

Reflections of the National Postdoctoral Association's Inaugural Meeting

I attended the inaugural meeting of the National Postdoctoral Association¹ at which the ASCB took on a prominent role. Key invited lectures were delivered by prominent ASCB members James Nelson, Frank Solomon and Keith Yamamoto. The following is an excerpt of discussions from and reflections of the NPA meeting.

The Postdoctoral Dilemma and Paradox

Currently the administrative and spiritual environment surrounding postdoctoral

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scholars is geared such that the expectation is that after a brief while in a postdoctoral 'training' position, most trainees will continue in an academic setting. However, it is commonly acknowledged that the number of postdoctoral scholars is so large that only a fraction of them will continue in academia. On the other hand, it is not that postdoctoral scholars are unwanted or not needed in academia or industry. Indeed, biomedical research is still growing, and needs people with the skill-level of postdoctoral scholars. Hence, a key problem is that while there is an inadequate number of postdoctoral

scholars to run the life sciences, there is too large a number to place all those who would like a long-term career in academics.

Moreover, postdoctoral scholars are not remunerated in proportion to their essential contributions. Former ASCB President and embryologist Donald Brown of the Carnegie Institution of Washington phrased it this way: "What's the most economical way to fund high-quality research? There's no question that you get the biggest bang for your buck by using postdocs."

Models for Reform of Postdoctoral Positions

In his NPA keynote lecture, Keith Yamamoto suggested that the problem of too many postdoctoral scholars in "the biomedical research pipeline" could be solved by simply moving the "choice point" one step back to the PhD. Thus, he suggested that during a PhD of four-and-a-half years, one should get sufficiently exposed to various career paths so that only those truly aimed at a faculty position would go onto a postdoc of a four-year duration. He noted after the lecture: "what is needed is no less than an overhaul [of the system], with development of new principles (and new times of duration) for both graduate and postdoctoral training".

Frank Solomon proposed the idea that the choice point should be moved even further back to the Bachelor's degree, and that the bar to enter the PhD track should be significant. He urged that reform be comprehensive, and include training structure, remuneration, the laboratory job market and the role of the principal investigator. He suggested creating more non-training oriented staff scientist positions in order to provide the biomedical research entity with the "hands" needed to do the work. After the meeting he noted: "a crucial point of reformation is to uncouple the training function from the research function, so that the quantitative requirements of the latter don't distort the number of people recruited for the former. That approach to the problems in the scientific labor market is the rationale for fostering positions for experimentalists."

At present, there is a consensus that many postdoctoral scholars perceive that they are not predominantly being trained³, but rather identify themselves as workers. Academia might benefit from modeling its management principles on private sector and startup companies where laboratories could run as dynamic entities in which the principal investi-

gator is the senior manager and the postdoctoral scholars serve as junior managers with specific responsibility to drive the research endeavor in a novel direction. Consequently the current rigid academic structure would break down, permanent tenure would largely disappear, the distance between principal investigators and postdoctoral scholars would diminish both in terms of monetary compensation and daily work content, and there would be regular performance assessment of all the parties involved. Sydney Brenner in 2000 suggested that salary for people employed in basic sciences should rise until the age of about 40, and then decline in order to attract the most active and creative young scientists to basic research. After that, these people would apply their experience to management, teaching, journalism, etc.

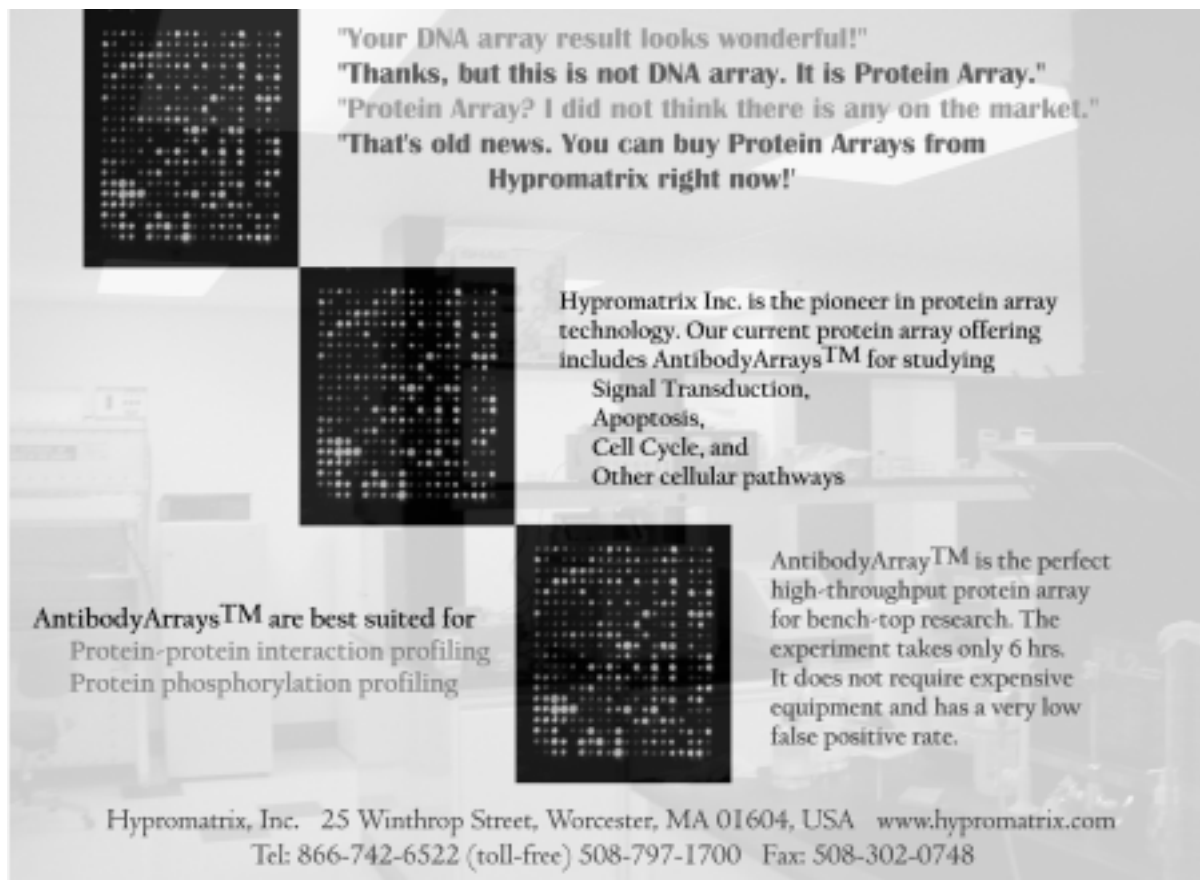
The Immediate Changes Required for Postdoctoral Scholars

