Letter from the Editors
Evan Noch, Temple University School of Medicine
Qurat-ul-ain Jelani, New York University School of Medicine
Dylan Nielson, The Ohio State University College of Medicine

This Spring 2011 issue of Phi Psi starts off with several new PR Committee members, including our Vice-chair for the Newsletter, Qurat-ul-ain Jelani from New York University School of Medicine, as well as our Vice-Chair for Outreach, Dylan Nielson from Ohio State University School of Medicine.

We are delighted with this issue of Phi Psi, which includes a Letter from the President, Ivayla Geneva, who discusses her vision for APSA and her goal to make APSA an even stronger resource for all types of medical students interested in research throughout their careers.

In this newsletter, we also have an article dealing with the perception of MD/PhD and DO/PhD students by their MD and DO peers, which was written by Ivayla Geneva and Ian Hu. In addition, Dylan Nielson contributed an article which discusses the ways that the recent federal budget has affected research funding in this country.

Qurat-ul-ain Jelani contributes a book review detailing the personal accounts of physician-scientists. Medicine Science and Dreams, The Making of Physician-Scientists discusses the stories of physician-scientists and the events that led to their choosing this particular career path.

In this issue, Gregory Botta, the past APSA Annual Meeting Chair who stayed on as the Member-at-large on the Executive Council, also provides a recap of the recent APSA Annual Meeting held at the Fairmont Hotel in Chicago. Along with this article, we have sprinkled this newsletter with pictures of some APSA members as well as faculty members that made the 7th Annual Meeting such a big success!

The editors would like to emphasize our commitment to APSA and to putting together a strong newsletter. We look forward to working with the leadership on the Executive Council to enhance the newsletter’s outreach and impact throughout our community. We look forward to the year, and if you have any suggestions for the newsletter, feel free to email Evan Noch at evan.noch@physicianscientists.org.

From the President
Ivayla Geneva, State University of New York-Upstate

Dear Friends and Colleagues,

It is challenging to find the right words to match the truly wonderful experience I’ve had with APSA over the years. From serving as IR, to being a Standing Committee member, to becoming Committee Chair, and finally as President-Elect, at every step I had the opportunity to work with creative and supportive people and to benefit from the advice of dedicated mentors. Strong visionary leadership is an acquired skill and I know that through my journey with APSA, I have grown both as a leader and as a person. I am very excited about the opportunity to serve as your President this coming year and I promise to do everything in my power to ensure that you have a similarly great experience being part of our organization.

This year, I will continue my dedication to creating new resources and benefits for you. I am glad to inform you that good progress has already been made in that respect. We recently added a new benefit for APSA members—a free registration to attend the educational sessions of the Infectious Disease Society of America Annual Meeting (for details click here). Further, we have increased the number of

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Dual-Degree Candidates’ Institutional Visibility – A Survey
Ian Hu, State University of New York-Stonybrook, and Ivayla Geneva, State University of New York-Upstate

“...I feel frustrated when I get the impression that my medical school or medical school students don’t fully understand the functions or the future roles that MD/PhD and DO/PhD students have on the medical field. I feel sometimes that physician-scientists are regarded more as curiosities operating on a different timeline than as fellow classmates and future colleagues.”

When one of our APSA members sent us this message and brought it to our attention, we already knew that this is a recurring concern. A few years back, our 2006 Summer Issue of the APSA Newsletter was dedicated to career development and outreach. Advocating on behalf of physician-scientist trainees and increasing the visibility of our profession is and will be a continuing priority for our organization.

This is why APSA decided to poll dual-degree students at different US-based medical schools on this topic in order to use the information to better fine-tune APSA’s strategy and approach regarding institutional visibility among physician-scientists. We received a number of responses from our questionnaire, and it is our hope that this article will help stimulate discussion and provide some insight and ideas for physician-scientist programs nationally.

