

# Will Math. Biology Change The Way Mathematics Departments/Mathematicians Are Funded?

Over the last few decades, departments like Chemistry and Physics have experiences upheavals in the way they have been funded. This change has come about because most outside funding favor applied areas. With various funding opportunities available through Biological research, one of the main issues we wanted to address was if Mathematical Biology will lead Mathematics departments to follow suit, or are there some areas of Mathematics that are “indispensable”, and will continue as they are?

We took advantage of the presence of senior members of our group to talk about *how* to get funding. It was suggested that the main funding for new researchers is through the NSF (National Science Foundation) and the RO1 (research project grant) through the NIH (National Institute of Health)/NIGMS (National Institute of General Medical Sciences). Another place that offers funding for both research and teaching in Mathematical Biology is the Howard Hughes Medical Institute. We did not get to discuss funding for foreign nationals in too much detail, but it was thought to be available in certain cases.

It was pointed out that the focus of NIH funding in the future will be in areas with very high throughput, and could possibly reduce the number of RO1’s. We looked up the NIH’s current focus areas. These were found to be

- Building Blocks, Biological Pathways, and Networks.
- Molecular Libraries and Imaging.
- Structural Biology.
- Bioinformatics and Computational Biology.

- Nanomedicine.

We also discussed various strategies for writing proposals: it was emphasized that grant proposals should be as easy to read as possible, and the main idea should come through clearly in the abstract and introduction. Dr. Attention was drawn to the importance of suggesting multiple approaches to the problem in the proposal. Consequently, it is useful to suggest alternative paths if some approaches to the problem fail.

Finally, we discussed a number of issues related to the organization of Math departments. While we agreed that major changes in the reorganization of math departments are unlikely to occur in the near future, developments in hiring practices still might have impact Mathematical Biology. For instance, the practice of replacing a non-retirement position with another specialist from the same field appears to be changing. This trend, along with the fact that more Math departments are taking Mathematical Biology seriously, and the increasing number of incentives to hire Math Biologists, bodes well for the field. Various participants also pointed out a major advantage of Mathematical Biology being housed in Math departments: faculty were assured of a 9-month salary, unlike in Engineering or Medical schools, where they are often expected to find their own funding.

The organizer of the discussion group would like to thank the following participants: Leah Edelstein-Keshet, Avner Friedman, Pranay Goel, Paula Grajdeanu, Sookkyung Lim, Hans Othmer, Arthur Sherman, and Peter Thomas.