

Final Report for HERC Funding for the 2021 Idaho Conference on Undergraduate Research (ICUR)
Submitted by Donna Llewellyn, Executive Director of the Boise State Institute for Inclusive and Transformative Scholarship

ICUR 2021 was held on July 21 and 22, 2021. Due to restrictions caused by COVID-19, the conference was moved to be an online event. We used the Fourwaves platform for the display of student posters and a synchronous poster fair and Zoom for synchronous talks and workshops. In terms of attendance, we were pleased that participation was robust, recovering from last year's smaller conference, with the virtual nature again allowing people to participate from any location. And for the expenses, while we didn't incur any catering, facilities, or printing charges from Boise State (usually our largest expenses), we did purchase a license to use the Fourwaves site and we utilized a much greater amount of staff time to get the conference designed, planned, and implemented. We are grateful for the HERC funding that allowed us to hold ICUR this year in spite of the continued policy of only remote events at Boise State.

There were 553 people who registered for the conference this year, with 380 participating in the Zoom sessions. This included people from over 30 different institutions/organizations. There were 207 poster presentations with a total of 599 project collaborators including 276 undergraduate students, 97 graduate students and 182 faculty (plus some postdoctoral fellows, high school students, and other community members). Our planning committee of representatives from the different colleges and universities across the state really worked hard to encourage and facilitate participation.

There were two days of workshops and presentations – see the following pages for the program schedule. More details are also available at <https://www.boisestate.edu/icur/>. Note that A pdf version of the proceedings is available at this website.

A survey was been sent out to all of the attendees. The likert scale responses and an overview of the open-ended responses are attached. We intend to use these results to improve the conference next year, as we learn from our virtual conferences about what aspects of this event are best suited to a virtual setting and which parts really suffer from a lack of in-person interaction.

The funding from HERC went to the following categories of expenditures:

Item	Amount
Program Design	\$1083.00
Online platform for poster displays and synchronous poster fair (will use this throughout the year)	9999.00
Other expenses related to online conference	496.44
Materials and Supplies	105.00
Admin, Evaluation, and Director Support	\$18316.56
TOTAL	\$30,000

ICUR 2021 PROGRAM

TIMES WEDNESDAY, JULY 21

<p>10 – 10:45 a.m.</p>	<p>OPENING SESSION: Donna Llewellyn, Boise State University Michal Temkin Martinez, Boise State University</p> <p>Location: Zoom Main Room</p>
<p>10:45 – 11 a.m.</p>	<p>BREAK</p>
<p>11 – Noon</p>	<p>PAIRED RESEARCH TALKS</p> <p>Moderator: Tracy Yarnell, Boise State University, Biomolecular Research Center</p> <p>Speakers: Dr. Donna Calhoun Faculty, Boise State University Hannah Spero, Student, Boise State University Dr. Jagdish Patel, Faculty, University of Idaho Peik Lund, Student, University of Idaho</p> <p>Location: Zoom Main Room</p>
<p>Noon – 1:30 p.m.</p>	<p>BREAK</p>
<p>1:30 – 3 p.m.</p>	<p>MEET A PROFESSOR</p> <p>Moderator: Paul Rowley, University of Idaho, Biological Sciences</p> <p>Speakers: Charles A. Addo-Quaye, Lewis-State College, Computer Science Onesomo Balemba, University of Idaho, Biological Sciences Christine Berven, University of Idaho, Physics Lili Cai, University of Idaho, Forest, Rangeland and Fire Sciences Cynn timer Curl, Boise State University, Public Health and Population Science Trevor Caughlin, Boise State University, Biological Sciences Erin Damman, University of Idaho, International Studies Sara Hagenah, Boise State University, Education Anne Hamby, Boise State University, Marketing Will Hughes, Boise State University, Materials Science and Engineering Nancy Johnston, Lewis-Clark State College, Chemistry Kory Lloyd, College of Southern Idaho, Trade and Industrial Education Eric Martin, Boise State University, Kinesiology Janet Rachlow, University of Idaho, Fish & Wildlife Sciences Paul Rowley, University of Idaho, Biological Sciences Trina Running, Idaho State University, Sociology Evan Williamson, University of Idaho, Digital Infrastructure</p> <p>Location: Zoom Main Room</p>

ICUR 2021 PROGRAM

TIMES WEDNESDAY, JULY 21

3 - 3:15 p.m.	OPEN DISCUSSION Moderator: Donna Llewellyn, Boise State University Location: Zoom Main Room
3:15 - 4:15 p.m.	GRADUATE STUDENT PANEL Moderator: Eli Bring Horvath, University of Utah Panelists: Reinalyn Echon, Idaho State University, Experimental Psychology Eli Bring Horvath, University of Utah, Biological Sciences Ember Sikorski, Boise State University, Materials Sciences Nathan Taggart, University of Idaho, Biological Sciences Danielle Yarbrough, Hawai'i at Mānoa, Linguistics Location: Zoom Main Room, Breakout Room 1 FACULTY MENTOR PANEL Moderator: Catherine Bates, Boise State University Panelists: Dr. Trevor Caughlin, Boise State University, Biological Sciences Trent Garrett, Boise State University, Materials Science and Engineering Dr. Marie-Anne de Graaff, Boise State University, Biological Sciences Dr. Georgia Hart-Fredeluces, Idaho State University, Sociology Dr. Devaleena Pradhan, Idaho State University, Integrative Physiology Location: Zoom Main Room, Breakout Room 2
4:15 - 4:30 p.m.	CLOSING REMARKS Moderator: Donna Llewellyn, Boise State University Location: Zoom Main Room
4:30 p.m.	ADJOURN FOR THE DAY

