

TABLE OF CONTENTS

[Letter from the Editors](#) 1
[Letter from the President](#) 1
[Committee Updates](#) 2
[F30 Survey Update](#) 2
[Considering Careers: Surgery](#) 3
[Tomorrow's Physician Results](#) 3
[International Health Spotlight](#) 4
[President's Award](#) 5

The APSA Newsletter is managed by the APSA Public Relations Committee

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Letter from the Editor

Dylan Nielson, The Ohio State University College of Medicine
 Alex Adami, University of Connecticut Health Center



In the spring issue of Phi Psi we focus on the work APSA has done over the last year.

We provide updates from our committees on the work they have done to improve our member benefits and support physician-scientist training. In her letter from the President, Dania welcomes everyone to the Annual Meeting and highlights some of our committee's accomplishments. Alex Adami and Jennifer Kwan provide an in-depth report on the progress and findings from the F30 survey, outstanding work conducted by APSA's Policy Committee.

Rose Li continues her series of essays discussing her decision to pursue a career as a physician scientist. Evan Noch, APSA's President-Elect, had the opportunity to work in the department of Neurolo-

gy at Addis Ababa University in Ethiopia. While there, he took the opportunity interview faculty members from the program about the practice of neurology and Ethiopia's healthcare system. Also, be sure to check out articles on our website that we couldn't fit into this newsletter, such as Alex Adami's piece considering the impact of climate change on malaria, drug resistance, and the implications for regions previously untouched by the disease.

Thank you again for reading the APSA newsletter and please contact us if you have any comments or ideas. You can reach the editors at PR@physicianscientists.org. You can also keep up with APSA news on Facebook, Twitter (@A_P_S_A), and LinkedIn.

From the President

Dania Daye, Perelman School of Medicine at the University of Pennsylvania



Dear Members, Colleagues and Friends,

It is my pleasure to welcome you to the 9th Annual Meeting of the American Physician Scientists Association. This meeting marks the culmination of a highly productive and successful year for APSA's Executive Council. Over the past 12 months, we launched a

number of new and exciting initiatives and expanded on existing efforts as we continue to strive to fulfill our mission of serving the needs of physician-scientists in training.

At this time in 2012, I stood before a room of APSA institutional representatives where I shared with you my five-pronged strategic vision for this past year: increasing membership, increasing visibility, increasing part-

(See President on Page 9)

Have you done something impressive or significant in the medical or scientific world? We want to know about it!

APSA wants to feature YOUR successes on our website and in future newsletters. All members, regardless of training status, can submit entries. The best submission will be honored at the next Annual Meeting!

Visit APSA's website to submit your accomplishments!
http://www.physicianscientists.org/?page=member_research

News & Initiatives: Updates from APSA's Committees



Local Chapter Grants

Steven Back, Chair, Membership Committee

APSA recognizes that supporting physician-scientist trainees has to begin at the local level. The Membership Committee is coordinating a program to provide \$100 grants to support events held by local APSA chapters. Several schools have already taken advantage of this opportunity. The APSA chapter at UAB used their local chapter grant to host a lunch for physician-scientist trainees to interact with Dr. James Madara, AMA Executive Vice President and CEO. This was an outstanding opportunity for physician-scientist trainees to network with a highly successful and well-respected leader in academic medicine, administration, health care policy, and biomedical research. Drexel's local APSA chapter used a local chapter grant to supplement funding for their MD/PhD programs seminar series. This seminar series allows MD/PhD students to invite physician-scientists from regional universities. Speakers present their science and discuss their career paths, as well as provide guidance for the issues faced by physician-scientist trainees, such as career planning and balancing family life and career choices. Visit our website to apply for a Local Chapter grant and help APSA support physician-scientists trainees at your school.



Interest Group Expansion

Lesley Gardiner, Member-at-Large MD-PhD, DO-PhD

We are pleased to announce much expansion to our Interest Groups. Originally, an Emergency Medicine Interest Group, Infectious Disease Interest Group, and Neurology Interest Group were created. In addition to these three original groups, many other interest groups are in various stages, including Pediatrics Interest Group, Undergraduate Interest Group, and Women in Medicine Interest Groups. The second phase of Interest Group development has begun, which is to add a more interactive component to the interest groups. We are adding two new components, "Interactive Events" and "Question of the Month". The interactive event is an opportunity for members of the interest group to interact with experts in the field through webinars and online forums. Some examples of events include, "Research Topic Webinar," "Q&A Forum," "Career Development Webinar," and "Journal Club Forum." In addition to the interactive events, there will also be a "Question of the Month." This feature will allow members to submit questions through APSA relating to the specialty. One question will be chosen each month, answered by experts in the field, and posted on the APSA

(See *Committees* on Page 7)

F30 Funding Progress, Updated Survey Results, and Next Steps: Four Years Later

Jennifer Kwan, University of Illinois at Chicago & Alexander Adami, University of Connecticut