On-Campus Support

So how supportive overall did the respondents think their fellow medical school students were of the physician-scientist program? The answers were mixed, and yet from a scale of 1 to 5, 1 being very supportive, and 5 being not supportive at all, there was an average response of 2.7. A likely cause for this response could be the lack of awareness among medical students in regards to the additional load their dual-degree colleagues are under in terms of research responsibilities and grant writing during the course of their training, the MD years included. In regards to how supportive their medical administration was towards the physician-scientist program, the average response was 2.5. An explanation for this response is that the medical administration and the MD/PhD or DO/PhD administration are usually two separate entities that may or may not be in regular contact with one another. A number of other reasons could potentially contribute to the low support level judged by the respondents; however, an increase in communication on both the student level and the administrative level may be beneficial in increasing the perceived level of support for dual-degree students by the medical community.

Resources and Activities

The majority of our responding institutions did not have a program-specific newsletter, an established alumni network, or an affiliated undergraduate program where undergraduate students interested in a career as a physician-scientist could learn more about this career path. These results are probably not very surprising given that many of the MD/PhD or DO/PhD programs are small and contain less than 30 students overall. Also, they may not have the same staff support for this university as well as potential reasons why this is the case.

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Book Review: Medicine Science and Dreams, The Making of Physician-Scientists
Edited by David A. Schwartz, MD
Qurat-ul-ain Jelani, New York University School of Medicine

Physician-scientists are perceived by consensus to be the catalysts of major breakthroughs that have been instrumental in changing disease outcomes in almost all medical specialties. Examples in case would be the discovery of cortisone by Philip Hench at the Mayo Clinic. An astute rheumatologist, he was piqued by the observation that rheumatoid arthritis patients demonstrated improvement during pregnancy. His subsequent work with Edward Kendall ultimately led to the discovery of cortisone. Similarly, Parkinson’s disease and Huntington’s disease are named after the physician-scientists who discovered them. In an article published in the European Heart Journal in 2007, Stephen L. Archer elucidates the attributes of physician-scientists. He mentions the importance of mentors, the ability to think outside the box, the ability to work in close partnerships with other teams focusing on the same areas, and the concept of integrity, among others. His description of accomplished physician-scientists reverberates throughout the book we have chosen for review for our spring newsletter.

In the book, Medicine, Science, and Dreams, The Making of Physician-Scientists, available here, the editor David A. Schwartz brings to his readers a biographical account by twenty accomplished physician-scientists, chronicling how each author ended up in his/her respective field as well as the influences, chance encounters, and not to forget, the serendipity that led to these decisions and the effect of these decisions on their lives and the challenges they encountered over the course of...
How Federal Budget Cuts Have Affected Research Funding

Dylan Nielson, The Ohio State University College of Medicine

Special thanks to Dr. Margaret Offerman MD, PhD, Vice President-Elect for Science Policy at the Federation of American Societies for Experimental Biology (FASEB) for her comments for this article and her talk at the APSA annual meeting, which inspired this article.

As you may have heard, the Federal budget has been a contentious issue in recent months. As designed, the budget process begins a year in advance, and funding is settled before the fiscal year start date of October 1st. This year, however, no budget was passed before the deadline. Instead, Congress passed a series of six short-term continuing resolutions to keep government services operating. With the threat of a shutdown looming, an agreement was reached in April on a budget for the remainder of the 2011 fiscal year (FY 2011). The overall FY 2011 budget is a $38.5 billion reduction from 2010 funding levels. So how did Federal funding for research fair amid the cuts?

The American Academy of Science reports that research and development sustained a $5.2 billion (3.5%) reduction in the FY 2011 budget. The largest share of that, $4.7 billion, came from Department of Defense research projects.

Two agencies received funding boosts, the National Aeronautics and Space Administration (+$605 million to $9.9 billion) and the Centers for Medicare and Medicaid (+$507 million to $543 million). Budgets were cut at the United States Department of Agriculture (-$501 million cut to $2.1 billion), the Department of Energy (-$357 million to $2.1 billion), the Department of Homeland Security (-$175 million to $712 million), and the National Institutes of Health (NIH) (-$329 million to $30.26 billion).