Michael Teitelbaum of the Sloan Foundation noted that it will take time and require patience to reform the postdoctoral experience.

For example, at present even simple information about how postdoctoral scholars are affiliated with their institutions and how they experience their job is largely missing. To this end, the NPA is launching a national survey of postdoctoral scholars, and the ASCB Postdoctoral Subcommittee will also launch a survey of its members.

Uniform Classification of Postdoctoral Scholars

Some issues simply require better understanding and clarification. The biggest is the artificial classification of postdoctoral scholars maintained by many institutions, directly affecting compensation. Postdoctoral scholars funded by their own independent fellowship are not classified as employees, whereas those paid from grants to the principal investigator are. The basis of this distinction can be traced to the federal NRSA fellowship program. "The Congress of the United States enacted the National Research Service Act Program in 1974 to help ensure that highly trained scientists would be available in ad-



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equate numbers and in appropriate research areas to carry out the Nation's biomedical and behavioral research agenda." Consequently, postdoctoral scholars on NRSA fel-

Post-doctoral scholars on NRSA fellowships do not receive a "salary" but a "stipend" because they are considered to be *in training*. While this may seem like semantics, it affects a myriad of issues, including salary, retirement and other benefits, and institutional grievance and termination policies.

lowships do not receive a "salary" but a "stipend" because they are considered to be *in training*. While this may seem like semantics, it affects a myriad of issues, including salary, retirement and other benefits, and institutional grievance and termination policies. Since the work a postdoctoral scholar performs is not determined by the funding source, the current distinction is arbitrary and ultimately unfair. Until now, institutions have been largely passive about these classifications, typically attributing exclusive respon-

sibility to the constraints of federal policy. But it is hard to believe that the huge monetary incentive for the institution to accept the current classification scheme does not play a large part. Institutions need take an active stand in changing these issues, so all postdoctoral scholars are classified as employees regardless of their funding source, even if it requires bringing this issue to Congress to effect change.

A Concerted Change for International Postdoctoral Scholars

At present time, about 58% of postdoctoral scholars are non-US citizens. Obtaining a visa is often a major, time-consuming task for both the postdoctoral scholar and their institutions. Moreover, current visa regulations presume a three-year engagement, whereas few postdoctoral scholars finish their postdoc in that time. If the US wishes to remain an attractive place for international postdoctoral scholars, it would

seem an obvious step to streamline visa regulations, which would also result in significant cost reduction in the management of visa programs. Making matters worse, federally

administered funds for postdoctoral scholar fellowships, unlike most private funds, are restricted to US citizens despite the fact that the majority of postdoctoral scholars in the US are non-US citizens.

Restructuring Funding Possibilities for Senior Postdoctoral Scholars

While the length of the average postdoc has increased, the possibility of obtaining independent funding by senior postdoctoral scholars is minimal to non-existent. This renders the transition from senior postdoctoral scholar to independent investigator in academia or industry more challenging than necessary. For example, many senior postdocs are denied the right to apply for grants by their institutions. There was a broad consensus at the NPA meeting that more funding sources were required for senior postdocs.

A Forum for Stakeholders

UNC postdoc Lisa Cameron and I hope to solicit periodic contributions to the *ASCB Newsletter* to provide a forum to discuss and debate the diversity of issues that surround post-doctoral scholars and ultimately effect improvements and reformation

of the post-doctoral status.

Anyone who interacts with postdoctoral scholars or has an interest in postdoctoral issues is encouraged to contribute to this discussion. Please submit comments or suggestions to postdoc@ascb.org. ■

—Søren Andersen for the Education Committee's Postdoctoral Subcommittee

Notes

¹ www.nationalpostdoc.org

² *Science* 285:1519, 9/3/99

³ Freeman R., Weinstein E., Marincola E., Rosenbaum J. and Solomon F. Careers and rewards in the bio-sciences: the disconnect between scientific progress and career progression; report to the Sloan Foundation. www.ascb.org/competition.html (2001)

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