10th Annual Undergraduate Research Conference at the Interface of Biology and Mathematics

EVALUATION SUMMARY REPORT

27-28 OCTOBER 2018

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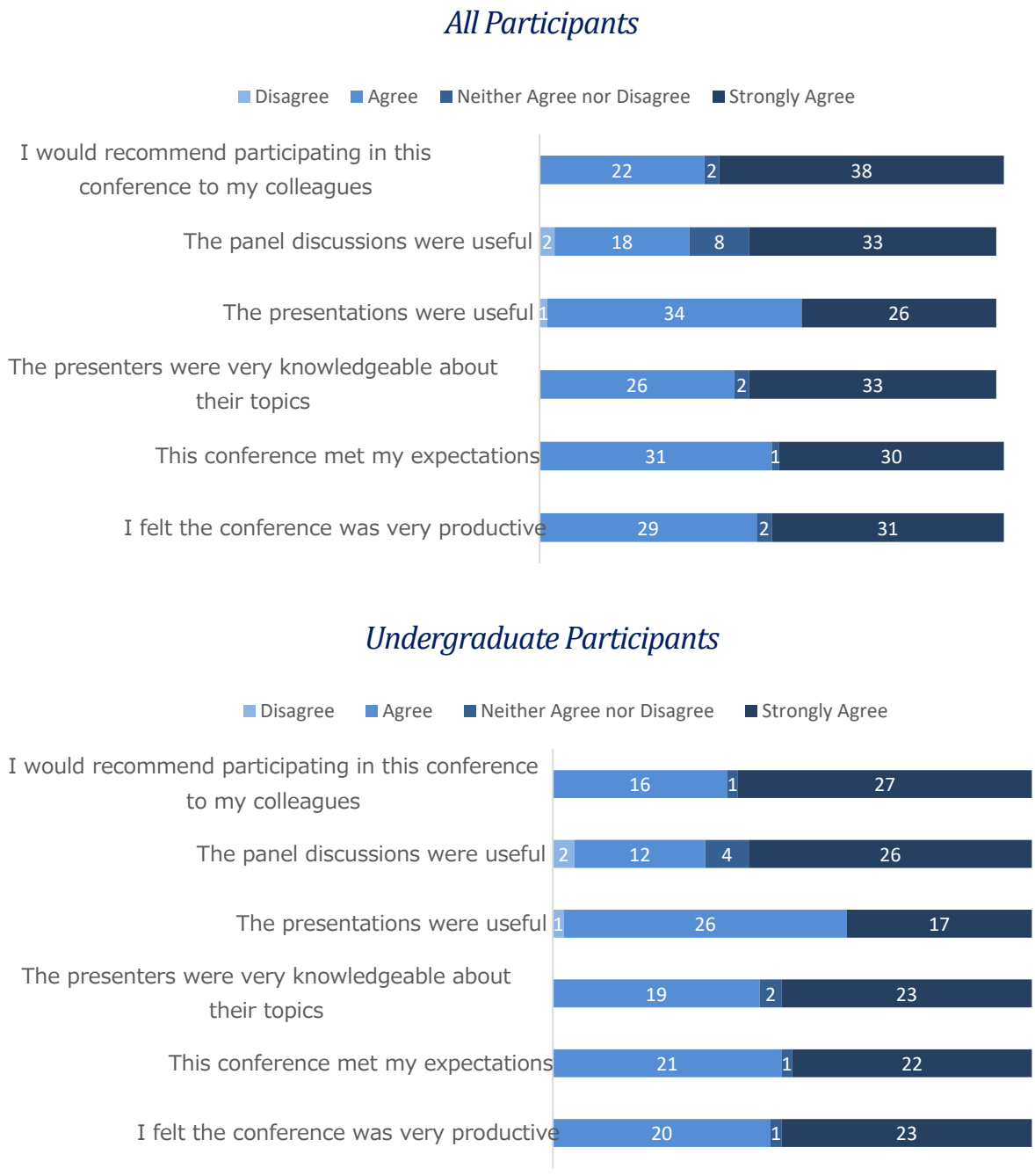
A total of **62** participants took part in a feedback survey of the 10th Annual Undergraduate Research Conference (URC) at the Interface of Biology and Mathematics. Of those, **44** (71%) were undergraduate students and **18** (29%) were non-undergraduate students.

Figure 1. Level of agreement with various aspects of the URC:



Non-Undergraduate Participants

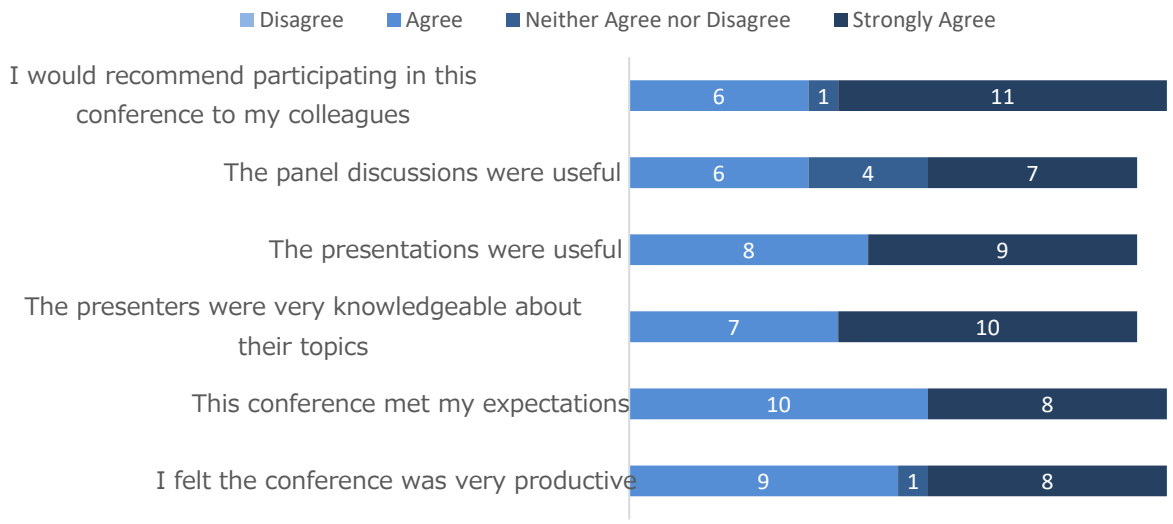
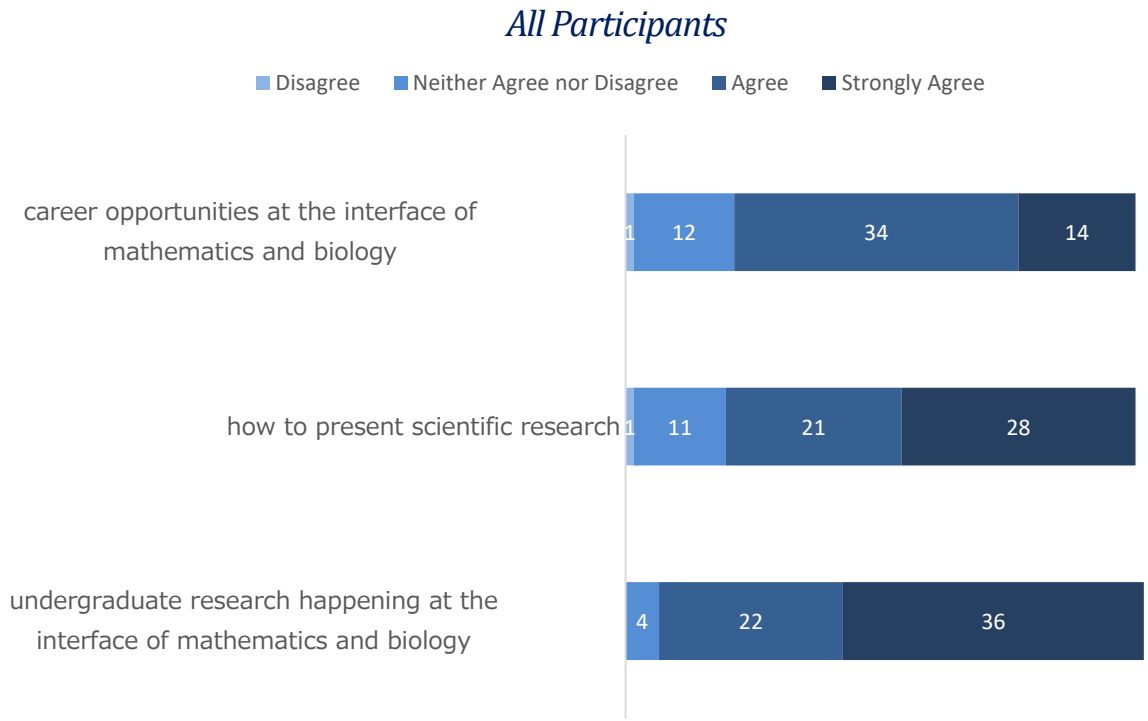
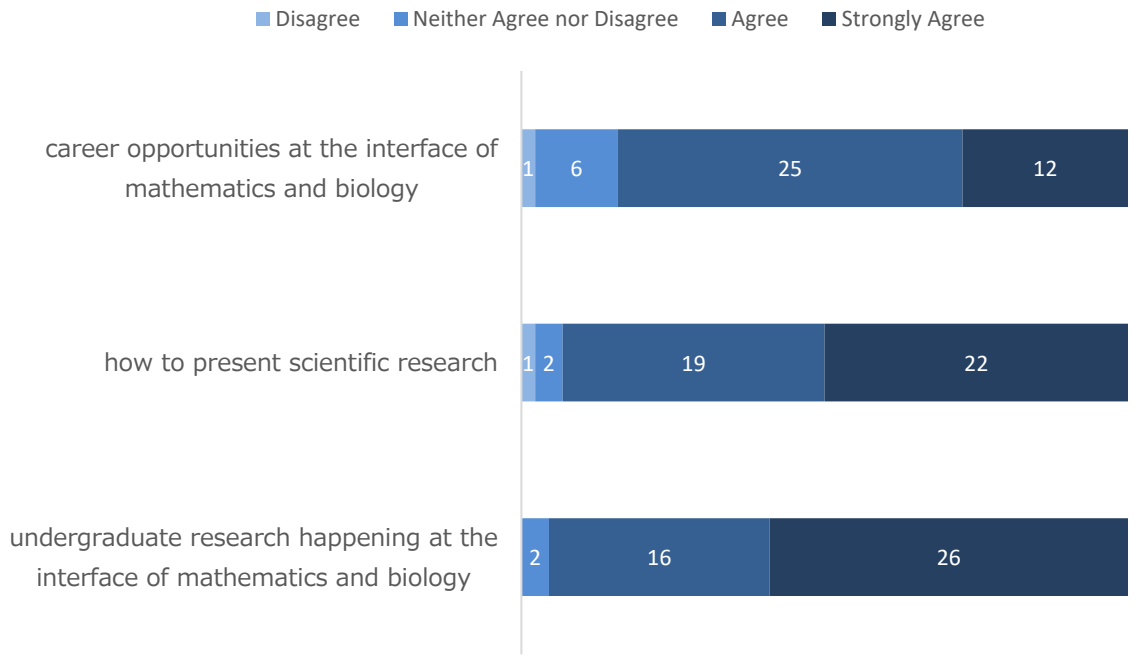