This 0.8% drop in funding at the NIH will result in reduced funding for those receiving grants and fewer numbers of new grants being awarded. These reductions were described in a report released by the NIH on April 25th. Ongoing grants from Institutes and Centers other than the National Cancer Institute (NCI) will be reduced 1% from the FY 2010 level. NCI grants will be reduced 3% from the FY 2011 level. Based on testimony from NIH Director Francis Collins, MD, PhD, in a Senate subcommittee hearing, the NIH will only be able to fund 17% to 18% of grant applications during FY 2011, down from 20% during FY 2010. A bright spot in the NIH notice is an increase of 2% in the stipends of postdocs and graduate students funded by Kirschstein National Research Service Awards. “The outcome [for the NIH budget] is better than an early proposal that would have cut the NIH by $1.6 billion, but the budget is much less than is needed to adequately support the academic biomedical enterprise,” according to Dr. Offerman. When considering these budget numbers, it is important to keep in mind the rising cost of conducting biomedical research, which is expected to increase by 2.9% in FY 2011.

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Medicine and research are fields which not only need unparalleled dedication, passion, and perseverance, but also require a well-rounded education. With today’s melding of technology, business, and engineering into mainstream clinical care, each physician-scientist in training must be exposed to an entire spectrum of viewpoints. This was the goal of the 2011 American Society for Clinical Investigation/Association of American Physicians (ASCI/AAP) Joint Meeting held at the Fairmont Hotel in Chicago, Illinois April 15-17th.

The Annual Meeting Committee worked diligently throughout the year to acquire a wide range of opinions in medicine including pharmaceutical companies, social scientists, journal editors, academic researchers, biotech administrators, NIH directors, and Nobel Laureates. Indeed, this diverse cast of expertise provided an excellent forum for discussion amongst the trainees and top-tier physician-scientists. At panels, informal lunches, interactive poster sessions, and formal seminars, the APSA constituency had ample opportunities to meet the scientists and clinicians on the cutting edge of their respective fields.

The first day of the conference started with the APSA Annual Business meeting, where APSA President Christopher Alvarez-Breckenridge opened the session discussing the progress of the organization over the past year in terms of funding increases, new opportunities in policy-making, and the growth of our membership. External presentations dotted the schedule, allowing the Radiological Society of North America (RSNA), the Graduate Research, Education and Training (GREAT) group, Infectious Disease Society of America (IDSA), and the Federation of American Societies for Experimental Biology (FASEB) a chance to discuss how their organizations could sync with that of APSA in terms of training and development. The business meeting also featured elections for each position in the 2012 APSA Executive Council and saw Ivayla Geneva elected President and Dania Daye elected President-Elect.

Afterwards, the plenary sessions opened with a fantastic lineup, consisting of Elizabeth Lawler, MD, PhD, speaking about clinician-scientist opportunities and professional advancement with respect to dual-degree trainees. Catherine DeAngelis, MD then discussed her personal experiences concerning ethical issues surrounding pharmaceutical and biotechnology companies. Constantine Stratakis, MD, DSc finished the session...
their careers. This collection primarily includes short biographical accounts by well-known physician-scientists from across the USA, but there are also accounts by physicians practicing in Germany, Hong Kong, and Mexico. As one of the contributing authors rightly pointed out that autobiographies are subject to revisionism if not fiction, our readers might think that they are in for a rhetorical account. Frankly, it is not—the stories are a humble and motivating account by a bunch of people who have seen it all and have made it through their belief in their choice of their own career path and perseverance.

The book has its sober and dark moments, but this narrative is also sprinkled with light moments. Every now and then, an author revisits his/her moment of serendipity/epiphany that proved to be the turning point in his/her life. Dr. Feinberg explains how he pressed on with his work in the field of epigenetics though he was threatened that his funding would be cut off—his work eventually led to the epigenetic cancer model for common sporadically occurring cancers. Dr. Pisetsky recalls how early on in his career, one of his mentors was so disappointed in him that he was nearly expelled from the lab. In another biographical account, Dr. Benz stresses the importance of picking not only good parents but also good mentors. Being lucky in that he was blessed with good parents and good mentors, his career as an investigator was already notable by the time he was a house officer. He also reminisces about his childhood influences—about the childhood bully whom he ended up beating and who later died of cancer and how he came to believe that a cure for cancer was the ultimate achievement for a physician. Childhood influences are a recurring theme in the book and remind me of the experiences that we often use to fill our many personal statements required of us in applications for our continued career development. However, everybody is not as lucky; some contributing authors had to survive coups and revolutions, protracted periods of uncertainties about their future, and at times, a seemingly unending battle for survival. An interesting observation made by an author casts some light on how differently MD and PhD applicants respond to the query, “Why do you want to be a doctor?” While MDs usually describe a happenstance in their lives, PhD applicants are more likely to describe their curiosity about a certain concept or idea. To be a physician-scientist, one needs to demonstrate a bit of both.

