

NIMBioS

Evaluation Report

WORKSHOP: Algebraic Mathematical Biology

JULY 25-27, 2016

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This work was conducted at the National Institute for Mathematical and Biological Synthesis, sponsored by the National Science Foundation, the U.S. Department of Homeland Security, and the U.S. Department of Agriculture through NSF Award #EF-0832858, with additional support from The University of Tennessee, Knoxville

Figure 1. Agreement with the following statements about this workshop:

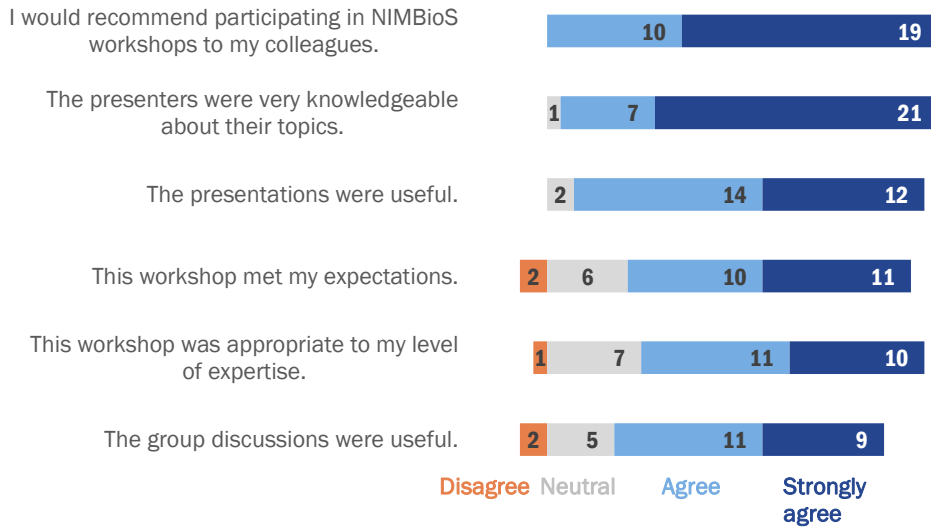


Figure 2. Agreement with “As a result of participating in this workshop, I have a better understanding of...”

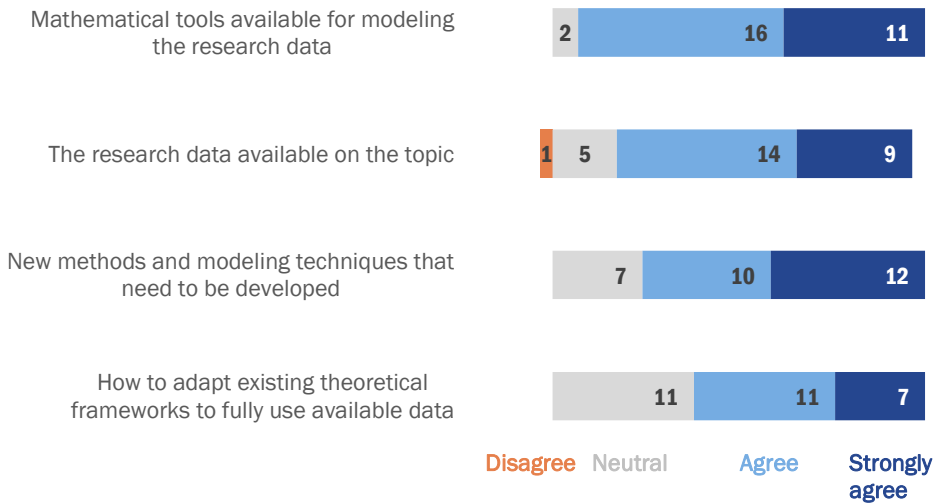
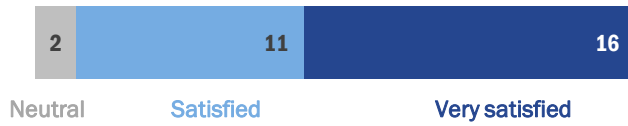


Figure 3. Level of satisfaction with the opportunities provided during workshop presentations and discussions to ask questions and/or make comments



Open-ended feedback: “Please indicate any suggestions you have for facilitating communication among participants during the workshop:”

The arrangements have clearly been developed very well over time at NIMBioS.

More cookies.

Again, if the workshop was just a little longer, we could have spent a little more time on working through the exercises and on discussions. As it was, the exercises (opportunities for exploration) proposed by several speakers had to be deferred in the interests of time.



Participants indicated the format of the workshop was a very effective format for achieving its goals.

