



Office of Education, Division of Intramural Research
National Heart, Lung, and Blood Institute
FELLOWS NEWSLETTER

The Fellows Newsletter is published monthly by the Office of Education, Division of Intramural Research, National Heart, Lung, and Blood Institute and distributed to NHLBI DIR members to promote the interest of DIR Fellows.

Office of Education, DIR, NHLBI

Herbert M. Geller, Ph.D., Director
Angela N. Theofilos, Program Coord.
Aurora J. Taylor, Program Coord.

DIREducation@nhlbi.nih.gov

Building 10, Room 2N242

Tel: 301-451-9440

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From the Director of the Office of Education

I hope that you all have enjoyed the snow! By the time you read this, our area will have set a new record for annual snowfall.

As you can see from the announcement below, registration is open for the renamed NHLBI DIR Scientific Retreat. We have invited the NHLBI investigators this year, which should increase the opportunity for interactions between the different laboratories. We will also have prizes based on poster and oral presentations. So send in your abstract, and I hope to see you there.

The Industry Rotation committee, chaired by Cory Lago, is in full swing, and is in the process of initiating rotations with several major companies. In addition, if you are interested in Science Policy, we are about to begin a new program with the Federation of American Societies in Experimental Biology (FASEB) that will allow NHLBI fellows, both IRTA and Visiting Fellows, to work on science policy projects at FASEB in Rockville. Watch for the official announcement soon!

Finally, Dr. Anne Deschamps is working with us to enhance the NHLBI experience for postbaccalaureate students. As a first step, we will be conducting a survey of the NHLBI postbacs to determine your needs and experiences for career enhancement activities. Watch for an e-mail asking postbacs to participate.

8th Annual NHLBI DIR Scientific Retreat

Featuring:

-Bob Kocher, M.D., Keynote Speaker

-Gerald Shulman, Ph.D., M.D., Scientific Speaker

-Peter Walter, Ph.D., Scientific Speaker

April 14-16, 2010

**The Baltimore Tremonts
Baltimore, MD**

**Registration and abstract submission
Deadline is MARCH 12.**

<http://dir-intranet.nhlbi.nih.gov/oe/retreat/>

Catching Up with Former Fellows: Edward Mills, University of Texas at Austin

To continue with our former fellow interviews, this month we are focusing on Edward Mills, Ph.D., a former fellow in Dr. Finkel's lab from 1999- 2004. Ted currently works as Assistant Professor in the Division of Pharmacology and Toxicology in the College of Pharmacy at the University of Texas at Austin.

1) What was the hardest thing about transitioning from being a fellow to being a tenure track scientist in academia?

For this question, the difficulty will be to answer briefly. By far the greatest challenge I faced was the competition for grant funding. I knew that at any major university in the nation, my ability to compete for federal funding would be critical for my tenure application 5 – 7 years after taking the job. This reality for new assistant professors in the biomedical sciences presents unique challenges for the NIH fellow as they make the transition. Intramural fellows and their mentors conduct science in an environment where high risk, high impact research is the goal, if not the standard. The research infrastructure and the promotion of scientists at NIH are geared to drive this model. On the "inside", fellows and senior scientists don't need reams of preliminary data for testing a potentially paradigm shifting idea. In stark contrast, the vast majority of NIH grant applications funded by the extramural program, namely the flagship NIH R01 five year grant, must be considered by reviewers as scientifically strong, for sure, but also low risk. Construction of the NIH grant requires planning and fantasizing five years worth of experiments whose outcomes are highly pre-

dictable based upon extensive preliminary data. The new assistant professor that proposes in an NIH R01 grant application the generation of a new genetic mouse model, for example, to test a provocative hypothesis will almost always be rejected because of the inherent risks involved. In the intramural program, fellows are encouraged and provided resources to take the risk, make the mouse, and uncover a potentially groundbreaking phenotype. I endured a considerable amount of failure and slowly began to appreciate that the research model in which I trained at NIH was not wholly appropriate for obtaining tenure-securing NIH funding once at a university. This by far presented my greatest challenge.

2) What advice do you have for fellows wanting to transition into an academic career?