The challenges faced by female physician-scientists are also discussed. Raising kids and balancing family life with a professional career can be quite challenging for a female physician-scientist. Dr. Glimcher expounds on the advantages of a having a supportive family structure—her parents (her father was himself a physician-scientist) were always around to take care of the kids, and she helped establish a program at the NIH that was geared towards postdoctoral young female investigators who also serve as primary caregivers.

All in all, this book is both interesting and enlightening. The personal accounts never become monotonous, and there is always something to amuse the reader, making this a perfect book to be read over a cup of tea, on a break, or on a long lazy afternoon. However, a couple of accounts are weaved erratically and can cause the reader to lose the rhythm. Nonetheless, it is a must-read for those who have had their moments of uncertainty over their choice of this career. After reading “The Making of Physician-Scientists,” the title ‘Mud-Fud’ would not sound so dreary after all. ■

Book Review (cont. from page 2.)
with a discussion on the Eunice Kennedy Shriver NICHD vision and increased interaction with physician-scientists in training. These experts were followed by the yearly Women in Medicine Panel, featuring Elizabeth Lawlor, MD, PhD, David Markovitz, MD, Shannon Kenney, MD, Jill Baren, MD, and Susan Smyth, MD, PhD. In addition, Friday welcomed the opening of the ASCI/AAP meeting segment, with Nobel Laureate Aaron Ciechanover, MD discussing his ubiquitin discovery and the APSA On-Your-Own Dinners where trainees met and ate at some of the area’s best restaurants. The night was capped off by the Annual Meeting Welcome Reception at The Club at the Chicago Symphony Center. With a terrific, warm evening, many of APSA’s constituency enjoyed jazz music while looking over Millennium Park from the 9th Floor balcony which was followed by the APSA Presidential Address.

Saturday morning saw another Nobel Laureate, Harold Varmus, MD, discussing NCI funding battles in the current economic climate and then the continuation of the ASCI/AAP plenary sessions. In the afternoon, the APSA poster session commenced, consisting of over 200 trainee abstracts being discussed with the top experts in their respective fields. The APSA informal Breakout Sessions this year included panels on Residency, Grant Writing, and Mentorship, each detailing the diverse options, methods, and expert experiences necessary to be successful. Another full day was highlighted by an excellent APSA Annual Reception and Dinner Keynote by Nobel Laureate Michael S. Brown, MD. Dr. Brown gave a highly relevant speech on the relationships of physicians and pharmaceutical companies that brought into light the ethical, business, and patient-oriented decisions each side must make in positively impacting medical care. After dinner, the APSA constituency joined the ASCI/AAP members for their Dinner Keynote given by Yale physician, Harlan Krumholz, MD, who spoke on implementing quantifying metrics in everyday healthcare. Sunday morning brought the second of two mentorship breakfasts where APSA members were able to engage, sometimes one-on-one, with the leading experts in their fields over coffee. The discussions were quite informal, ranging from residency decisions to the favorite sport amongst each specialty! In alignment, this day also featured our trainee presentations in front of the APSA/ASCI/AAP membership where six of the top-scoring abstracts were given the opportunity to orally present their research in a platform session. In between each trainee presentation were two fantastic seminars given by two first-class researchers/administrators. The initial talk was given by David Brenner, MD as Diane Griffin, MD, PhD was unable to attend. Dr. Brenner’s quick assistance was greatly appreciated by APSA, and his talk on fibroblastic involvement in liver disease prompted many excellent discussions. The second was by Elliot Kieff, MD, PhD, who discussed not only his groundbreaking work on Epstein-Barr virus, but also his keen interest in seeing APSA’s success. In addition, the annual APSA & ASCI/AAP Best Poster Awards were handed out as six recipients were chosen to receive $1000 prizes.