In the history of biomedical research, the physician-scientist stands tall. With contributions ranging from the description of the basic science behind G-protein coupled-receptors to the targeted cancer killing of imatinib, physician-scientists have contributed significantly to our understanding of human health and disease. Amidst growing concern over the future of biomedical research in the United States¹⁻⁴, the disappearance of physician-scientists and the impact of this loss on the future of scientific advancement have prompted discussion of how best to reverse the decline⁴⁻⁶. The latest results of APSA's F30 survey, echoed by reports issued by prominent national organizations, suggest that increasing

predoctoral support is a critical need. While progress has been made since the first round of surveys ended in 2010, much remains before concerns of the "vanishing physician scientist" may be laid to rest^{1,4}.

A growing chorus

Much has changed since 1979, when James Wyngaarden, then president of the Association of American Physicians and future director of the NIH, first sounded the alarm over the future of

the "endangered species" that was the physician-scientist⁷. Unfortunately, the reality of the a slowly-growing, if not outright declining, physician-scientist population remains no less true today than it was for Dr. Wyngaarden three decades ago^{4,8}. In response to these concerns and the voices of its members, in 2009 APSA's Policy Committee began a survey of physician-scientist trainees to assess their needs and concerns regarding the NIH National Research Service Award (NRSA) F30 award, a key funding mechanism and career development award for physician-scientist trainees. Results pointed to major gaps in funding, with nearly 40% of respondents stating they had to modify the topic or aims in their proposed project for lack of F30 support from the institute most suited to their research area.

APSA ended the first round of surveying in 2010, delivering a report on its findings to the leadership of the NIH. Since that time, other voices have joined the chorus calling for change. In 2012, the National Academy of Sciences released a report on the future of research universities in this country, the chairman delivering the report to members of Congress. Simultaneously, the NIH created a working group co-chaired by Princeton University President Shirley Tilghman and NIH Deputy Director for Extramural Research Sally Rockey; they too released a report in June 2012^{9,10}. Both reports, coincidentally released within months of each other,

(See *F30 Survey* on Page 6)

A Surgical Career for MD/PhDs: Part II

Yun Li, University of Pennsylvania



Concern for the increasing difficulty new graduates face in the path to become an independent and funded researcher has been voiced throughout the MD-PhD community. Many of my classmates felt the same way. Two members of my MD-PhD class had recently withdrawn before starting the PhD phase of their training when they realized that they wanted to pursue a career in surgery. While the MD-PhD path is certainly not for everyone and we certainly should make room to allow students to find the right path for them, I worry that their withdrawal from the MD-PhD program has little to do with their realization that research is not the path for them. Both students were exceedingly bright, had many years of research under their belt, and would no doubt be successful in graduate school.

I also felt the same anxiety during my surgery rotation—the same intense feeling that I could not make both dreams a reality. On one side, I saw how my residents and fellows struggled to manage their medical training, and on the other I saw my PI working the same long hours in the lab. The realization came to me that it was simply impossible to work twice as hard to achieve success in both. The problem here is that for many MD-PhD students, the path to a career in medicine is clearly defined and well-trodden. In contrast, the path to success as a researcher is much more nebulous, uncertain, and increasingly more difficult to navigate. Stories and rumors of MD-PhDs who did not succeed, who ended up closing their labs to devote full time to clinical duties certainly aren't rare. As a trainee, one cannot help but be strongly discouraged by these, no matter how strong our own inspiration and drive.

Indeed, the numbers seem to validate our concerns; the age to the first R01 for MD-PhDs has steadily increased to an average of ~43 from 39, and the success rate of achieving NIH funding has been low. While the issue of attaining and maintaining research funding is certainly not a new concern, with the recent downturn in the US economy and the NIH sequestration, most biomedical scientists are finding it tougher and tougher to stay afloat. While the previous decade saw increased NIH budgets, our current economy will likely mean that this budget will continue to be held steady or even be reduced. With increasing competition for funding, many physician-scientists never make the cut of reaching their first R01, feeling that it is too difficult to keep afloat in this competitive research environment.

Moreover, for surgeons, carrying out research requires access to “protected time,” which is increasingly limited. As limits are increasingly placed on healthcare spending, hospitals focus more and more on sources of revenue. Most surgical departments are strong revenue generators, and department chairs in turn will require increased

(See *Surgery* on Page 7)

Surveying Tomorrow's Physician

Jennifer Kwan, University of Illinois at Chicago &
John Frater, The Ohio State University College of Medicine



APSA, in order to better fulfill our mission to serve the needs of physician-scientists, has set out to determine what factors influence physicians and physician-scientist trainees when they are faced with career decisions. The NIH Biomedical Workforce Task Force has called for further studies characterizing career intentions of our future physician-scientist cohort in order to promote the career vitality of all physicians and physician-scientists¹. Our Tomorrow's Physician Survey, conducted in collaboration with the American Medical Women's Association (AMWA), will identify factors that drive career decisions, as well as gauge career and specialty intentions of future physicians and physician-scientists. By identifying these factors, we aim to work with and inform policy-making bodies, such as the NIH, AAMC, AMA on ways to help reduce the attrition of physicians and physician-scientists in academic medicine as well as develop policy recommendations that would enhance the appeal of academic medical careers to future generations of physicians. Results will also be used to advocate for policies that will help ensure success in various specialties and career sectors and retain a diverse medicine workforce.

