



The NICHD Connection

January 2013

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Thoughts of a Postbac: On the Fiscal Crisis

By Jeffery Head

I sincerely hope that by the time you read this, any fears that our economy will plunge head first over the looming “fiscal cliff” will have become entirely irrelevant. Even as the number of days until we reach the deadline drops into single digits, the media and employees of the NICHD alike are optimistic that an immediate resolution to the crisis is imminent. This sentiment, however, is tempered by lingering suspicions that simply avoiding the cliff will not actually mend the emerging rift in our political climate. As one PI poignantly noted, “It seems like we are in a situation where a budget agreement will be hurried through at the last minute, meaning the real problem of passing from crisis to crisis will remain.”

If the political stalemate does persist and the unthinkable were to actually happen, Dr. Brant Weinstein, director of the Program on the Genomics of Differentiation, has expressed great confidence that the current budget proposal set forth by Dr. Constantine Stratakis, the scientific director, would absorb any potential impact a sequestration might have on our budget. Thanks to the collective efforts of the NICHD directors, measures like streamlined maintenance contracts and increased resource sharing would help to ensure that the burden of any further cuts would not land too squarely on the shoulders of one area of the institute.

Yet, even with these measures in place, data from the past five years reveals that as belts are tightened the positions most highly at risk are those of the trainees, which includes postbacs, postdocs, graduate students, and technical IRTAs. Since 2009, the number of full-time employee (FTE) positions at the NICHD has only dropped from 615 to 605¹, while since 2007 the number of trainee positions fell from 425 to barely above 300². Perhaps the most disappointing part of this emerging trend is that it in no way reflects the genuine attitudes of PIs and administrators towards the benefits of hiring trainees.

Training programs at the NICHD are widely regarded as unique opportunities to mentor young and aspiring professionals during the critical transitions in their careers. Unfortunately though, slowly receding budgets have forced many PIs to lean towards the long-term training of FTEs at the

(continued on page 3)

Letter from the Editor

A new year is upon us. January has always been one of my favorite months. The clearance of winter solstice summons longer days, optimism for a good year abounds, and...the in-laws have gone home. In all seriousness though, the turn of the calendar really does seem to brighten the atmosphere with sentiments of a fresh start.

I have a New Year's resolution of my own for *The NICHD Connection*. I'd like to inject a bit more science into the newsletter—we haven't run a "Hot Off the Press" column in quite some time. If any fellows have a recent publication or paper coming out in the near future, I urge you to contact us so that we may feature you in this publication. We happen to have an incredibly multidisciplinary institute, and wonderful collaboration opportunities may arise from this type of communication.

In the spirit of beginning a new year, we are running articles that look ahead. First, Jeffery Head continues his "Thoughts of a Postbac" column with a compelling piece on research training in the current fiscal climate and measures we can take for a successful future. This unique article gives insight into the perspective of younger trainees when funding is stressed.

Second, in line with the published NICHD Scientific Vision to "change the predominant

model for data use to one of open access," Dr. Yvette Pittman discusses her thoughts on the current model of scientific publishing. She offers an argument that open-access publishing is imminent and that the time to start the discussion is now.

Finally, for those of you who are looking to expand your training in the coming years, check out the articles by postdoctoral fellows Dr. Mithun Mitra and Dr. Payal Ray detailing two of the Foundation for Advanced Education in the Sciences (FAES) certificate programs. Dr. Mitra reviews the certificate in Public Health, while Dr. Ray recaps a certificate in Technology Transfer.

Wishing everyone a happy, healthy, and productive year!

Your Editor in Chief,
Shana R. Spindler, PhD

Please contact us with questions, comments, ideas, or recent publications at Shana.Spindler@gmail.com.

CORRECTION NOTICE:

In the December 2012 issue of *The NICHD Connection*, Dr. Emily King's email address is incorrect. Her correct contact information is king@math.tu-berlin.de. Please feel free to contact her with any questions regarding a Humboldt Fellowship in Germany.

Thoughts of a Postbac: On the Fiscal Crisis (continued from page 1)

expense of hiring a greater number of trainees with fewer years of experience. Dr. Henry Levin, who has supported over 20 postbacs since 1996 and is one of the program's biggest proponents, pointed out that although trainees often make significant contributions to the direction of his research, it is typically a safer decision to invest in the more permanent positions of FTEs and postdocs.