As the meeting came to a close, APSA members were able to take part in the yearly Post-Graduate Opportunities Panel that was chaired this year by members of the NIH and Eli Lilly, two areas of medicine that dual-degree trainees rarely get exposed to in academic training. The final event of the meeting was the Residency Director Luncheon, where 13 residency program directors from a variety of specialties and institutions sat informally with APSA members to answer questions on residency applications, training, and selection. As always, the directors found the APSA members ready with the most relevant questions pertaining to research during the clinical component of residency!

The Annual Meeting Committee would like to thank everyone who contributed to the 2011 meeting’s success, especially the leadership of the ASCI and AAP. We were all very pleased with the in-depth discussions between both our trainee colleagues as well as the physician-scientist experts who mentor each of us. APSA has truly developed a unique forum for dual-degree candidates to interact, learn, and grow professionally. The national and international presence of the ‘best in the world’ dual-degree candidates was quite evident.

See everyone in Chicago for the 2012 Annual Meeting!
President (cont. from page 1)

travel awards to the APSA Annual Meeting and will this fall introduce inaugural travel awards for Regional Meeting attendees. The biggest new development which APSA just initiated is called Interest Groups in the areas of Infectious Disease, Cancer, Emergency Medicine, Hematology, Radiology, Surgery, and Neuroscience. We are in the process of creating a core group of mentors (established physician-scientists) in each Interest Group who will be available, through the APSA website, to interact with and mentor the APSA members joining their Interest Group. This will constitute a wonderful resource for both dual-degree and single-degree (MD or DO) students.

Further, I will seek to strengthen APSA’s relationship with our constituency and to develop the leadership potential of our members. Throughout the year, APSA-sponsored local gatherings will be held at major APSA hubs such as Chicago, NYC, Philadelphia, Boston and others, and also in conjunction with conferences that are highly attended by APSA members, such as the ones hosted by AACR (American Association for Cancer Research), AMA (American Medical Association), IDSA (Infectious Disease Society of America), Keystone MD/PhD Conference, and others. These gatherings will be led by members of the APSA Executive Council and members of the APSA Board of Directors.

Finally, I will strive to increase the number of medical schools who become APSA Institutional Members – an easy way for physician-scientist trainees to become APSA members at a highly discounted rate and an opportunity for training programs to show their support for APSA’s mission (more information on Institutional Membership can be found here).

What I am going to ask you to do for APSA this year is to contribute to our success. You can join our leadership ranks, submit an article for the APSA newsletter, participate in a Regional Meeting, and network with other APSA members using our website features. You can also share with me, or with anyone else on the APSA Executive Council, your innovative ideas which you want APSA to develop. Don’t ever hesitate to contact me over email (ivayla.geneva@physicianscientists.org), schedule a phone call, or suggest an in-person meeting. I encourage you to Friend me on FB and join my LinkedIn network, both of which offer excellent platforms for interaction and sharing of information.

And, of course, I expect you to stay connected with APSA, and watch out for new developments, news, and opportunities as they are announced on the APSA website front page and on the APSA Facebook fan page.

I look forward to a successful and fun-filled year serving as your President!

Funding (cont. from page 3)

The debate over the budget for FY 2012 is already underway. President Obama has requested $31.9 billion for the NIH in FY 2012. This is a 2.4% ($745 million) increase in funding from the 2010 budget, or an increase of approximately 5.4% from the amount approved for FY 2011. FASEB is recommending that the NIH budget be increased further, to $35 billion. Despite these goals, Dr. Offerman observed that “the focus on cutting discretionary spending in Washington is likely to have a negative impact on the NIH budget.” She went on to describe some of the negative impacts of cutting the NIH budget: “The federal investment in research provides the critical foundation on which the commercial sector builds, and health-related companies have been a major driver of the American economy. When NIH funding is cut, it undercuts previous investments in research because many researchers who lose NIH funding leave the workforce, and their potential discoveries leave with them. Cutting NIH funding discourages talented young scientists from choosing biomedical research as a career path. Since the goal of deficit reduction is to protect the future, then it would be counterproductive to do it at the expense of a federally supported system that has given the US its preeminence scientifically and economically.”