ICUR 2021 PROGRAM

TIMES THURSDAY, JULY 21

10 – 11 a.m.	STUDENT LIGHTNING TALKS Moderator: Liljana Babinkostova, Boise State University Panelists: Audrey Howe, College of Southern Idaho, Biological Sciences Colton Burr, Northwest Nazarene University, Engineering Mackenzie Bennett, Boise State University, Anthropology Marcus Emmen, College of Western Idaho, Biological Sciences Rachel Hull, Lewis-Clark State College, Health & Biological Sciences Tanner Badigian, University of Idaho, Biological & Health Sciences Treyton Harris, Idaho State University, Biological Sciences Location: Zoom Main Room
11 – 12:30 p.m.	POSTER SESSION – PART 1 Moderator: Donna Llewellyn, Boise State University Location: Zoom Main Room
12:30 – 1:30 p.m.	BREAK
1:30 – 3 p.m.	POSTER SESSION – PART 2 Moderator: Donna Llewellyn, Boise State University Location: Fourwaves ICUR Site
3 – 3:30 p.m.	CLOSING SESSION Moderator: Donna Llewellyn, Boise State University Speaker: TJ Bliss, Idaho State Board of Education Location: Zoom Main Room
3:30 p.m.	ADJOURN THE CONFERENCE

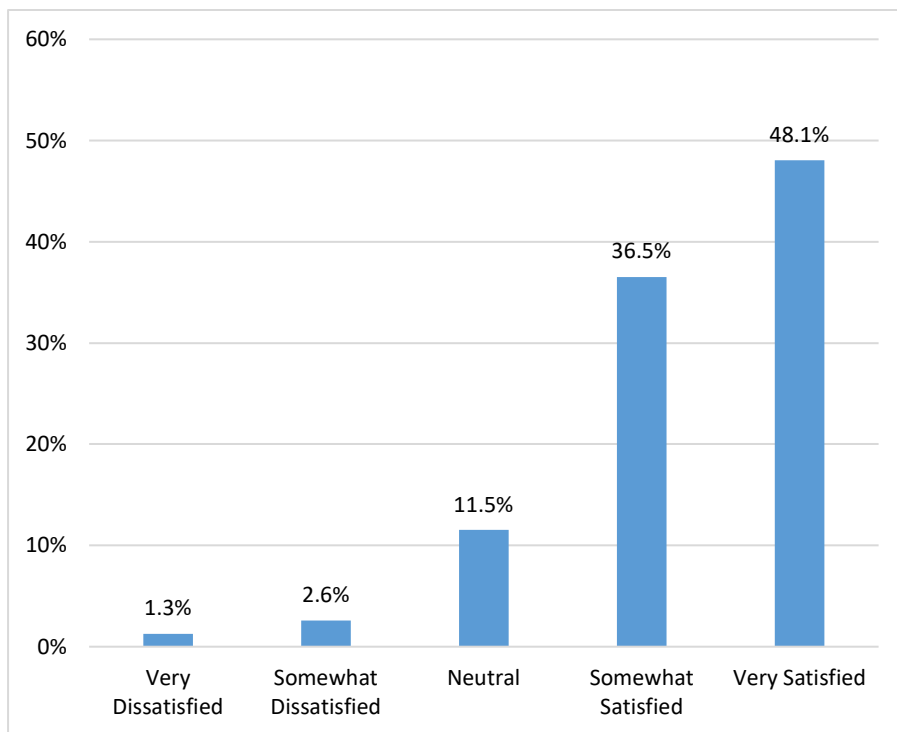
**Idaho Conference on Undergraduate Research 2021
Survey Results**

RESPONSE RATE: 34.4%

- 547 attendees (excludes 6 IFITS staff who did not receive the survey)
 - 348 students (63.6%)
 - 199 faculty/staff/other (36.4%)

- 188 recorded responses; 5 of these are incomplete responses

Q2) Please indicate your overall satisfaction with the 2021 Idaho Conference on Undergraduate Research.