We launched the initiative with a pilot survey using the SurveyMonkey platform assessing for these factors at 5 major US institutions with Clinical Translational Science Awards and Medical Scientist Training Programs. Our pilot survey yielded a 40% response rate. From this, we have found significant data describing career intentions, specialty interests, obstacles (current & future), and important differences between MD and MD/PhD cohorts. We also found significant gender and under-represented minority differences. The results of this pilot study are being prepared for publication and will be released in detail soon. The pilot study results have been presented at several meetings in the past year, including the AMA interim meeting, the AAMC national meeting, and the Keystone Symposia joint adipose biology/diabetes meeting at the inaugural career panel. This pilot is the basis for an ongoing national study that will be utilized in our policy and advocacy efforts.

Get your voices heard and influence your future: Please take the survey if you haven't done so to help ensure the success of all physicians and physician-scientists.

Get your voices heard and influence your future: Please take the survey if you haven't done so to help ensure the success of all physicians and physician-scientists.

Reference

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Spotlight on International Health: Q&A with Faculty from the Department of Neurology at Addis Ababa

Evan Noch, PhD, Temple University School Of Medicine



In order to gain more insight into the healthcare system in Ethiopia, I sat down with four faculty members from the Department of Neurology at Addis Ababa University, Ethiopia. In this Q & A, they provide insight into their experiences as practicing neurologists in Ethiopia and the state of healthcare there today.

Evan Noch: What do you think are the greatest obstacles to providing healthcare in Ethiopia?

Dr. Getahun Mengistu: I think that the biggest problem is that of resources – resources, in terms of manpower, resources in terms of training as well as funding. In terms of manpower, the government has now changed this. Bit by bit, it will be solved probably, and the economy is improving now despite the economic decreases in the other part of the world. It's not economical to let you do lots of research, to identify problems so that health outcomes will be improved, so there are resource limitations.

Dr. Abenet Tafesse: We have a shortage of manpower at all levels, not only at the level of neurologists, but anyone rendering services to patients. We lack the hospitals and the investigating modalities that should be available. There is a neurology service only in Addis at Black Lion Hospital and Zewditu Hospital. We should really expand these. As for the training, I personally believe that we really need a neurology ward, our own ward. We need to develop a hospital facility where we can meet outpatients, where we can treat those who require neurosurgical intervention and refer them to the neurosurgical side. My belief is that if we can establish this type of facility, we will be able to train neurologists and then further even subspecialties in neurology. This hospital would be a core for training of other doctors and neurologists or other medical schools. According to the WHO, we need 1 neurologist for at least for 100,000 patients. That would amount to 900 neurologists for the Ethiopian population of 80 million people. We cannot reach that point. If we can create this kind of hospital, we can train lots of neurologists in this hospital, and we can also create satellite residency programs, maybe 4 or 5 medical schools. Schools can create their own residency program, and staff in this hospital can assist them in training residents, and within 5-10 years time, we can produce many neurologists. Otherwise, it would be difficult to reach this target. Funds are difficult to obtain, and research is very important. Our staff is trying to do research in different parts of the country, but we do not have the preliminary data or basic science for research. The basic data is important to know the incidence, prevalence, etc. Still, we have started these efforts through our predecessors, and these things are being continued.

Dr. Belachew Degefe: With regards to research, we are just able to conduct retrospective studies. Collaborative research is very important. We need to collaborate not only with other lab facilities but also with groups and institutions.

EN: How does research influence the way in which you practice neurology here, and how do you incorporate research into your clinical practice?

AT: We tend to use guidelines. The guidelines most of the time come out of research. For us to follow this research may be very difficult, not only because we don't read the publications but because there are also drugs and techniques that are unavailable. When it comes to teaching, we always teach our students to follow the standards and the guidelines, not somebody's gut feelings but to rely on evidence-based medicine. At this school, everyone would believe everything that a professor said, but these days, things are becoming evidence-based.