Despite the overwhelmingly positive attitude towards trainees, it is difficult not to wonder how a potential scarcity of traineeships might eventually affect the decisions of young students to pursue advanced learning in science, technology, engineering, and mathematics (STEM) subjects. While the solution to this problem will continue to be debated at the highest levels of science policy, it seems pertinent that we ask ourselves what we at the NICHD can do in the immediate future to keep bright young minds interested in science research, or at the very least science literacy.

Clues as to which direction to take in addressing this issue can be gained from those at the NIH who have been charged with fostering interest in science research at the national level. In the beginning of December, the Advisory Committee to the Director (ACD) released its plan to sustain the future of biomedical research in the U.S. (<http://www.nih.gov/news/health/dec2012/od-07.htm>). Several of the ACD's initiatives placed a strong emphasis on the need to build and strengthen mentoring opportunities available to

undergrads, postdocs, and the underprivileged.

As individuals and even as an institute there is little we can do in the immediate future to add decimal places to our budget. So while we may not be able to create new trainee positions in the current fiscal climate, we as a community can strengthen existing mentoring opportunities by guiding our trainees to retain an inquisitive mindset. We can strive to teach our trainees to view any disease or complex problem as a puzzle whose solution simply has yet to be discovered, and by doing so we can hope to reinforce an appreciation for the importance of science research in the young minds we influence.

Needless to say, this is a far cry from a permanent solution to a problem that must be addressed at the national level. But at a time when scientific funding is at stake, we should make any contribution we can to ensure that scientific training is of high quality, helping future generations of scientists and citizens understand that basic science and biomedical research are fundamental in driving innovation in the U.S.

REFERENCES:

1. Department of Health and Human Services, National Institutes of Health, FY 2013 Budget (http://www.nichd.nih.gov/about/budget/CJ/Documents/CJ_NICHD_2013.pdf)
2. Personal communications with Deputy Director of Liaison & Training Brenda Hanning

The Importance of Openness to Research Literature

By Yvette R. Pittman, PhD

We've all been there: eager to read an interesting scientific publication but restricted to view the online document. Like many others, I wasn't convinced this was a big dilemma beyond the brief frustrating moment at an "access denied" webpage. After watching a recently released PhD Comics video, however, I now think about the importance of open access in a different light.

Narrated by Nick Shockey, director of the Right to Research Coalition, and Jonathan Eisen, evolutionary biologist at the University of California, Davis, the online video takes the viewer through the world of open access publishing and explains open access benefits. One of the narrators shares a touching story of trying to access literature on a critical medical treatment at his wife's bedside. Unfortunately without a costly subscription, he couldn't electronically access the necessary papers. There he was, a scientist with the ability to understand and interpret relevant medical information, but lacking access to that very literature. In that moment, he knew this was a problem that should be addressed.

We probably all agree that scientific research content should be available to everyone, to read and build upon and to accelerate the discovery of new things! Paradoxically, journal prices have outpaced inflation by 250% over the past thirty years, according to the video. More than 15 disciplines have an average annual journal subscription



price over \$1,000. The average for biology is \$2,281. Purchasing articles one at a time is an option, but since information in abstracts is limited, you don't know which article is relevant until after you pay for it.

The narrators argue that it does not make sense for the government to pay us to do research, and then our years of results are compressed into a manuscript that all scientists cannot easily access. While the narrators realize that publishing should not be free, they suggest that we need to experiment with new publishing models that will make all research literature **free to read and re-use**. This concept is especially important as researchers develop new tools that can interact with online published work.

All researchers want discovery to happen faster, and openness could definitely help accelerate that! This is clearly the future, and we, the next generation of scientists, can start by communicating the need for a global change—open access to all research literature.

Take a few minutes and check out the video: <http://www.phdcomics.com/tv/#015>

FAES Public Health Certificate Program Review

By Mithun Mitra, PhD



Mithun Mitra

The Foundation for Advanced Education in the Sciences (FAES) at NIH offers a Public Health Certificate program, which is a great avenue to obtain a broad perspective in the public health field and establish future career opportunities. Public health entails disease prevention and optimal health maintenance

at the population level. As a bench scientist whose research focuses on the biology of HIV-host interactions, I am very interested in understanding the factors that lead to the spread of HIV in different populations and the possible ways to prevent this distribution—both important public health issues.

The Public Health Certificate Program includes five core courses in areas related to public health: statistics, epidemiology, health policy, environmental health, and behavioral sciences. For each course, participants meet once per week for about three hours, and all classes are held at the NIH Bethesda campus in the evening (5:30 p.m. onwards).