Figure 2. As a result of participating in this conference, I have a better understanding of:





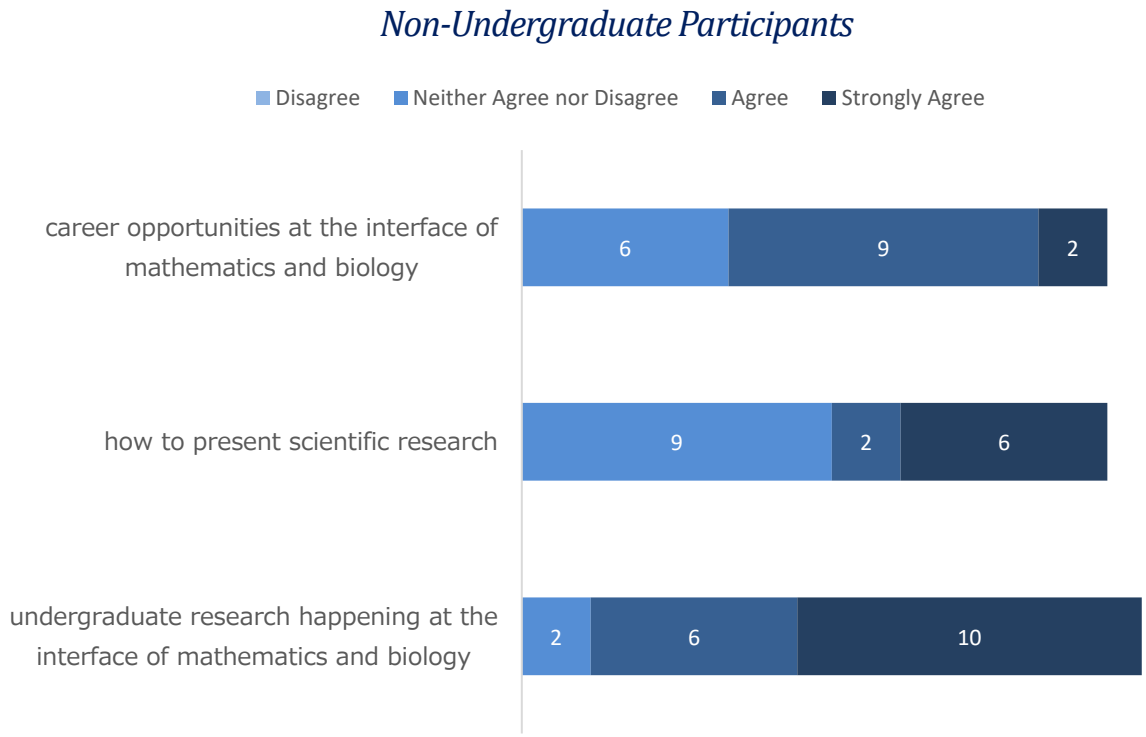
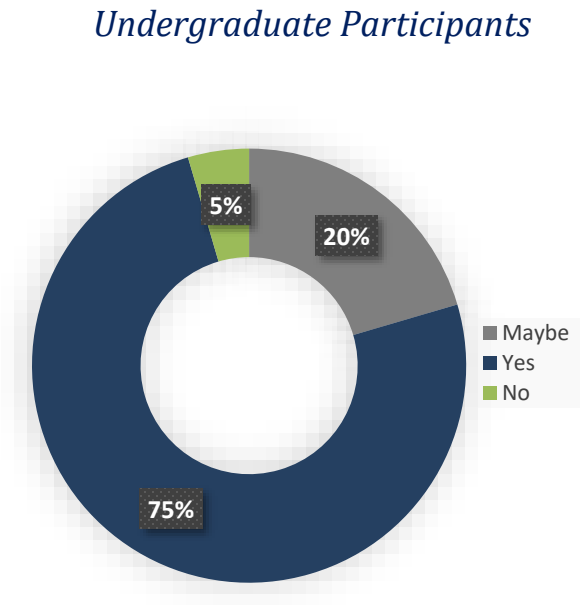


Figure 3. Do you feel that participating in the conference helped you make connections with others within the interdisciplinary field of math and biology?



Please explain:

I met many faculty members and students that are doing similar research.

I met faculty at various universities that I may now consider applying to for grad school.

While the networking activity did help me meet people, I didn't really get the chance to sit down and talk with them which I feel would have been more useful.

While our research is in this field, I don't personally see myself pursuing a career in this discipline, so it was helpful to learn my options, but I was more focused on gaining knowledge than making connections.

I was able to network a lot. It was especially nice to network with the future of math and biology as well - my peers.

I feel like the networking activity at the conference helped with making contact with other people from the field. As well as during the poster presentations where we were able to interact with the presenters and the audience. Additionally I got along quite well with my roommate, and we would talk about our fields and related things during our breaks.

I was able to connect with professors in the UT EEB department

I talked with researchers from math and computer science background and learned how to solve biology problems using math and computer science method.

I was able to talk and listen to professors and students about their research during talks and at dinner.

Opportunities to meet many people in this community.

While the networking activity was creative and seemed fun, very little to no networking occurred and most people constrained themselves to their respective clichés at school. For a student coming solo from a distant university, it was disappointing not to connect with others

I think where I made the most connections were talking with others during lunch and dinner. It helped that before the meals that the professors were presented along with their research interest.

Could have more graduate schools at the panel discussion

I was able to meet biology professors who also work with mathematicians. I previously have only worked with mathematicians, so this opportunity to see how closely the fields work together was enlightening.