Take early steps to be competitive and understand what competitive means. Also, make clear all career intentions with the NIH mentor early and often. I have served on a faculty recruitment committee for four of my five years here at UT-Austin. To compete at most top universities for a tenure track faculty position the applicant must have several first author publications in strong journals, a good pedigree, great recommendations, some evidence of grant funding success, and teaching ability. To my knowledge, K awards are the only grants that NIH fellows can apply for while at NIH. I know of two individuals that were hired here at UT-Austin that were NIH fellows that came with K-transition grants – and because of that were highly competitive for Assistant Professor tenure track faculty positions. NIH mentors need not write large grants to maintain lab funding, and many may lack the practical experience and knowledge neces-

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Non-Lab Careers for Scientists: A Web Resource

You all know that the NHLBI DIR Office of Education maintains a web site with a wealth of information about NHLBI, NIH and career development at

<http://dir-intranet.nhlbi.nih.gov/oe/>.

While you all get a snapshot of the web site when you arrive, please be aware that the web site is regularly updated with new information and new features.

Most recently, with the help of the Fellows Advisory Committee, we have launched a new web page that provides links and information on "Non-Lab Careers for Scientists". This page lists a large number of careers in which scientific and research training is important. If you are thinking about leaving the lab, check out this page. And if there is some career that is not included, we welcome your input and feedback.

The link is:

<http://dir-intranet.nhlbi.nih.gov/oe/document.aspx?SciCareers.htm>



Happy Valentine's Day from the OE!

<http://dir-intranet.nhlbi.nih.gov/oe/>

Recent Publications by NHLBI Fellows

- Ahmad, F., Lindh, R., Tang, Y.,** Ruishalme, I., Ost, A., Sa-hachartsiri, B., Stralfors, P., Degerman, E., & Manganiello, V. C. (2009). Differential regulation of adipocyte PDE3B in distinct membrane compartments by insulin and the beta(3)-adrenergic receptor agonist CL316243: effects of caveolin-1 knockdown on formation/maintenance of macro-molecular signalling complexes. *Biochem. Eng. J.* 424, 399-410.
- Baboolal, T. G., **Sakamoto, T.,** Forgacs, E., White, H. D., Jackson, S. M., **Takagi, Y.,** Farrow, R. E., Molloy, J. E., Knight, P. J., Sellers, J. R., & Peckham, M. (2009). The SAH domain extends the functional length of the myosin lever. *Proc. Natl. Acad. Sci. U. S. A* 106, 22193-22198.
- Calado, R. T.,** Regal, J. A., Kleiner, D. E., Schrupp, D. S., **Peterson, N. R.,** Pons, V., Chanock, S. J., Lansdorp, P. M., & Young, N. S. (2009). A Spectrum of Severe Familial Liver Disorders Associate with Telomerase Mutations. *Plos One* 4.
- Remmert, K., Uruno, T.,** & Hammer, J. A. (2009). Purification of capping protein using the capping protein binding site of CARMIL as an affinity matrix. *Protein Expression and Purification* 67, 113-119.
- Tsurupa, G., Hantgan, R. R., **Burton, R. A.,** Pechik, I., Tjandra, N., & Medved, L. (2009). Structure, Stability, and Interaction of the Fibrin(ogen) alpha C-Domains. *Biochem.* 48, 12191-12201.
- Vergarajauregui, S., Martina, J. A.,** & Puertollano, R. (2009). Identification of the Penta-EF-hand Protein ALG-2 as a Ca²⁺-dependent Interactor of Mucolipin-1. *J. Biol. Chem.* 284, 36357-36366.
- Wong, R., Aponte, A. M.,** Steenbergen, C., & Murphy, E. (2010). Cardioprotection leads to novel changes in the mitochondrial proteome. *Am. J. Physiol. Heart Circ. Physiol.* 298, H75-H91.
- Zuckerbraun, B. S., **Shiva, S.,** Ifedigbo, E., Mathier, M. A., Mollen, K. P., Rao, J., Bauer, P. M., Choi, J. J. W., Curtis, E., Choi, A. M. K., & Gladwin, M. T. (2010). Nitrite Potentially Inhibits Hypoxic and Inflammatory Pulmonary Arterial Hypertension and Smooth Muscle Proliferation via Xanthine Oxidoreductase-Dependent Nitric Oxide Generation. *Circulation* 121, 98-109.

sary to train the fellow how to develop a competitive and fundable scientific program. The fellow must be aware of this possibility, and seek out guidance about grants from those equipped to provide it usefully – and should do this early in their postdoctoral training. I strongly advise NIH fellows serious about academic careers to apply for K-awards.