The workshop could have been more effective if:

It focused on either research or teaching, not somewhere in between

I'm not sure. I think if the goals had been stated more clearly that might have helped.

If we could have had some time to read up on the topics being presented before the workshop, I would have felt more prepared to contribute.



Participants felt the workshop helped them better understand the research going on in disciplines other than their own on the workshops topic.

Comments:

I learned about different discrete techniques and approaches from what I currently use in my research and teaching.

This topic is slightly outside my area, so it gave me a valuable new perspective.

How using discrete math could help in teaching math to biologists - that was very useful.

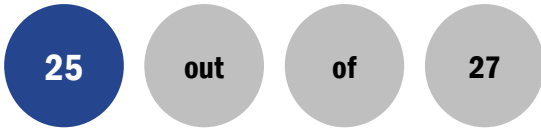
Nice mixture of topics. Homological tools and DNA reorganizations were most interesting to me. The learning tool expositions were less interesting to me but most of the other participants did not know that material and so it was a good choice.

As a biologist, I found the mathematical topics presented at the workshop challenging, but the presenters introduced appropriate research publications which allowed me to explore the literature myself. As a result, I am building an understanding of the potential applications of these mathematical methods to biological problems.

The topics discussed by the presenters were outside my areas of expertise. They gave me a good understanding of what I need to know to expand my knowledge of these areas.

I learned about a number of exciting research topics that I had almost no previous knowledge of.

Overall the workshop was well-run, but it was significantly below my level of expertise, both mathematically and biologically.



Participants felt the workshop made adequate progress towards finding a common language across disciplines for research on the workshop's topic.

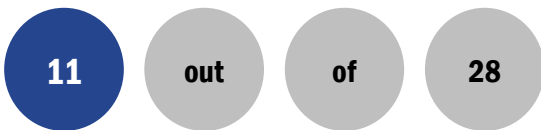
Comments:

Workshop gave plenty of time to talk to everyone about the ideas presented.

Yes, our discussions were especially productive.

The presentations were accessible to mathematicians, biologists and computer scientists.

At the level that the conference occurred ... mostly undergraduate.



Participants felt the exchange of ideas that took place during the workshop will influence their future research.

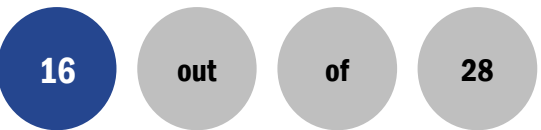
Comments:

I'm close to retirement age, so unsure how many changes I'll make in the future. Certainly will introduce some ideas in a modelling course for the future generation.

My primary motivations for attending the workshop were related to interdisciplinary pedagogy, so my primary goal was not an immediate impact on my research.

It will definitely influence my efforts in biomathematics education and I think it will also allow me to engage in new research in the future.

There were two presenters whose work was of interest. I will continue to follow their work.



Participants felt the exchange of ideas that took place during the workshop may influence their future research.

Comments:

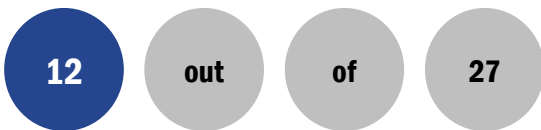
Will definitely get more involved with the Qubes group, which was incidentally part of this workshop.

Yes, I am part of a group with three mathematicians I had not even known previously.

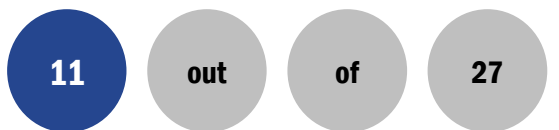
Our group is open to others joining. We hope someone will take us up on our offer.

I found two collaborators.

Again, not possible because the expertise I was hoping to find was not present.

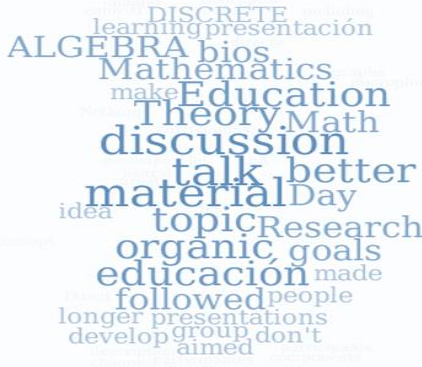


Participants developed plans for collaborative research with other workshop participants with whom they had not previously collaborated.



Participants may develop plans for collaborative research with other workshop participants with whom they had not previously collaborated.

Open-ended feedback: "What would you change about the workshop?"