GM: Some research has been done on tropical diseases, especially malaria, visceral leishmaniasis, and trypanosomiasis. The best multi-country clinical trial on cholera and visceral leishmaniasis has been done in Ethiopia, and that research outcome is influencing patient care. We have been a part of that team in East Africa. To do clinical trials in this country requires a great amount of funds, and these funds are raised by the British Parliament, by the WHO, and by the NSF. There was a Parliament member involved in research, so in fact it was decided in Parliament and additional funds were raised by organizations such as the Gates Foundation and the NIH. Some members had expertise and knew how to locate funds so we can collaborate and do clinical trials and research, which is very important. This will carve the policy in this country in the future. This is the 2nd most populous country in Africa with huge demand and huge problems. If the funding comes, we can collaborate. In any country, the national data is important, and this is the day to generate evidence-based medicine.

EN: What's most effective or ineffective about the healthcare system in Ethiopia?

Dr. Guta Zenebe: It may be difficult to answer that question because we don't know the case in the rest of the country. We know that the government is trying to develop or expand issues that cover the majority of the population, like care and prevention, with more emphasis as compared to the treatment. In the past, we used to see diarrhea and infectious conditions daily, but now there is a change. Non-communicable diseases are coming. Attention to prevention of those risk factors that may lead to serious conditions may need to be emphasized. Malaria used to be a very serious problem, and in our hospital set-up, it's not a big problem. In 1989 there was an epidemic, we saw

(See Ethiopia on Page 10)

Inaugural President's Award: Dylan Dodd

From the Board of Directors & Dania Daye, President of APSA

Starting this year, APSA will be conferring the President's Service Award to an APSA member who is not a member of the Executive Council and who has made extraordinary contributions to the organization over the past year. The awardee is selected by the president and approved by the board. The inaugural recipient is Dylan Dodd. The award will be conferred during the APSA reception at the Annual Meeting. APSA is very grateful for Dylan's passionate service to the association and looks forward to being able to recognize his many contributions to APSA at the Annual Meeting this year in Chicago.

Dylan Dodd completed his PhD in 2010 in Microbiology at the University of Illinois at Urbana-Champaign, studying the molecular mechanisms underlying host-microbe symbiosis in the gastrointestinal tract. During this time, he has co-authored 13 peer-reviewed manuscripts and received an NIH NRSA MD/PhD fellowship from the NIDDK.

Dylan became involved with APSA very early in his training program. He met Freddy Nguyen, the founder of APSA, and soon became involved with the organization. He served as Annual Meeting Committee chair from 2006-2007 and led the committee to nearly double attendance at the 3rd Annual Meeting. In addition, from his committee, a number of future leaders in APSA emerged, including Nicholas Kummer, who led the Annual Meeting Committee in 2008, and Eric Schauburger, past Policy Committee chair and a current APSA Board member. The following year, Dylan moved into a new role as chair of the Finance Committee and spearheaded APSA's effort to obtain NIH funding. Working closely with Kerry O'Banion,

Freddy Nguyen, and Joseph Bast, Dylan prepared the first submission of APSA's NIH R13 grant. Although not funded on the first round, it laid the groundwork for a subsequent submission, which was ultimately funded and served as a financial foundation for the organization. In the years that followed, Dylan has been actively involved in the Annual Meeting at The Fairmont Hotel, serving as the Audio Visual chair for 4 of the last 6 meetings.

This past year, APSA's R13 award was due for renewal and Dylan stepped in to help coordinate the efforts for resubmission. Most organizations have an office for sponsored research awards that maintains connections with the government agencies that coordinate funding requests and awards. However, since APSA is a student-led organization, all of the business registration has to be coordinated by our own leadership. Since the first grant submission, APSA's registration with several government agencies had lapsed and Dylan took the initiative to completely re-register the organization and coordinate the transition into management by the Sherwood Group. Without this vital role, it is unlikely that our R13 resubmission would have been completed on time.

Dylan is currently a 4th-year medical student at UIUC and recently matched in Clinical Pathology at Stanford University, where he will be moving in June. His goal is to continue studying host-microbe interactions in the GI tract as an R01-funded investigator and co-direct a clinical microbiology lab, helping to usher in the next generation of sequencing techniques in the molecular diagnosis of human infectious diseases.

SAVE THE DATE!

10th Annual APSA Meeting

Chicago, Illinois

April 25-27, 2014

Fairmont Chicago Millennium Park

F30 Survey (cont. from page 2)

came to the same conclusion APSA's survey did two years earlier, namely that "NIH should increase the proportion of graduate students supported by training grants and fellowships compared to those supported by research project grants"¹⁰. Both groups reinforced findings previous NIH data suggested: receipt of predoctoral fellowships like the F30 is associated with shorter time to graduation, increased commitment to research as a career, and success in a research career as measured by publication record¹¹. In particular, the NIH working group report stressed the power of training grants and individual fellowships in strengthening the entire training program at institutions receiving them, even those where not every student was funded under either mechanism¹⁰.