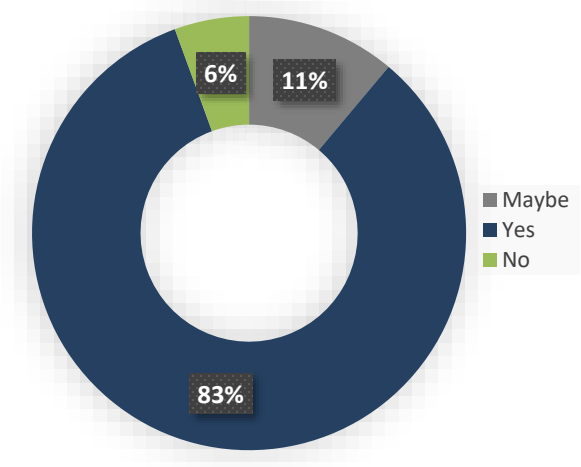
I am not majoring in math or biology, so it was hard to make connections as a Pre-Med major.

At the conference, I was able to learn about the types of research that are going on in the intersection of mathematics and biology and I was able to meet and interact with the individuals who facilitate this research.

Many of the people at the conference wanted to know more about my project. Many gave me their email address so that we could contact them later about other potential opportunities in math and biology.

I did not get the chance to make many connections, mostly because I did not spend much time at the conference.

Non-Undergraduate Participants



Please explain:

I met faculty and students I would likely not have met otherwise and learned about mathematical applications to biological phenomena I never considered before. The conference expanded my horizons professionally and intellectually.

I met very talented and bright undergraduates. As a researcher, it was great to see how other institutions are involving undergrads in cutting edge math-bio research.

Coming more from the BIO side, I felt the conference clued me into the broad themes in Bio-mathematics. I met a diverse range of students and had many pleasant conversations. As a faculty member I am interested in matching potential graduate students with the best fitting graduate programs. I think the conferences does a good job in facilitating this discussion.

I got to meet some faculty at other institutions also working in biomath.

Always nice to talk with colleagues and see what students are interested in.

Hoping I found some potential graduate students

Figure 4. What do you feel was the most useful aspect of the conference?

Undergraduate Participants

Listening to the research of the invited guests.

I really enjoyed the graduate school fair and the keynote talks.

Having the grad fair going on was very useful. Being able to talk and connect with all of these potential grad schools and asking how to get started was really helpful.

As a student who is applying to graduate schools this fall, I found the career panel and grad school showcase to be the most useful aspects of the conference.

It really made me more aware of the different fields I can go into, and provided me with an opportunity to speak to others in those fields.

Getting to hear the career panel and hear how other undergraduates are presenting their research.

Listening to other students present and receiving constructive criticism on how to make our own research even better.

Open Panel.

The Career Panel was the most useful aspect, because I like listening to the different opinions on certain aspects of Grad School and stories that these professors give about the way their career path was molded. Listening to this information helps me see things that I might not have seen had I not heard them, or make me consider different ways of pursuing careers.

The presentations and the discussion panel.

As I'm applying for graduate school, the panel discussion was helpful. Also, I benefited from different presentations. The social game was also great and it helped me to talk with others with a reason.

Connections with faculty members from a variety of different disciplines and institutions.

Networking

The connections I made with other students interested in the same things.

Talking to faculty

Panels

The graduate school panel was helpful

Presenting skills

The opportunity to interact with people interested in a similar topic

Graduate fair

Being engulfed in an environment of people who are passionate about these disciplines. It was very encouraging to get a window of insight to graduate research.

The poster presentation sessions!

The grad school panel was really helpful in giving me a better idea of what these kinds of programs are looking for and what my options are.

The graduate school fair

The panel discussion

Learning how to present my findings

I feel the most useful aspect of the conference was the schools showcase.

The panels

Being able to see other's present their research so that our research group is more prepared to present our thesis next spring.

The most useful aspect of this conference for me was the careers panel. I was able to learn a lot about the various career options available and the versatility of mathematics.

Networking

Making connections with all of the professors

The opportunity to present math/biology research at a devoted conference was unique.

The ability to be around so many great people with many different experiences

Getting to hear other students' presentations and the graduate school fair

Non-Undergraduate Participants

The networking that occurs across the board.

Given the rarity of undergraduate research conferences, I strongly feel that this conference is highly important and useful to the undergrad attendees. I also appreciate how diverse the participants were, both in terms of socio-demographics and geographic location. I was really excited to engage with the next generation of scientists and I hope that NIMBioS/UTK continues to support this activity.

Getting to know undergraduate students interested in mathematical biology.

Friendly environment for undergrads to get experience talking about their research outside of the home department.

Time for conversation between faculty.

Interactions with colleagues.

Posters

Networking (official and otherwise).

Panelist who had experience in industry and government

Networking

The opportunity that undergraduate students had to present and receive feedback on their research in a conference setting.

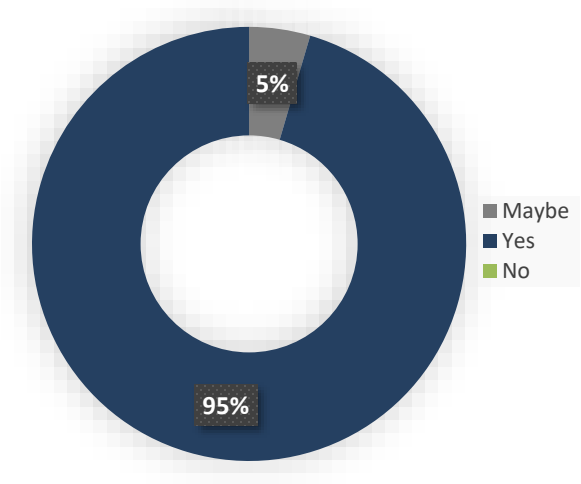
The ability to interact between the students and the faculty.