The workshop description made it sound like we would be hearing about other types of discrete mathematics. I think the speakers were all focused on algebraic topology as it relates to neurobiology and neural networks. The workshop description also referenced an education component to our possible discussions which I feel we did not accomplish.

The core of the workshop was people who strongly believe that discrete math contributed to understanding of biology. I was not convinced by the examples presented. Better examples, rather than talk that "we need to teach this" would be useful - especially when speaking to skeptical audience.

The workshop would have benefited from a more structured foundational materials presentation and a true purpose-of-workshop lecture to start off the workshop.

By the end, we were directed towards the idea of preparing chapters aimed at students in math bio. The stated goals were also definitely aimed at education. However, some of the presentations seemed directed more at research questions than educational questions. I don't think that these are mutually exclusive aims, but the educational component needs to be made explicit if that is the goal. After listening (and learning a great deal) I was ready to research new ideas more than I was ready to develop curriculum, but that might be mostly determined by my own proclivities! I very well may not have enjoyed the talks as much if they were mostly about better ways to explain well-known concepts. So I wouldn't change anything, unless the goals were really curriculum creation, in which case I might not have enjoyed attending as much. That said, the talks did contain quite a bit of material that would fit the goal of "identifying topics appropriate for undergraduates not yet featured in the existing literature." If I was organizing a book I might be tempted to alternate chapters that introduce math and bio: like knot theory followed by genetic recombination, or persistent homology followed by neuronal nets, chaos theory followed by graph theory followed by neural dynamics, and so on. Of course a lot of topics appropriate for undergrads in terms of how easy they are to grasp might be inappropriate in terms of just how many concepts can actually be taught in 8 semesters... I wish there were a workshop where connections between mathematical biology and graph theory / abstract algebra / matroids / combinatorics were discussed at the level required for senior researchers in bio math to learn more material on the mathematical side.

Maybe an extra half day to discuss -- there were a lot of good conversations and not enough time to finish them all!

I think that the title was a bit deceptive. I thought it would be covering topics like category theory, discrete mathematics, algebraic topology types of things and not linear algebra

Maybe longer.

Include maybe a panel (organized) discussion about educational topics and materials to be developed.

Consider including a poster session for all participants to share (in an efficient manner) what they are doing related to the workshop content.

The workshop was great!

I think the organizers had the workshop very well planned out. I can't think of any changes to make.

I don't have any particular suggestions. I do wonder if the number of people watching the live stream makes the microphone confusion worth the while during the Q & A portion.

Microphones were bad. So they need to get better. More discussion on how these ideas are actually put into a curriculum. Most of this stuff will go into a math dept. course and I doubt it will go into a bio course. For progress to be made bio people need to learn this material in their own departments.

Continued Open-ended feedback: "What would you change about the workshop?"

It would be nice to have a more structured way of keeping in touch beyond the workshop.

More of a focus on *either* research or teaching, instead of being in between

more emphasis on ecological applications

Make it a little longer! Just having the afternoon of the third day would have allowed us to better define our collaborative project and perhaps even begin to get some work done. I understand your capacity may be limited, and don't want this to be viewed as a complaint, however. Everyone at NIMBioS was wonderful, and the organizers packed a tremendous amount into the 2.5 days we did have.

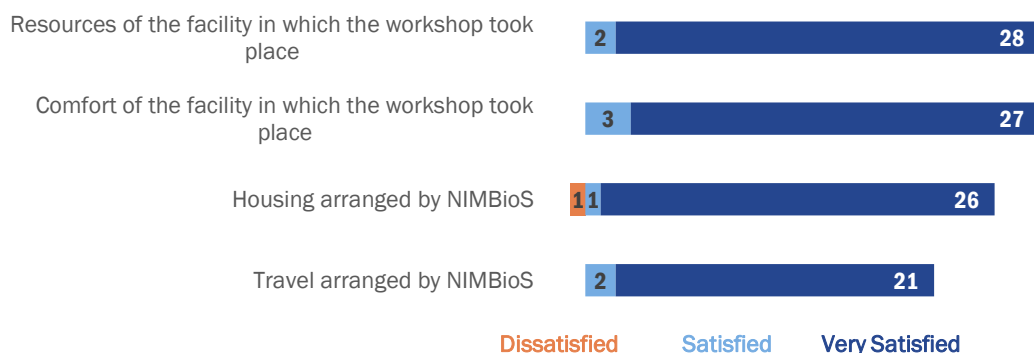
I would have a longer initial discussion period after the talks, so that we would have been able to get to more of the prepared hands-on activities and get a better feel for the talk material immediately.

