



## NIGMS Advisory Council Approves New Grant Mechanism, Discusses Reproducibility

**October 6, 2014**

At the September [meeting](#) of the National Institute of General Medical Sciences (NIGMS) Advisory Council, director Jon Lorsch provided an update on a number of issues, including the National Institutes of Health's (NIH) data reproducibility efforts, the NIGMS strategic planning process, and an overview of the impacts of the previous NIH budget-doubling period "on the biomedical research ecosystem." In addition, the Council approved the Institute's concept clearance to create the new *Maximizing Investigators' Research Award* (MIRA), clearing the way for NIGMS to proceed.

### **Reproducibility**

Lorsch noted that reproducibility is not a single issue but an issue of reproducibility of data, generalizability of conclusions, and the correctness and strength of the conclusions. According to the director, NIGMS has been leading the NIH effort around "exportable" training in this area. That effort includes training modules that will be available online, widely accessible, and free for use by any program. The topics of the modules will be in a wide range of areas and include the spectrum of issues that might impact the general area of reproducibility. Noting that the funding opportunity announcement, *Training Modules to Enhance Data Reproducibility*, [RFA-GM-15-006](#), had been released, Lorsch reported that nine of the 27 NIH institutes and centers signed on and are funding additional training modules (see [Update, September 8, 2014](#)). The additional funding will allow the NIH to support up to 21 awards.

### **NIH Budget at a Crossroads**

Pointing out that the doubling of the NIH budget, which ended a decade ago, dramatically changed the NIH ecosystem, Lorsch emphasized that the system has not recalibrated. Prior to the doubling of the NIH's budget, the paylines were better than they are today, he stated, and emphasized the resulting paradigm shift where there are more investigators that are fully supported by the NIH. The problem is the way that science has been funded and the changes that have occurred over the past couple of decades, he explained.

According to Lorsch, the NIH could continue on the path it has been on the last few years and hope that things begin to work again. Or it could make a major course correction and seek more optimal ways of doing things. To this end, NIGMS is beginning to seek "new and more effective paths" to advance its mission. Affecting the Institute's ability to do this is the issue of how to fund biomedical research, Lorsch explained. He pointed out that currently the primary way that the NIH funds research is by funding specific projects where it asks investigators to predict four years into the future what they will do and

“define it in very precise ways.” In his view, this leads to inefficiencies which affect the ability to make progress and does not reflect the way science really works. NIGMS would like to give researchers more freedom from those restraints, which Lorsch believes will lead to better science in the end. Currently, the system also allows people to submit as many grant applications as they want and consequently spend a significant amount of their time writing new grant applications. Several of the institutes are developing similar awards (see [related story](#)).

### **Maximizing Investigators’ Research Award (MIRA)**

It is these two issues the NIGMS would like to address and which led it to propose MIRA. The program’s goal is to enhance the willingness to take on scientifically ambitious problems, which the current funding system with its project-based emphasis discourages, causing people to become more conservative. NIGMS, Lorsch explained, would like to increase the availability and flexibility of investigators to go in other directions as the opportunities may arise. In addition, NIGMS would like to reduce the writing of grant applications. The feedback from the Institute’s request for information (RFI) was robust and the Institute received “many good ideas” for improvement, he noted.

As proposed, MIRA would be a single award in support of all NIGMS-relevant research in an investigator’s lab and would preclude receipt of other NIGMS funding except for research resources, training, workforce development, diversity building, clinical trials, SBIR/STTRs, and conference grants. The award would be a five-year renewable award that is longer and larger than NIGMS’ current average investigator-initiated (R01) award. Investigators would be expected to commit at least 50 percent research effort, excluding teaching, clinical, and administrative duties. Revision applications, however, to allow new collaborative work would be allowed. The Institute expects that in most cases renewal applications will be funded at the same level or with an increase or decrease, rather than an abrupt termination. NIGMS also expects that success rates will be higher than for R01 applications because fewer applications will be submitted per investigator.

The MIRA concept clearance was approved by the Council. For established principal investigators, it would provide \$40 million in direct costs and \$60 million in total costs. NIGMS could fund up to 100 awards with an average cost of approximately \$400,000 in direct costs each. This assumes that all eligible established PIs compete and all of their current funding is reprogrammed to MIRA. For Early Stage Investigators (ESIs), NIGMS support for MIRA would cost \$17 million in direct costs and \$26 million in total costs, funding up to 75 awards at an average cost each of \$250,000 in direct costs. Similarly, this assumes that all R01 funds awarded to ESIs are reprogrammed as MIRA awards.

In implementing MIRA, the Institute’s goal is to generate a “moderate” number of applications to test the application and review concepts. The pilot phase, with limited eligibility, is expected to have a neutral impact on NIGMS’ research project grant budget. The Institute plans to have separate funding opportunity announcements, review panels, and review criteria for established PIs and ESIs. The applications will be reviewed by special emphasis panels organized by NIGMS’ Office of Scientific Review. The award of MIRA will coincide with relinquishment of current NIGMS support.

### **New NIGMS Strategic Plan**

The other overarching area that the Institute is focusing on is its general strategic direction. Accordingly, NIGMS is undergoing a strategic planning process. While the RFI seeking the extramural community’s input closed on September 26, Lorsch announced that a stakeholders meeting for professional societies



associated with NIGMS is being planned for October 15<sup>th</sup>. Additional information about the process is available on NIGMS' [website](#).