Progress made

In the time since APSA delivered its first survey report to the NIH, predoctoral support has made important advances. In 2009, only 11 of 26 funding institutes and centers supported

Glimpses from the 2012 South Regional Meeting, Dallas, TX (November 3, 2012)



F30s. In 2010, prior to the release of the National Academy or NIH reports, the National Cancer Institute, to which a full third of trainees in APSA's survey desired to submit F30 applications, joined the NRSA F30 funding mechanism. On February 7th, 2013, prompted by the report of the NIH working group, the NRSA F30 program announcement was revised to include four additional institutes which had previously supported F30 applicants on a separate program announcement: National Heart, Lung, and Blood Institute; National Institute of Child Health and Human Development; National Institute of Allergy and Infectious Diseases; and National Institute of Arthritis and Musculoskeletal and Skin Diseases^{12,13}. Writing in her blog, Sally Rockey, NIH Deputy Director for Extramural Research, confirmed NIH plans to "[extend] the F30 ... and F31 predoctoral fellowship programs to most NIH ICs ... over the next two years"¹⁴.

Funding gaps remain

However, while signs of progress are growing, much work remains. The addition of new institutes and centers is heartening

news, but the number of NIH entities funding F30 grants has risen only from 11 of 26 to 14 of 27. Fortunately, the call for further research and policy changes continued unabated. The existing NIH working group lacked the time to fully examine the specific issues facing physician-scientists¹⁰. Noting that physician-scientists comprise roughly 30% of NIH-funded investigators, they recommended "a follow-up study that focuses on physician-scientists and involves people who train physician-scientists, as well as economists who focus on medical education costs, career choices, and the role of these as incentives"¹⁰.

Recognizing the importance of the trainee voice in shaping policy, APSA's Policy Committee continued to survey trainees to assess and identify shortfalls in F30 coverage. When the first round of surveys ended in 2010, over 870 responses from more than 110 U.S. medical institutions were collected. A second round of surveys began soon after, concluding in 2012 with over 1500 responses. Unique to the second round, the survey tool geared toward trainees included specialty intentions and included new questions for postgraduates of physician-scientist training programs to assess outcomes of F30 funding. Some of the results from this second round of surveys are discussed later in this article, and the Policy Committee is preparing the full set of results for publication. In an era of stagnant or declining NIH budgets, physician-scientist trainees must voice their concerns and voice them loudly if they hope to receive a piece of the shrinking pie.

Summary of findings

We had over 1500 responses, a ~30% response rate at the trainee level. Of the respondents, 86.4% were from current MD/PhD or DO/PhD trainees and 13.6% from postgraduates (faculty, residents, fellows, or postdocs).

Trainee Level: 15% hold or held F30

~20% of responders indicated that in choosing a research area, they considered whether they would be eligible for the F30 fellowship.

32% of respondents have applied for a F30, while 52% are planning to apply and 15% currently hold or have received an F30 fellowship.

41% stated they had to modify the topic or aims of proposed project in order to ensure they would be eligible to apply for one of the available institutes.

37% of respondents are performing research in an institute not participating in the F30 mechanism. Of these, 17% work on NINDS-related research.

Trainee Level: F30 recipients

For trainees who have received an F30 fellowship, 55% indicated that receiving a F30 fellowship has influenced their choice of postgraduate research and/or clinical training and career.

68% agree that receiving a NIH F30 fellowship has made them more likely to pursue training in a medical specialty closely related to their current research area.

(See F30 Survey on Page 8)

Committees (cont. from page 2)

website for members of the Interest Group to view. The opportunity to work with experts in specialties is a unique opportunity for our members. We are excited to offer these benefits to our members with the generous contributions of our expert mentors in these fields. Much is on the horizon for these interest groups, so check the APSA website often and expect announcements soon regarding upcoming events.



Institutional Member Initiative
Michael Guo, Chair, Finance Committee

Eligible trainees from programs with Institutional Membership in APSA are able to enjoy the benefits of APSA membership without paying membership dues. This is because Institutional Member programs recognize the benefits of APSA membership and have purchased memberships in bulk for all of the trainees in their program. We would like to thank the Institutional Members listed below for their support and for helping APSA to meet the needs of physician-scientist trainees. Visit our website to find out how your program can become an Institutional Member.

APSA's Current Institutional Members:

- Geisel MD-PhD Program at Dartmouth
- Loyola University Stritch School of Medicine
- Mayo Clinic - Rochester, MN
- Michigan State University College of Osteopathic Medicine
- Mount Sinai School of Medicine
- Oregon Health & Science University
- Perelman School of Medicine at the University of Pennsylvania
- St. Louis School of Medicine
- State University of New York Upstate Medical University
- Stony Brook University School of Medicine
- University of Chicago Pritzker School of Medicine
- University of Cincinnati College of Medicine
- University of Kentucky College of Medicine
- University of Louisville School of Medicine
- UT-Southwestern Medical School
- Vanderbilt University School of Medicine

Resident Survey

Steven Back, Chair, Membership Committee

APSA recently began an initiative to focus on resident specific opportunities. In order for us to better serve this member demographic, we are surveying current fourth year medical students and residents to understand their needs. We hope to identify factors that help or hinder a resident's career advancement as well as to gauge career desires of future physicians and physician-scientists. By identifying these factors, we will be able to craft the best resources and opportunities to reduce the obstacles faced by residents and help them on the path to a successful career.