I would add another day. I think most of the groups needed more time to get their project plans together.

The organizer should divide the participants into groups early.

Perhaps have somewhat shorter talks but more of them; having only 5 main groups for pedagogical development of topics was perhaps too few.

Figure 3. Level of satisfaction with the workshop accommodations:



Open-ended feedback: "Comments about accommodations:"

Everything was great!

I've been to a number of NIMBioS workshops, and every single time, the Four Points Sheraton Wi-Fi is too slow to be functional in the evenings. The hotel manager has the same predictable BS response: "I've never heard of any problem like this happening before." It's 2016 -- if they can't provide reliable internet, then they don't deserve our business.

Until traveling home, I didn't realize there was a super-economy class in flying. Frontier airlines has to be the worst flying experience ever. However, this is not NIMBioS' s fault.

The staff at NIMBioS handled every logistical detail perfectly. Thank you!

Beautiful and convenient hotel, excellent meeting spaces.

Accommodations and travel etc. were great.

Open-ended feedback: "What do you feel was the most useful aspect of the workshop?"



The workshop was probably good for graduate students and new faculty interested in discrete mathematics in mathematical biology. As an introductory workshop along these lines, it was good.

The group of scholars who work on this field

The opportunity to meet and discuss ideas with people from a broad range of backgrounds who share a common interest in these techniques. It is rare to get such a broad audience at a more research-oriented workshop.

The most useful aspects include the dissemination and discussion of content and its applications and the ability to network with others.

The group discussions and the presentations were helpful. Got introduced to new areas of research and several resources which will be helpful for undergraduate training.

The cross-section of disciplines represented by the participants.

Meeting people that I have not met before, and thinking about presenting materials to students.

Learning more about an area quite different from my usual area of study. Secondly, I was able to share my materials with a new group of people.

I thought the range of topics covered by the speakers was great. I felt a bit adrift in the first set of conversations, but I think that was likely a necessary step, so that folks had time to think a bit before the longer (and very productive) conversations the final morning.

Cross communication across the disciplines.

Presentations of a survey format as opposed to very focused on presenters' individual research.

Gaining a connection to DNA reorganization researchers and homology researchers. Three of us are planning a review of such tools in biology and our discussions were very interesting.

Meeting friendly colleagues

Meeting some local people, I could organize a session with in the future

learning about different types of network analysis used in biology

For me, the most useful aspect was meeting new people interested in biomathematics! Even though I have been involved in biomathematics education for many years, making connections with mathematicians at other institutions requires effort and time. Without this workshop, I probably would not have done so otherwise.

The conversations we had after the presentations where we discussed potential book chapters.

The talks were very interesting and helpful.

Learning about examples from other people used in their classes.

Follow-up conversations after the main talks.

The discussions with the participants are always useful ways to build collaborations.

The group discussion for the project.

The presentations by the invited speakers.

I was unfamiliar with most of the biological applications being presented. However most of the mathematics was familiar to me. Thus I found it revealing to see how these mathematical techniques and models can be applied, and so the most useful aspect of the workshop was the long presentations in tutorial style, with plenty of time for questions (which is mostly how the small groups were utilized, at least by me!)

Open-ended feedback: “Please use this space for any additional comments:”

I look forward to working on a chapter in the forthcoming volume based on the workshop.

From the moment our workshop was approved, the NIMBioS staff was there to help at every step. From the application process, to the participant selection, to the website and WordPress blog setup, to the travel and lodging organization, to the live-streaming and technical assistance during the event... Everything worked seamlessly! Thank you for helping us with all for all for this, so that as an organizer, I could focus my attention on the programmatic and research goals.

The organizers did an exceptional job making the participants and presenters diverse. Diversity in: race, gender, age, experience in the research area, rank, field of study! I was astounded they managed to have representation from so many different groups.

I would enjoy doing this again. There are additional topics that could be explored.

NIMBioS provides an unparalleled venue for mathematicians and biologists to meet, establish collaborations, and pursue educational and research opportunities in biomathematics. It is an extraordinary organization and its contributions to research and education in this important collaborative venture are nationally known and respected. I can't possibly praise the superlative NIMBioS faculty and staff enough for their work. I am extremely grateful to the organizers for putting together such a wonderful workshop and to NIMBioS for hosting it.

Please do not allow the organizers or the curator of these comments to interpret them too negatively. To the extent that I was dissatisfied, it was simply a matter of the academic level of the activities being more appropriate for a beginning bio math researcher than a senior bio math researcher interested in growing in his ability to apply techniques from abstract algebra.