Giving undergraduate students a forum to present research

A venue for my students to present their research. I appreciate the organizers willingness to support student participation and to have a wide variety of topics.

Figure 5. Do you feel the conference was successful in achieving its goal of creating a forum through which undergraduates can present research and make new connections at the interface of math and biology?

Undergraduate Participants



Please explain:

I thought it was great that students could present a poster or give a presentation, and that a wide variety of research was accepted. It was very cool to see everyone's work.

Yes, it was quite good for presenting research be it by poster or by an oral presentation, and during these events we were able to talk with people from both fields of math and biology where we could expand our horizons and gain more knowledge on them as well as networking with people.

I was able to connect with students currently pursuing degrees in Mathematics, Computer science, and Biology. It was interesting hearing about their current research work and future aspirations.

We talked a lot about math and biology connection during the poster presentation.

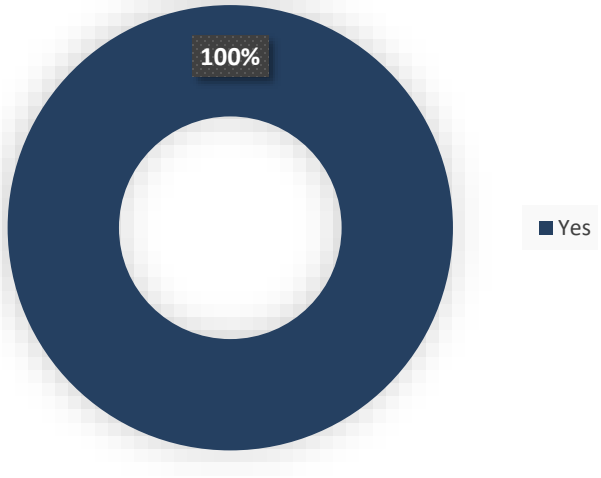
I felt that it was beneficial to get to hear and experience other types of math bio research that is out there.

The atmosphere is very inviting.

I presented research at the interface of math and biology.

Yes, definitely. I loved meeting new people and seeing their perspectives and areas of research.

Non-Undergraduate Participants



Please explain:

Teaching at an undergraduate teaching institution, I see the change my students go through once they've seen their peers present at a conference. This meeting exceeds all of their expectations about research, graduate school, conferences and etc.

Yes. However, the biological sciences are represented primarily at the organismal level. If it were possible to attract more presenters in the area of cellular imaging or cell biology (imaging, gene expression, structure, signal transduction). It is probably a matter of reaching out to the relevant faculty advisers, which is time consuming work. I understand the balance is also driven by the nature of the workshops organized at NIMBioS, where the evolutionary/ecologists have traditionally done the heavy lifting...

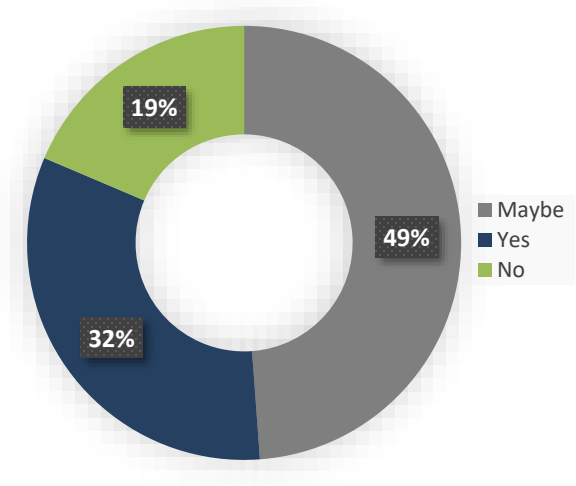
Unique venue, bringing together students and faculty from many institutions.

Met lots of undergrads

This has been one of the best venues for undergraduate students to present their work in a friendly, inviting atmosphere. Having a diverse array of talks and posters helps to engage a variety of students and illustrate the constructions across multiple disciplines in science.

Figure 6. Do you feel that the exchange of ideas that took place during the conference will influence your career plans?

Undergraduate Participants



Please explain:

I realized that there are so many interesting problems at the interface of math and biology that I was not previously aware of. I highly enjoyed the professor's presentations of their research. This conference has motivated me to look into more computational biology PhD programs.

Reassured my interest in bio-mathematics.

I haven't thought much about the research aspect of my field until now. This conference really opened my eyes to other options out there.

I still remain on the Medical School track, I simply want to adjust my research focus!

My career goals are still to attend graduate school and do research in mathematical biology/ecology

I have a better understanding of more specific career fields that are open to individuals in this field.

As mentioned previously, I don't plan on going into this field, and while the conference definitely helped me gain a better understanding of how to further my own research, I don't think it influenced my career choice.

I feel more confident in my field of research now that I know there are jobs in it.

I feel like I've had a good idea of what I wish to do for my future career plans, but that doesn't mean that I'm not open to further suggestions, which is also a good point to attend conferences, where I can gain more knowledge on different subjects and also see things that might interest me in the future that I might not have seen had I stayed in what I wish to continue as.

I did have interesting conversations with professors, it was interesting learning about nature-inspired algorithms. I may look further into it as a potential research topic.

I already know the major that I'll apply for graduate school.

I have a better understanding of the research that is out there and possible career paths.

It made me want to continue what I want to do.

I already had solid career plans prior to the conference

I had already planned to go to graduate school in math bio. This was just more of a supporting influence then changing anything.