If you are a resident or fourth-year student, please take a moment

to complete the quick survey. All participants will be entered into a drawing to receive a \$50 Amazon gift certificate! Visit: <https://www.surveymonkey.com/s/68JSTC3> to take the survey!



Future Physician-Scientist Award
Dylan Nielson, Chair, Public Relations Committee

Congratulations to the winners of our Future Physician Scientist Awards! We currently have 3 winners: Joseph Taylor, Cody Rutledge, and Alexander Garcia, with more awards coming soon.

Joseph Taylor won a \$100 award and certificate at the Medical University of South Carolina (MUSC) 2012 Research Day on November 2nd.



Mr. Taylor, a 6th year MD/PhD student came to MUSC from Davidson College, where his research focused on in vivo rodent neurophysiological studies of learning and memory and movement disorders (NINDS). Mr. Taylor is currently conducting his dissertation research in the Brain Stimulation Laboratory under the direction of Mark S. George, MD. He uses transcranial magnetic stimulation (TMS) and functional magnetic resonance imaging (fMRI) to investigate the top-down circuits involved in pain processing. More broadly, Mr. Taylor is interested in using invasive and non-invasive brain stimulation to probe neural circuitry and treat neuropsychiatric disorders.

Two students, Cody Rutledge and Alexander Garcia, won \$50 awards and certificates at the University of Illinois at Chicago's College of Medicine 2012 Research Forum on November 16th, 2012.

Cody Rutledge is studying connexin43 in cardiomyocytes. Connexin43 (Cx43) is the main gap junction protein responsible for current propagation in ventricular cardiomyocytes. Cx43 is known to be dysregulated in ischemic heart disease, and decreased Cx43 expression slows the electrical conduction across the ventricles, creating the potential for arrhythmias. Recently, the tyrosine kinase c-Src has been implicated in Cx43 regulation. Phosphorylated, active c-Src (p-c-Src) has a high binding affinity for the scaffolding protein ZO-1. ZO-1 is critical for maintaining Cx43 integrity at the gap junction. When p-c-Src binds to ZO-1, Cx43 is degraded. His project aims to investigate the protective effects of p-c-Src inhibition on models of ischemic heart disease, as well as elucidating the mechanism by which ischemia leads to p-Src activation. He did his undergraduate work at Case Western Reserve University, and currently is in the department of physiology and biophysics, working with Dr. D. Lewandowski.



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F30 Survey (cont. from page 2)

91% agree that receiving a NIH F30 fellowship has made them more likely to pursue a research career.

72% agree that receiving a NIH F30 fellowship has made them more likely to pursue a career in a field closely related to their current research area.

89% agree that attaining a NIH F30 fellowship has helped them financially in my training.

97% agree that attaining a NIH F30 fellowship has helped them progress career-wise.

Postgraduate level : 11% held a F30:

40% indicate receiving a NIH F30 fellowship made me pursue training in a medical specialty more closely related to my PhD research area (**35%** disagreed).

65% indicated that receiving a NIH F30 fellowship has made me more likely to pursue a research career.

55% indicated receiving a NIH F30 fellowship made me more likely to pursue a career in a field closely related to my PhD research area.

85% indicated that attaining a NIH F30 fellowship has helped me financially in my training.

95% indicated that attaining a NIH F30 fellowship has helped me progress career-wise.

Conclusion

These results highlight the importance of the F30 funding mechanism for physician-scientist training and career development. APSA strongly advocates for expansion of the F30 funding mechanism to all NIH institutes to support physician-scientists along the entire spectrum of training and across all disciplines. We want to thank the support of NIH, NIH leaders, MD/PhD program directors and the AAMC GREAT group for championing the support of physician-scientist training.

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Glimpses from the 2012 South Regional Meeting, Dallas, TX (November 3, 2012)



Registration at the 2012 Northeast Regional Meeting, New York, NY (November 17, 2012)



President (cont. from page 2)

nerships, increasing funding base, and increasing member benefits. With the help of the excellent Executive Council that you elected, we were able to make strides in all of those areas.

Over the past year, APSA witnessed a 30% increase in its membership, largely driven by a significant expansion of our institutional membership initiative. As part of this effort, 15 medical schools purchased bulk memberships for their trainees, MD and MD-PhD students, adding nearly an additional 500 physician-scientists in training to our ranks. APSA also continues to be represented in more than 90% of U.S. medical schools through our institutional representatives, and we are continuously striving to increase our representation to reach all physician-scientist training programs. This past year, we also launched undergraduate and resident membership initiatives and added representation of those groups to our Executive Council in an effort to better serve the needs and interests of members at those stages of training.