Develop a research program with the mentor that can be taken from NIH worthy of student training and grant funding. The recruitment seminar or job talk is the “make or break” event on an interview. The audience will be focusing on how simply the applicant conveys the material (teaching and communication abilities), how strong the science is, and the clarity of the applicant’s ideas about how to move the work forward and get it funded.

When I interviewed at USUSH across the street from NIH they informed me at dinner the night before my official interview that the next morning for breakfast they wanted to hear my “shop talk” separate from the recruitment seminar that outlines my specific aims for a large NIH grant. I had no idea that was a common applicant assessment tool and spent half the night trying to get something together. Needless to say I went to my next interview better prepared. The quickest way to bomb an interview for a research faculty position is for the applicant to be ill prepared to present his / her plans for moving postdoctoral discoveries forward scientifically and getting the work funded.

Understand what “tenure track” Assistant Professor means and what the tenure process will entail. Talk

with an NIH fellow that has succeeded in getting a faculty job and better yet, has passed through the tenure process. What are the tenure requirements at typical universities? A sharp individual will have at least some idea of this going into an interview. At an average starting salary between 75 to 100K, and a startup package between 300 and 700K, the university will be investing a million or more dollars in the applicant by the time the tenure dossier is submitted. The recruitment committee will be making note of whether or not the applicant is aware of, prepared for and capable of making it through the tenure process. In most cases, the tenure application will require several quality publications corresponded by the faculty member that do not include previous mentors, strong evidence of

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the ability to obtain federal funding, strong teaching evaluations, and service to the university and community.

Be likeable. We had an NIH fellow apply for one of our open slots that had a first author Nature paper and some other very strong accomplishments and attributes. During the individual interviews with faculty members, the applicant appeared disinterested in the conversations, looked around and paid little attention. This person went from the top of the list to the reject pile for that reason. Another individual on our short list constantly interrupted faculty interviewers while they were speaking. That person also went from a likely hire to a reject position.

3) What was the best thing about your fellowship at NIH?

Let's face it; NIH is a luxurious place to do biomedical research - certainly one of the best in the world. The huge physical and intellectual resources provided an environment where I felt confident most any question could be answered efficiently. My

mentor in NHLBI taught me more than anyone to think of the big scientific picture, to pursue important and novel questions and to be unafraid to venture into unknown areas. My training in such an intellectually rich laboratory and institution has had a very positive impact on my current approach to research and student mentoring.

4) What skills do you need to successfully perform at your present job that you wish you had acquired during your training years? This is a great question.

I had NO IDEA how difficult it would be to run a laboratory, motivate students to work hard, give lectures in didactic courses, manage my budgets, sit on 10 committees, and save some time for my family in the pursuit of tenure. Skills I wish I had acquired at NIH I realize now are essential components of running a lab and managing students from diverse backgrounds and with diverse motivations? Babysitting, counseling, psychotherapy, accounting, business management, time management, teaching effectiveness, and of course, grant writing.

5) What is your scientific credo?"

It costs the same amount of money and time to address silly questions as it does important ones."

6) Any other advice you would like to impart to the fellows at NHLBI?

Go for it. The academic lifestyle is one of great freedom and personal reward. Running a lab in academia is like running a small business – but the researcher need not buy the building, pay for the electricity, etc. He / she must bring in money from the government to pay the rent and buy lab supplies, pay graduate students, show up to committee meetings and effectively teach the classes. Outside of that, the investigator's schedule and time is his own. As I see it, the most important predictor of success in a scientific career anywhere is quite simple: ask good questions, do good science, and the rest will work itself out.

*E*dward Mills, Ph.D. Can be contacted by email at: ted_mills@mail.utexas.edu

Especially for Post-Bacs

Confused about your career plans? Making the most out of your time here at NIH? Concerned about where you are going for Happy Hour on Thursday?

Let us know! The NHLBI Office of Education is conducting a survey to help us help you. We are gathering information to make your experience here at NHLBI more rewarding, more satisfying and maybe even more fun.

An e-mail with the link for the survey will be sent to all NHLBI post-bacs in the coming days. In the time it will take you to vote for your favorite American Idol singer, take a quiz on Facebook telling you who you were in a past life, plant a few crops in Farmville, see who Jake gives a rose to on The Bachelor, you could have filled out the survey and given us important information to improve your time here.

Please take a moment of your day to let us know how you feel! Thank you!