I am not planning on going into a career in biology

Helped me narrow down my career options

I felt like seeing different aspects helped me understand what I liked and didn't like.

I now know more options

I am pre-med

I am mostly interested in psychology, but this conference has introduced me to be versatility of math and I am more confident now in my ability to apply my mathematics background in psychology.

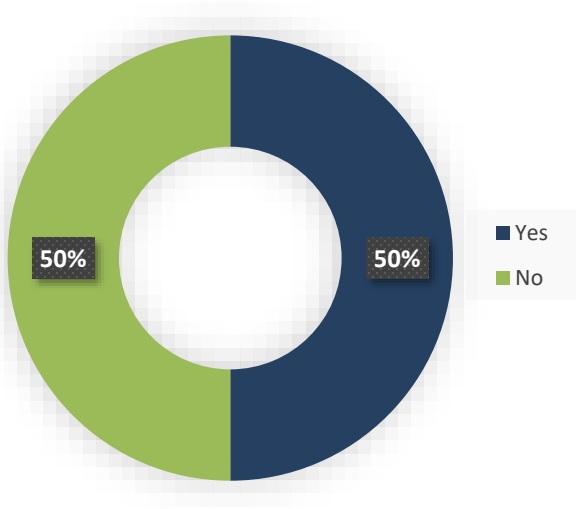
I do not know yet

My plans were not influenced.

Most definitely. I felt that this was a great opportunity to see how math was involved in biology. I especially LOVED Nina's presentation, which really expanded my view on how we apply math to biology and vice versa. I also loved the career panel, and I have a better understanding of what direction I'd like to take in my undergraduate studies.

Figure 7. Did attending the conference impact the likelihood of you applying to graduate school?

Undergraduate Participants



Please explain:

I encouraged me to apply to graduate school even more!

I've already decided to attend Grad school.

I was already planning on it.

The speakers talked about the importance of going into grad school and being able to do something that makes you happy. I enjoyed it.

I am going to Medical School.

I was already planning to apply to graduate school

I already fully intended on going to graduate school.

I feel more prepared to apply for specific programs when applying to graduate school

I was already planning on going, but seeing how involved the professors want to be with the students and what great mentors there are out there, it definitely encouraged me even more.

I'd already planned on it.

I've planned on going to graduate school, but conferences like these solidify my plans on going to graduate school.

I will be applying to grad school.

I am definitely applying to graduate school

I know I'll apply for graduate school before the conference.

I was already intending to apply.

External factors have impacted my decision to attend, but this is not the only conference I have been to.

I was already going to apply to grad school

I was already going to apply anyway

I already wanted to go to graduate school. This just confirmed that this was what I wanted to do.

I am going to grad school.

I already wanted to go.

I was planning on going to graduate school prior to the conference.

I was already pretty set on applying

I am already applying to medical school

I was already applying to graduate school.

I feel more likely to apply.

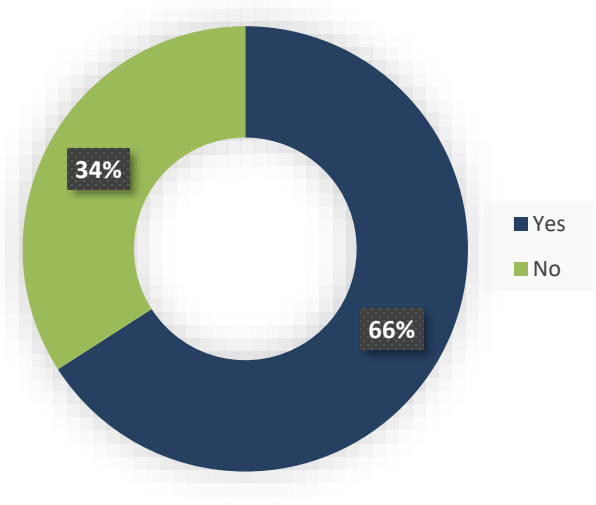
More opportunities for me have opened

I'm already applying to grad school!

Definitely. While I was unsure before, and am still unsure, I have a better understanding of the process and how I to approach grad school.

Figure 8. Did attending the conference increase the likelihood of you considering the University of Tennessee as a graduate school option?

Undergraduate Participants



Please explain:

I was already considering, but now I am 100% sure that I will apply to University of Tennessee

UT offers great opportunities of which I was not aware of

Met with professors

Yes, of any college there really.

While I was already planning to apply to the University of Tennessee, the conference increased my excitement to choose to come to UT should I get accepted.

UT doesn't offer the exact kind of graduate programs I am interested in, but I was able to find that out through the conference which was helpful.

I do not think it is the right fit for me

Yes, but probably in a related department, not necessarily applied math.

I'd already planned on it as I was an REU intern this last summer there.

Having gone to the career panel and learning more about the programs there, I will certainly consider the University of Tennessee.

I am considering UT along with many other schools.

I was able to meet with a UT EEB professor, and I am applying to his lab this application session

I was inspired by the faculty there and it's nice talking with them. Their presentations are awesome.

I was already intending to apply.

Seeing the campus and the professors increased the chances.

I didn't think about applying there before now.

I'll look into it.

No research projects I am interested in

I already had planned to apply to University of Tennessee, but it was nice to get to talk to some of the professors and explore the town.

I already have a top 5, but will consider.

I don't want to live in Tennessee

By visiting Knoxville, I realized that I would like to go to graduate school closer to my home state.

Everyone was very helpful.

This is the only place I would apply

Good school

I'm already going to UT for grad school!

Definitely. The NIMBIOS program makes it a strong point of consideration, because it has so many great resources

Figure 9. What would you change about the conference?

Undergraduate Participants

Nothing!

It may be useful to have individuals who work in industry on the panel for career options.