APSA had a very successful year planning meetings and events for our members. In the fall, APSA organized three regional meetings graciously hosted by Vanderbilt University School of Medicine, the University of Texas Southwestern Medical School, and the Icahn School of Medicine at Mount Sinai. These meetings attracted more than 500 trainees including more than 120 undergraduate students that were exposed to the prospect of becoming physician-scientists. I would like to personally thank the local planning committees who helped make these meetings a success and especially everyone who attended and provided us with feedback that is critical to our continual improvements in programming.

In November, APSA launched a new website offering improved resources and benefits to our members. Through newly added features, members now have access to interest groups providing mentorship and advice from leading physician-scientists in different specialties and stages of training. Furthermore, as part of a new social media campaign, APSA now provides members with timely alerts on cutting-edge scientific news through our Facebook and Twitter accounts. Over the past three months, our accounts have been reaching an average of 3,000 followers weekly and the number of followers is continuously increasing. In another effort to increase our support of member research, APSA was also present at a number of local medical student research days and awarded APSA research prizes for best posters and presentations by physician-scientists in training.

On the advocacy front, the APSA policy committee remains busy collecting data from you as we aim to contribute data-based policy recommendations to advocate on your behalf and fill existing gaps in your training needs. In the past twelve months, APSA analyzed data from our Tomorrow's Physician Survey that more than 1,000 of you responded to in its pilot phase. Our results and recommendations were presented at the 2012 AAMC annual

meeting, the 2012 ASHE annual conference, the 2012 AMA interim meeting, the 2013 ACTS meeting, as well as the 2013 AMWA annual meeting. The national phase of this initiative is in progress and I would encourage all of you to respond to the survey and make your voice heard.

APSA spent this year creating and fostering relationships with specialty societies in response to your feedback on this area over the past few years. APSA continues to enjoy strong ties with the Infectious Diseases Society of America (IDSA) and the Society of Academic Emergency Medicine (SAEM). APSA also created a strong partnership with the Radiological Society of Northern American (RSNA). This past year marked the inaugural annual selection of two APSA medical student members to participate in the RSNA Introduction to Academic Radiology (ITAR) Program, a program previously only open to radiology residents. APSA continues to seek partnerships with other specialty societies. You will be hearing from a number of these societies during our business meeting this year.

This year marked another milestone for APSA with the preparation and application for competitive renewal of the NIH funding that supports APSA's live programming. APSA also had a successful year on the fundraising front collecting more than \$25,000 in private donations. It is our hope to build on our success in this area over the coming year as APSA continues to expand. This year, we will be acknowledging the involvement of an APSA member who made tremendous contributions to these efforts through the inaugural conferral of the President's Service Award during the opening reception at this meeting.

As I end my presidency year, I would like to thank the 2012-2013 Executive Council, standing committees, institutional representatives, local APSA chapters and APSA members for contributing to a very successful year. I am confident that APSA will continue to grow and enjoy further successes under the leadership of Evan Noch over the coming year.

Welcome to the Annual Meeting. We hope that you enjoy the excellent program that we have planned for this year. We also hope that you find this as an opportunity to get involved in our various committees and initiatives. APSA was created by trainees and for trainees and it is through your involvement, contribution, and input that it can flourish and better serve your needs.

Best,



Ethiopia (cont. from page 4)

several malaria cases in 1 day, but that kind of picture is not happening now.

GM: The government has a local extension package. There is a local healthcare worker for every locality and for every village. How that will help in terms of prevention and care, that's what we are going to see. But currently for research, it is very important for acquisition. If you go and train them and send them out, they will bring you good data. That's what they are doing. We can reach every house in the countryside. They report any disease or epidemic.

AT: They didn't train them for research purposes, but it's easy for them. They know the community, so it's not very difficult for them to be involved in research. My personal belief is that the government should really help the introduction of the private sector into healthcare. I don't think that Americans reached this point in healthcare because of the government, it's because of the private sector. All of the new facilities, research, and techniques are built by the private sector. My belief is that as long as we

EN: What's your favorite part about being a physician and practicing medicine and neurology in Ethiopia?