The program creates a unique environment for students. Experts in the area teach each class, and the students come from diverse backgrounds, such as basic science, clinical professions, and policy areas. The well-informed instructors and diverse student population help create stimulating class discussions.

Upon completion of the core courses, participants are required to craft a capstone project. The capstone provides participants with an opportunity to gain field experience in public health. That being said, if you're considering enrolling in the certificate program, time-management is critical since the coursework and capstone project must be juggled with research, all while trying to maintain a work-life balance.

The workload is different for each class and instructors provide ample time to finish homework. The final tests consist of class presentations and both in-class and take-home exams (depending upon the course).

I found this series of courses a wonderful way to learn how to navigate public health policy measures as well as identify research undertaken to combat public health dilemmas. The certificate program may not be a substitute for a Master's in Public Health degree, but it is a superb introduction, a great way to obtain background information, and a perfect means to gain experience in public health at the NIH campus.

THE "411":

At the time of this writing, the Public Health Certificate Program costs \$435 per course (3 credits at \$145 per credit). Please consult FAES for credit transfer information at <http://www.faes.org/grad/transfers-and-withdrawals>.

Course descriptions and registration information can be found at http://www.faes.org/grad/certificate_programs/public_health. Additional elective courses are available, but not mandatory.

What Is Technology Transfer?

By Payal Ray, PhD



Payal Ray

The field of Technology Transfer involves the transfer of scientific and technological advancements from one institution to another. This transfer of reagents and methods makes scientific

advancements more accessible to a wider range of people for further development and commercialization into newer products, processes or services. Technology Transfer can be aptly described as the intersection of science, business, and law.

Technology transfer offices are primarily involved in the processes of patenting and licensing. Agencies that have a Technology Transfer Office (and positions) include universities, government agencies (such as NIH and FDA), for-profit companies, non-government organizations, and patent law firms. Positions at these offices include licensing agent, technology development specialist, patenting agent, and monitoring and enforcement agent, to name a few.

One does not need to have a degree in law to work in the field of Technology Transfer; however, a law degree is necessary if you wish to be a patent attorney. Several important skills required in this field include: 1) broad scientific knowledge, 2) strong negotiation and persuasion skills, 3) excellent writing

skills, and 4) excellent multi-tasking and time management skills.

The Foundation for Advanced Education in the Sciences (FAES) graduate school offers a Certificate Program in Technology Transfer. The credits from this 15-credit program can be transferred towards technology transfer specialization in one of the four technology-related graduate programs at the University of Maryland University College.

The FAES course, taught mostly by staff in the NIH Office of Technology Transfer (NIH OTT) and other industry experts, focuses on the process of technology transfer from the perspective of government agencies. Within this course, students learn about the laws and regulations pertaining to the various aspects of technology transfer, such as patenting, licensing, accounting, business development, contracts and agreements. More information can be found on the FAES graduate school website at http://www.faes.org/grad/certificate_programs/technology_transfer.

As a fellow at the NIH, there are several opportunities to gain experience in technology transfer. One can volunteer at the Technology Transfer offices of the different institutes at NIH, such as NHLBI, NIAID, and NHGRI. The Technology Transfer Office for NICHD is under the NCI Technology Transfer Center (TTC). The NIH OTT and NCITTC offer internships and full-time fellowship positions respectively, for fellows interested in acquiring proficiency in this field.

Coming Soon!

Here's a sneak peek at a few topics *The NICHD Connection* will cover in the months ahead:



Dr. Lynn Loriaux from the Oregon Health and Science University highlights a few NICHD intramural accomplishments in his talk titled “The Beginning of Translational Research in NICHD’s Intramural Program: Effects on Women’s and Children’s Health.”

RESEARCH FOR A LIFETIME: NICHD’S 50TH ANNIVERSARY SCIENTIFIC COLLOQUIUM RECAP

To commemorate the 50 years since President Kennedy founded the NICHD on October 17, 1962, the NICHD held a research colloquium on December 5, 2012. The daylong event was organized into three core themes: Healthy Beginnings, Beyond Childhood: promoting the health of women, families, and individuals with disabilities, and The Next 50 years: advancing science, improving lives. Speakers travelled from around the country to share their stories about how the NICHD has revolutionized research in child health and human development and how it will continue to do so long into the future.

BIOCAREERS RESOURCE REVIEW

This amazing resource is loaded with goodies: webinars, job listings, relevant blog posts from fellow scientists, and much more. But you don’t have to wait for us, go ahead and check it out at <http://nichd.biocareers.com>.