Having more variety of grad schools and speakers. Not just mathematical biologists, such as biomedical engineers, or other people that have applied math biology into what their field is.

More Biostatistics please.

Nothing

A few more networking activities would be cool, but overall it was a great experience.

Maybe have the communication about when and where different talks are occurring, at the end of the conference things got off schedule a bit and there was confusion.

I think it would be great if there were professionals from a wider variety of fields there rather than just biology and math. I am a global health major, so it might be helpful to have social scientists or chemists there as well to show that many types of science can coincide with applied math.

I didn't like the networking game very much. It reminded me of high school and I would have simply rather have had a break to network and communicate with others without a game.

Perhaps the poster schedule for Saturday evening might have been too late of a time, and there might not have been as many people to look at the posters as there would have been at an earlier hour.

I thought it was good. Maybe move push back the meeting time on Sunday by an hour or so.

Everything was great. If I have to say something, I would separate the name tag to two different tables. It took me a while to find my name.

Nothing comes to mind

Maybe not so late Saturday night

Nothing

There was a lot of math graduate programs and not as many biology programs

Not much

More vegan options for each meal

I think it would have been nice to have one of the keynote / featured speaks on the second day. I feel like the second day just felt less significant because of the lack of that.

Attendance by researchers in more diverse realms of math bio, rather than constricted to ecological, disease modelling, or bio-statistics studies

If possible I would like to have seen even more grad schools. I know some other major math bio ones were left out like North Carolina State, University of Utah, and a couple in California.

Nothing

Nothing

I think there should have been an initial introduction time so that every school introduced themselves before the sets game.

The poster set up. Everyone was too cramped together and because of this I feel not everyone got a chance to look at all the posters

More variety of the sciences, more activities and networking

I would suggest having more food options and stick to the schedule more. Some people were unable to eat on certain days due to dietary restrictions and some presentations started early, making it hard to switch between the rooms.

The presenters. Although the conference is more inviting, some of the presenters could offend some people. Making them aware of their boundaries in insulting some areas would cause for a better conference. I personally was not offended but I could imagine others could be.

Perhaps more mixer events. I feel like I only got to meet new people at the Set game, whereas during dinners it was more difficult to approach people I hadn't met before.

This is a hard question. I cannot think of anything in particular that I would like to change.

Non-Undergraduate Participants

Nothing.

How about adding some kind of professional development seminar for students? For example, the topics could be: how to prepare and deliver good presentations, or how to write good scientific papers.

I really hope that the conference can be continued.

Hopefully a bit larger turnout in the future.

It was great!

Vegetarian food options

*The "career panel" should continue to present other careers as options. Presenting academic endeavors as the only possibility is disingenuous. We need to give Ph.D.s meaningful and *available* career options.*

More time for networking

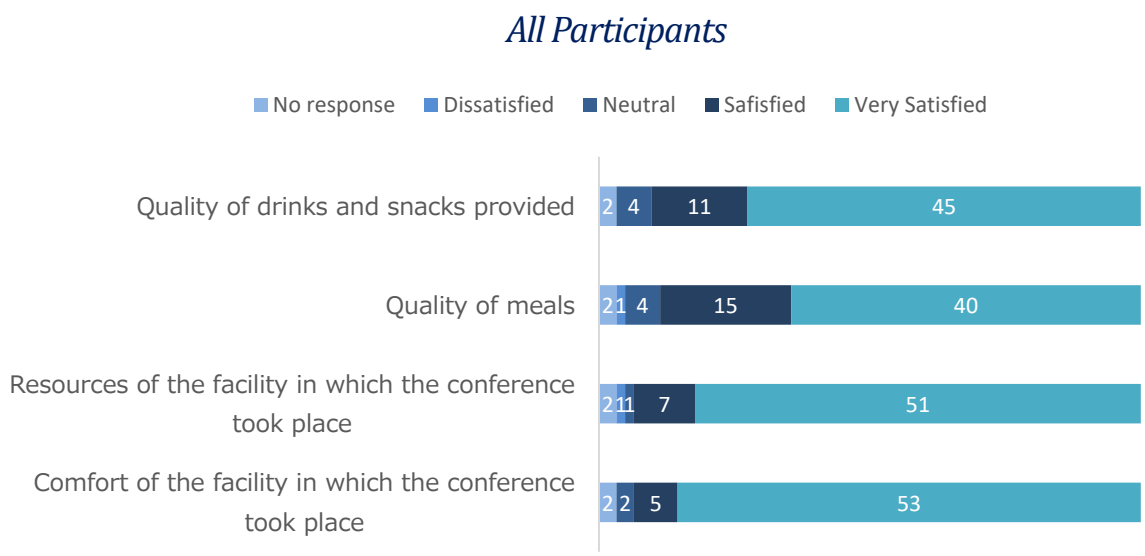
Nothing.

Nothing immediately comes to mind.