GM: When I was working, there was a chronic illness project. We went every Thursday out to the health centers, traveling to the service with a Land Rover car provided by the Tropical Health Education Trust. We were treating cardiovascular problems, asthma, HTN, chest problems, diabetes, and epilepsy, and there were so many epileptics because epilepsy has a misconception. They consider somebody with epilepsy the devil, keeping the person in a home as a stigma. They hid him, not to be seen by neighbors. Therefore, there was a breakthrough because we took over the service and some people were treated. One day, there was a farmer who was tied up for more than 10 years at home with ropes so that people shouldn't see him because he has epileptic fits. Then he was given phenobarbital and had no seizures. He made it and had a child with his wife, and he has a donkey and an ox. He has sugar, maize, and potatoes. So he brought his wife, his daughter, his donkey, and his maize and potatoes to us and told me that "next to God, you are for me here, and all of this is because you treated me. That's why I'm productive. Now I have a wife, the most beloved one, a daughter, a donkey, everything." He asked me to taste some of his produce. That was very impressive.

GZ: An important motivation for me is when I see better people coming. Those people will teach our children, and the younger generation will teach us. The training aspect has remained important, to build better facilities, to collaborate, to take care of patients. As the program grows, I cannot continue to teach everyone, so all of the students must eventually become teachers themselves.

AT: To me, the two most important roles in this world are that of teachers and doctors because there is nothing like being a teacher. You always change the life of someone you meet. No matter what kinds of things you teach, you are going to change the life of that person and being a doctor is the same for me. If you are trying to heal people, if you don't completely heal them, at least you are trying to reduce their pain, change their attitudes, you are trying to change their life. So, personally, there are no other professions that can bring this significant impact to the life of an individual. I am very happy that I happen to be in both professions. I teach and I also treat people. And I learn from my students, I learn from my patients, and I am always a student and I am always a teacher. This is something that makes me really happy. I have a patient who has an encephalitis-type of disease with demyelination, and she was in the hospital almost 70 days. Luckily, we put her on methylprednisolone; she really survived, and the seizures were controlled. Now she comes to my clinic, and she is just like a doctor to me. I will never forget this patient. Even if you can save the life of one patient, that's really important for the patient and also for you. We are the products of our teachers.



From left: Dr. Getahun Mengistu, Dr. Belachew Degefe, Dr. Abenet Tafesse, & Dr. Guta Zenebe

don't involve the private sector in healthcare, I think that we will face difficulty because governments by themselves are inefficient, whether it's an American government or the Ethiopian government. Wherever you go, the government is inefficient compared to the private sector. These things will create problems in management and funding. Sometimes we do have the funds, and yet we don't have the facility.

AT: We don't have the manpower, and we really don't have the skill. Almost 80% of the population lives in the countryside, so we should build rural hospitals, healthcare facilities, and train people so that they can work in that place. If someone is trained as a doctor, there should be a facility where they can work; otherwise, increasing the number of doctors won't be helpful.

Surgery (cont. from page 3)

contributions to time and caseload by physician-scientists, reducing protected time. In contrast to many other subspecialties, surgeons are frequently on call, and the constant need to step away to go to the operating room makes it difficult, if not impossible, to focus on other endeavors. A number of my own surgical attendings have shared with me the difficulties of continuing to maintain an active research lab when their department sees so much more value in OR time. Those who are successful have emphasized the need to find a department chair who strongly supports and champions protected research time.

Together, these challenges contribute to the phenomenon of the "vanishing physician-scientist," and at times I find myself questioning the path I have chosen. But in the field of medicine, we are endowed with a truly unique gift. The price we pay -- working tirelessly and endlessly -- is rewarded by the knowledge that we are the hope of our patients, that they look to us for a future without disease. It is the voices of my patients that guide me and encourage me.

I think of Diana, who has been living with multiple sclerosis since college, still waiting for a cure. She wanted to start a family. She wanted a normal life, but MS stood in the way. To have a

baby, she would have to stop her MS drugs and face the risk of rapid relapse. Every time I see her in clinic, she asks if we have a cure or if we finally understand the cause of her disease.

Each time, I tell her that I don't know. But each time, I try to tell her something new, a step, a piece of the puzzle toward understanding and solving the mystery of MS. Something I read in NEJM or came across on Pubmed. But once, I saw her after one particularly discouraging week. A five minute visit turned into a long conversation about my career path and my training. I told her that I am not sure I believe that anything I do would make any difference, that maybe all that I did was in vain. She looked hard at me and said, "Do you believe in yourself?"

I didn't. I looked down at my hands, wondering what she would think now knowing my own self-doubt. Would she still trust me to care for her?

She put her arm around my shoulders, and said, "Well, I believe."

Last month she delivered a beautiful baby boy. I'm glad she believed.

To be continued.

Glimpses from the 2012 Southeast Regional Meeting, Nashville, TN (November 10-11, 2012)



**Let your voice be heard today:
Join an APSA Standing Committee!**

APSA works hard to support physician-scientist trainees, but we cannot do it without *your* help. Apply for a Standing Committee position today!

APSA's five Standing Committees keep APSA running and plan all APSA events and initiatives. Don't let your voice go unheard; become part of one today!

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Finance - Fund the work we do!

Membership - Grow APSA!

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Visit APSA's website for more about the Standing Committees and apply today!