11 of the 26 NIH institutes & centers that provide research funding.

In response to member concerns over funding shortfalls, the APSA Policy committee developed the F30 survey and initiative: In the fall of 2009, the F30 Survey was administered through multiple channels, including email distribution via institutional representatives and the APSA website to MD-PhD and DO/PhD students representing all stages of training across the nation. The Survey aims to assess the need to expand NIH F30 predoctoral funding by identifying shortfalls in current coverage of biomedical research areas that MD-PhD, DO/PhD students are engaged in as well as the research areas of their future career goals. To date, >870 responses have been received (roughly 20% of the total trainee population), with >110 US medical institutions represented.

Insights from the F30 Survey results:
F30 Familiarity and encouragement to apply:

A majority of respondents indicated that they were encouraged to apply and indicated that they are familiar with the F30 grant.

Applying to the F30:

One third of respondents have applied for the F30 before, with nearly 40% saying that they had to modify the topic or aims of their proposed project in order to be eligible to apply for one of the available institutes.

Shortfalls in F30 coverage:

A majority of respondents have been told or found that their area of research is NOT covered by the current institutes involved in F30 funding. Close to 70% of respondents want to pursue research in an area that falls under the purview of a non-funding F30 institute, i.e. NCI, NEI, NIAMS, NHGRI, NIBIB, NIAID, NIGMS. Survey results and comments show that lack of F30 funding in these biomedical areas acts as a source of discouragement and have the unfortunate effect of hindering physician-scientist research pursuits across the full spectrum of biomedical inquiry.

F30 & career:

Of those who applied for the F30, a majority have indicated that obtaining a F30 grant has already helped them financially/career wise. On the horizons: The survey data is currently being analyzed by the APSA policy subcommittee members and will be used to advocate for the expansion of the F30 funding mechanism. To do so, we plan to engage and open discussion of survey results with NIH leaders. Additionally, we would also like to address other issues raised by the survey results i.e. non-resident eligibility and suggestions on applying to the F30, in future APSA events and meetings.

APSA greatly appreciates all MD-PhD, DO/PhD trainees who helped in our advocacy efforts by taking the F30 survey. Your responses are helping to raise awareness of the importance of such funding mechanisms, highlight the shortfalls of NIH F30 predoctoral funding and call upon the participation of all NIH institutes to ensure that physician scientists are supported and encouraged in research efforts that span the entire spectrum of biomedical disciplines.

From personalized medicine to regenerative medicine, physician scientists are poised to contribute to tomorrow’s medical innovations; but first, we must help ensure the tomorrow of physician scientists.

Acknowledgments: Many thanks to Mark Zaits and Carolyn Brokowski for their insights and help with the survey feedback and analysis this year as well as past APSA policy leaders, Eric Schaeberger and David Ramsey for contributions to launching the F30 initiative.

References:

For more information about 2010 F30 funding mechanisms, navigate to:

President (cont.)

scientists do, and what the potential of our discipline is to healthcare workers, the healthcare industry, and policymakers. To achieve this task, we need to implement concrete measures. Along these lines, I would strongly encourage everyone to attend the Annual Meeting in Chicago. I realize of course that everyone is busy, but this meeting presents a unique opportunity to network with fellow trainees and receive mentoring from distinguished physician-scientists from a variety of fields. There is a possibility, therefore, to do a great deal, individually and collectively, within a short, concentrated period of time. For more information, and to register for the meeting, please visit: meeting.physicianscientists.org.

I also very much wish to encourage all of our current and prospective members to get involved next year in our activities. There are so many different possibilities for everyone to be effective. At the national level, you should consider running for an elected position on the Executive Council. This body helps shape APSA’s overall direction, and personally, I have found it to be a very rewarding experience. Look out for leadership application notices in the next few weeks.

As well, you should consider becoming involved at the Standing Committee level. We have an excellent range of committees that provide a great deal of scope, and accommodate a wide range of interests. Therefore, please consider the Annual Meeting, Finance, Membership, Policy, or Public Relations Committee.

Last, I would also like to suggest that you consider becoming involved as a local Institutional Representative. It gives you an extra opportunity to give voice to local chapters, and the input from the grassroots level is profoundly important.

In a relatively short time, together we have built an organization that is already having a major effect, and we can build on clear successes. With your help, we can maintain the dynamism that has brought us this far, and build on it. Members have been generous with their time because they appreciate that we need to continually enhance our commitment to our organization so that we can have ever more effective networking, better informed members, increase impact within the profession, and added policy-maker support. I am confident that we will continue to get growing support, and again I greatly welcome everyone’s participation and contribution.