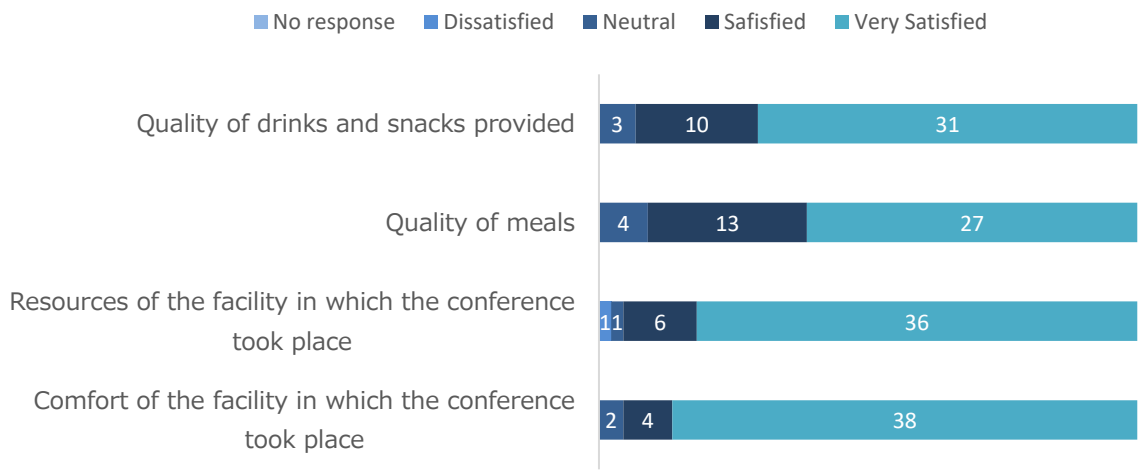
I liked the availability of funding for the students. It wasn't however always a clear as I would have liked about who had funding and who had been accepted.

The only suggestion would to have a specific time that facilitates bringing the faculty together to share ideas on how we can help facilitate undergraduate research and bring quantitative biology into our classrooms.

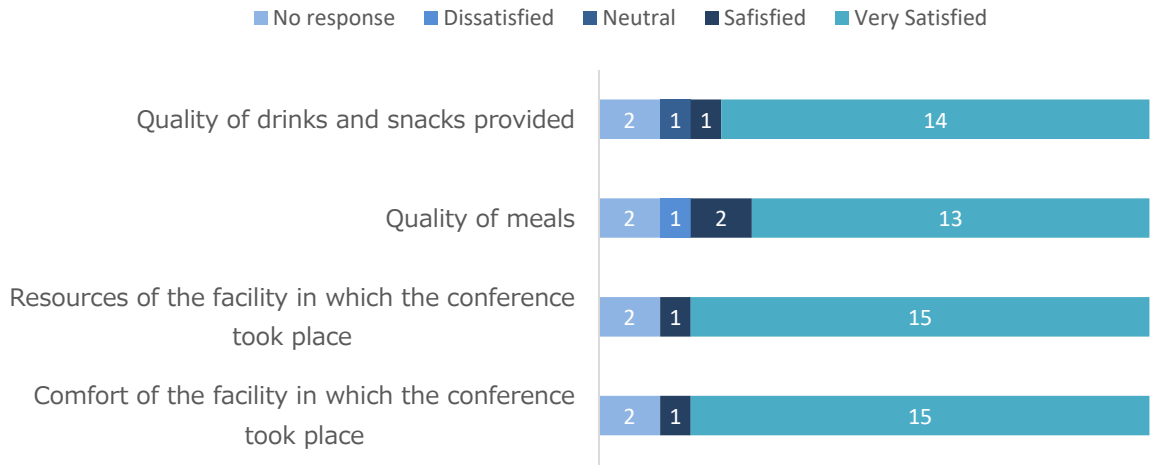
Figure 10. Please indicate your level of satisfaction with the conference accommodations:



Undergraduate Participants



Non-Undergraduate Participants



Please indicate any changes NIMBioS can make to improve the resources and/or accommodations available to conference participants:

No changes needed.

Please provide more vegetarian options besides simple salads.

None

More spaces away from the presentation spaces to have casual discussions.

Since I'm only 19 I wasn't old enough to purchase another night at the host hotel (you have to be 21), so I had to find another hotel across town.

Overall I found all the accommodations to be really good, especially the rooms which were very comfortable.

There was a lack of halal dining options. Perhaps that could be improved

None

Vegetarian food options

More vegan snacks and meals

Glad that they accommodated my vegan lifestyle

Nothing

Great

For food have everything clearly marked with all ingredients

As mentioned before, a wider variety of food would be nice, especially food that is vegetarian/vegan.

More coffee and chicken for breakfast. Also label the options for coffee i.e. decaffeinated or caffeinated.

N/A

One tiny criticism was that breakfast was very limited, I found myself pretty hungry that day. Otherwise, excellent!

Figure 11. Please provide any additional comments about your overall experience with the conference:

Undergraduate Participants

This was my first conference, and I loved it! It has encouraged me to apply to other conferences in the future. They are a great way to hear about other's people research and make great connections.

I really enjoyed this conference. It was my first and I loved the intimacy of the undergrads mixed with the professors and faculty. To be able to ask whatever question they want about their future and have it answered.

Great Conference!

It was all very exciting, interesting, and informative! Thank you!

I had an awesome time! This was definitely a great experience.

Very nice conference. I'm glad I had the opportunity to addend. Thank you for everything NIMBioS!

The conference was quite entertaining and there were so many different presentations to attend. The Networking activity was pretty unique and I enjoyed it a lot especially the fact that there were prizes in the end, which gives more incentive to participate other than making new connections, which as a standalone, is also quite good. Overall it was a really good experience.

Great experience, especially how close the hotel is.

Very good things going on here

It was refreshing to have all presenters and career panelists be women!

Overall a great experience and I would recommend to any student interested in math bio.

I had a great time.

It was a great experience!

I am very glad to have had the opportunity to attend this conference. Overall, it was well organized and very informative.

None

Thank you very much for the opportunity!

Thank you so much, it was a really nice conference.

Non-Undergraduate Participants

It was very helpful that the hotel was right across from the conference center.

Loved it. Nimbios feels like coming home.

The NIMBioS conference has been an invaluable experience for my students. Over the past 5 years I have been able to bring over 20 students. Of those over 90% have gone on to pursue graduate or professional school, bringing with them a greater appreciation of the value of cross discipline research.