This is not an issue that splits cleanly on party lines. Dr. Offerman remarks that “both parties recognize the importance of health-related research, both need to be reminded that NIH money goes to investigators throughout the entire US, and when funds are cut, it is likely to affect jobs and health in their states.” If you would like to get involved in advocating for increased research funding, you can contact your APSA institutional representative for information about joining the Policy Committee. Additionally, Dr. Offerman had this to say about how APSA members could get involved: “Members should contact their congressional representatives to ask for the support of a budget increase for NIH ($35 billion for FY2012). You represent the future, and much of the Congressional efforts are based on their assumptions about how to make the future brighter. [Your] support of NIH would not only make your professional futures brighter but also would enhance the health and well-being of people through discoveries that are likely to be made by NIH investigators.” The FASEB e-action alerts makes participating easy. Sign up at www.capwiz.com/faseb/mlm/signup.
Survey (cont. from page 2)

support compared to much larger entities, such as the medical school or research departments. The above, as well as other obstacles, may prevent or render it impractical to have a separate newsletter, keep track of alumni, or administer an undergraduate program. At APSA, we hope to supplement or to provide the above-mentioned resources on a national level through the APSA newsletter to which every member is welcome to contribute, our online database of APSA members which includes students, residents, fellows, and young faculty, as well as through educational sessions for undergraduate students at the APSA meetings.

About half of the respondents reported having a poster day to present their research to their institution. Sometimes, physician-scientist students present their results on a poster day with other graduate students. It appears from the responses that there are ample opportunities for students to present their research to their peers. This is reassuring since we believe that these days will help strengthen the communication and interchange between dual-degree and single-degree students.

Program-organized social events differed from institution to institution. Some replied that they had “summer and Christmas parties which can be great for meeting senior students in a relaxed, social atmosphere.” Some programs also have a “big-sib/little-sib group that meets before every exam to advise the first- and second-year students,” while others have noted, “the program doesn’t do social events.” A few respondents also mentioned students informally organizing social events and their program directors hosting dinners and barbecues for incoming students. Overall, the impression from all of these responses was that different schools are attempting to meet the social needs of their dual-degree students using a variety of approaches and that there is often room for improvement and for trying new ideas. In addition, being focused on community building, APSA provides numerous opportunities for socializing and networking on both the regional and national level during our meetings each year.

Bridging the MD and PhD training

Responses for how physician-scientist programs incorporated clinical experiences for returning graduate students varied enormously. Some programs described little or no formal transition from graduate school to medical school. In some cases, students volunteered at their institution’s free student-run clinic to help refresh their skills before returning to medical school. Others reported that “students are given a list of suggestions for clinical experiences, such as shadowing, physical diagnosis tutoring, or working at the free student clinic, etc. Students are not required to do a certain number of hours but rather work on incorporating clinical experiences when it fits best with their graduate work. Some graduate students returning to medical school are required to do an audit rotation, which is six weeks of either internal medicine or family medicine. This pre-MS3 rotation allows students to get back into the clinical atmosphere without having the pressure of being graded on their first rotation back.”

Other institutions have integrated both transitions directly into the MD/PhD curriculum. One member described a Grand Rounds course where “every MD/PhD student chooses a clinical mentor, spends 4-8 hours per month shadowing them, writes monthly reports on clinical cases, and presents a powerpoint presentation in front of the MD/PhD community and any faculty interested in the topic on the best clinical case encountered. This presentation integrates both the clinical aspects as well as current research in that field of medicine; the clinical mentor co-presents.”

It still remains to be determined which approach for transitioning from the PhD years back to medical school is the most effective, and yet the variety of responses can serve as a resource for dual-degree programs looking to bridge PhD and MD training.

APSA’s role

From the questionnaire, we also found that APSA was an essential source for networking and contact among physician-scientist programs nationally. Overwhelmingly, all of our respondents mentioned APSA as their primary source of contact for physician-scientist students outside of their own program. This is very encouraging, and we will ensure that APSA continues to foster collaboration and serve as a resource for physician-scientists around the nation. We would like to encourage dual-degree students at various campuses to learn from the good practices described by the questionnaire respondents and to try to introduce them at their own campuses.
Couldn’t make it to this year’s National APSA Meeting?

Save the date for 2012!

8th Annual APSA Meeting
April 27-29, 2012
Chicago, Illinois