GRANT FORWARD DATABASE REVIEW

The Grant Forward Database, found at <http://www.grantforward.com>, is a convenient way to search for outside funding and grant information. The database is open to all NIH fellows, investigators, and administrators. Applying for grants provides critical writing and organizing practice, and may even result in a nice stipend boost thanks to the ongoing NICHD Fellows Intramural Grants Supplement (FIGS) program!

PILOT KEEP THE THREAD PROGRAM

This new, three-year pilot program is designed to increase work flexibility for postdoctoral fellows during times of increased family needs. The program includes flexible schedule options, part-time work options, fee-for-service options, and special volunteer status for fellows who are unable to work, but would like to maintain access to NIH resources. More information can be found at http://sourcebook.od.nih.gov/prof-desig/Keep_the_Thread_2012.docx.

AND MORE!

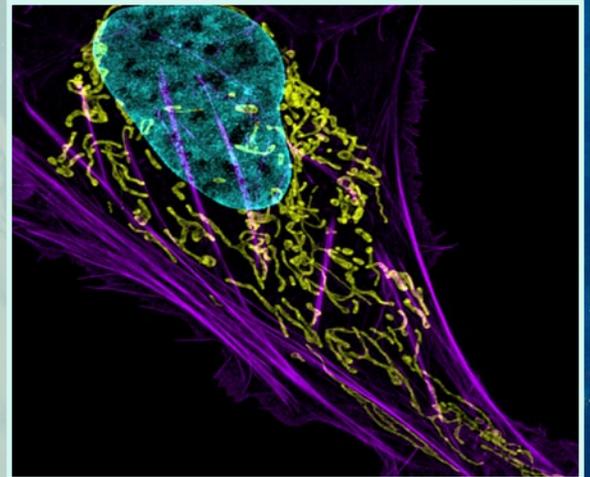
If you have an article idea that provides helpful or inspirational information to the NICHD fellow community, we’d love to hear from you! Whether or not you’d like to pen the article yourself, input from NICHD fellows helps us select subject matter for the newsletter. Please contact us at Shana.Spindler@gmail.com with your ideas.

January Announcements

A BIG, BIG CONGRATULATIONS TO DR. DYLAN BURNETTE!

Not only did Dr. Dylan Burnette nab 3rd place in the Nikon 2012 Photomicrography Competition (<http://www.nikonsmallworld.com/galleries/photo/2012-photomicrography-competition>), his unique image was recently featured on Dr. Collins's NIH Director's Blog (<http://directorsblog.nih.gov/science-becomes-art>) under the title "Science Becomes Art."

Dr. Burnette is a postdoctoral fellow in the Lippincott-Schwartz lab. His award-winning image highlights the mitochondria (yellow), actin (purple), and DNA (blue) of a human bone cancer cell (osteosarcoma).



KEEP AN EYE OUT

Dr. Andy Baxevanis, director of the Bioinformatics and Scientific Programming Core in the National Human Genome Research Institute, will visit with NICHD fellows to discuss "21st Century Science: The role of bioinformatics." Stick with your New Year's resolution not to procrastinate and be sure to mark this not-to-be missed talk on your calendar as soon as you get the details—coming to your email soon!

January Events

MONDAY, JANUARY 14, 2-3 PM

“Interviewing and the Medical School Experience”

A panel of students accepted into MD programs and senior medical students currently participating in NIH’s Medical Research Scholars Program will answer your questions on topics ranging from a typical day during professional school to what they wish they had known before entering their programs. Also, hear personal stories from recent interview experiences.

Building 31, Conference Room 2A48

Please RSVP to Yvette Pittman at yvette.pittman@nih.gov.

WEDNESDAY, JANUARY 16, 3-5 PM

“Put your PhD to Work: Planning for a Successful Career in Science”

led by Dr. Philip Clifford, Associate Dean of the Graduate School of Biomedical Sciences Medical College of Wisconsin

This session is designed to help attendees understand the importance of self-assessment as it relates an individual development plan (IDP). Some of the topics that will be discussed are data on scientific careers, becoming familiar with a process to evaluate career options, and setting specific personal goals.

Please RSVP to Yvette.Pittman@nih.gov as space is limited to 25 people.

THURSDAY, JANUARY 31, 6:30-8:30 PM

Association for Women in Science (AWIS) and AAAS Center for Careers present their annual New Year networking party – membership not required
AAAS 6th Floor Atrium

1200 New York Ave NW

Washington DC

Please RSVP to awisdc@gmail.com by January 24