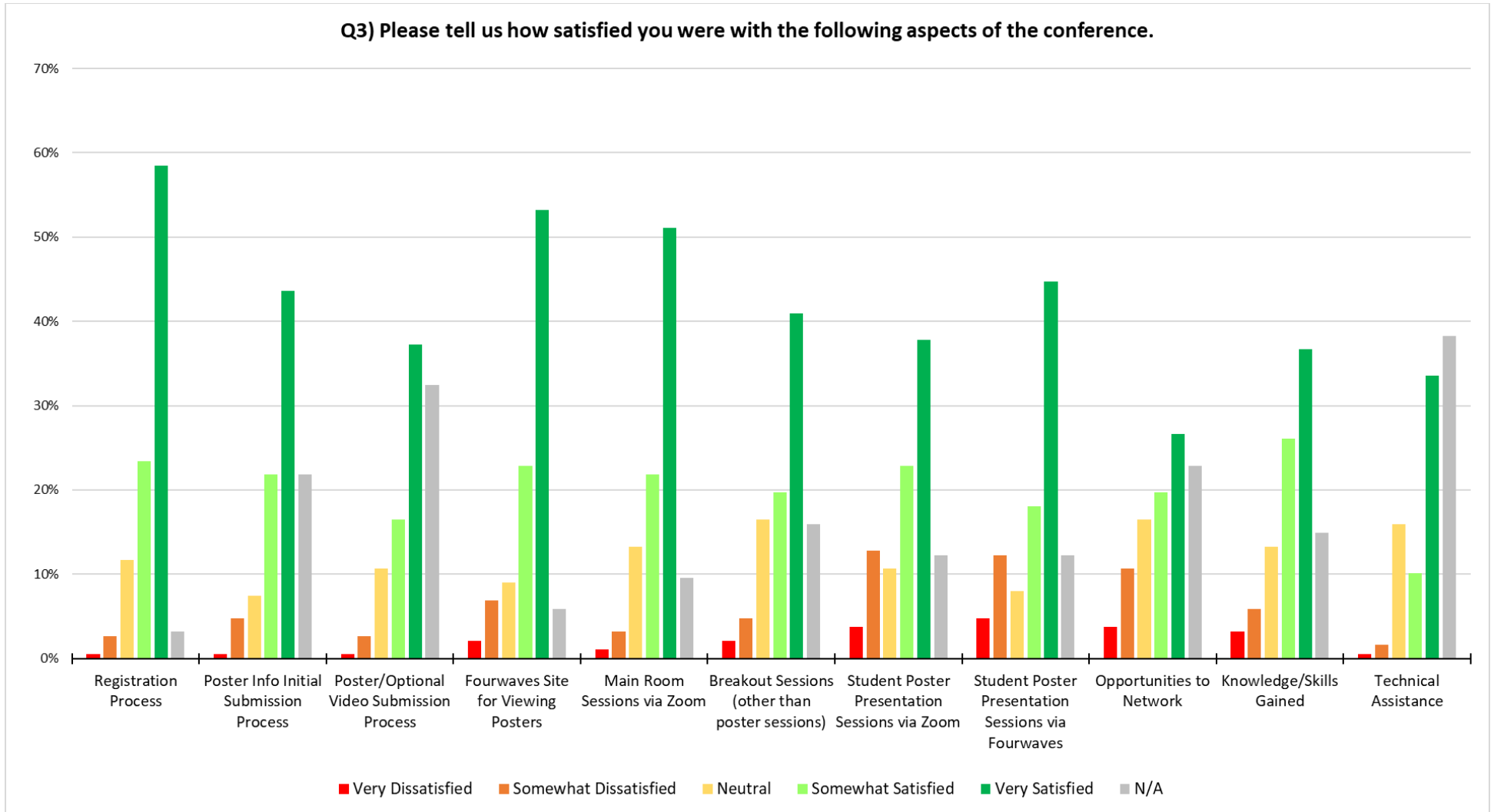


Answer	%	Count
Very Dissatisfied	2.1%	4
Somewhat Dissatisfied	8.0%	15
Neutral	11.2%	21
Somewhat Satisfied	35.6%	67
Very Satisfied	43.1%	81
Total	100.0%	188

Q3) Please tell us how satisfied you were with the following aspects of the conference.

Aspect	Very Dissatisfied		Somewhat Dissatisfied		Neutral		Somewhat Satisfied		Very Satisfied		N/A		Total	
	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count
Registration Process	1%	1	3%	5	12%	22	23%	44	59%	110	3%	6	100%	188
Poster Info Initial Submission Process	1%	1	5%	9	7%	14	22%	41	44%	82	22%	41	100%	188
Poster/Optional Video Submission Process	1%	1	3%	5	11%	20	16%	31	37%	70	32%	61	100%	188
Fourwaves Site for Viewing Posters	2%	4	7%	13	9%	17	23%	43	53%	100	6%	11	100%	188
Main Room Sessions via Zoom	1%	2	3%	6	13%	25	22%	41	51%	96	10%	18	100%	188
Breakout Sessions (other than poster sessions)	2%	4	5%	9	16%	31	20%	37	41%	77	16%	30	100%	188
Student Poster Presentation Sessions via Zoom	4%	7	13%	24	11%	20	23%	43	38%	71	12%	23	100%	188
Student Poster Presentation Sessions via Fourwaves	5%	9	12%	23	8%	15	18%	34	45%	84	12%	23	100%	188
Opportunities to Network	4%	7	11%	20	16%	31	20%	37	27%	50	23%	43	100%	188
Knowledge/Skills Gained	3%	6	6%	11	13%	25	26%	49	37%	69	15%	28	100%	188
Technical Assistance	1%	1	2%	3	16%	30	10%	19	34%	63	38%	72	100%	188

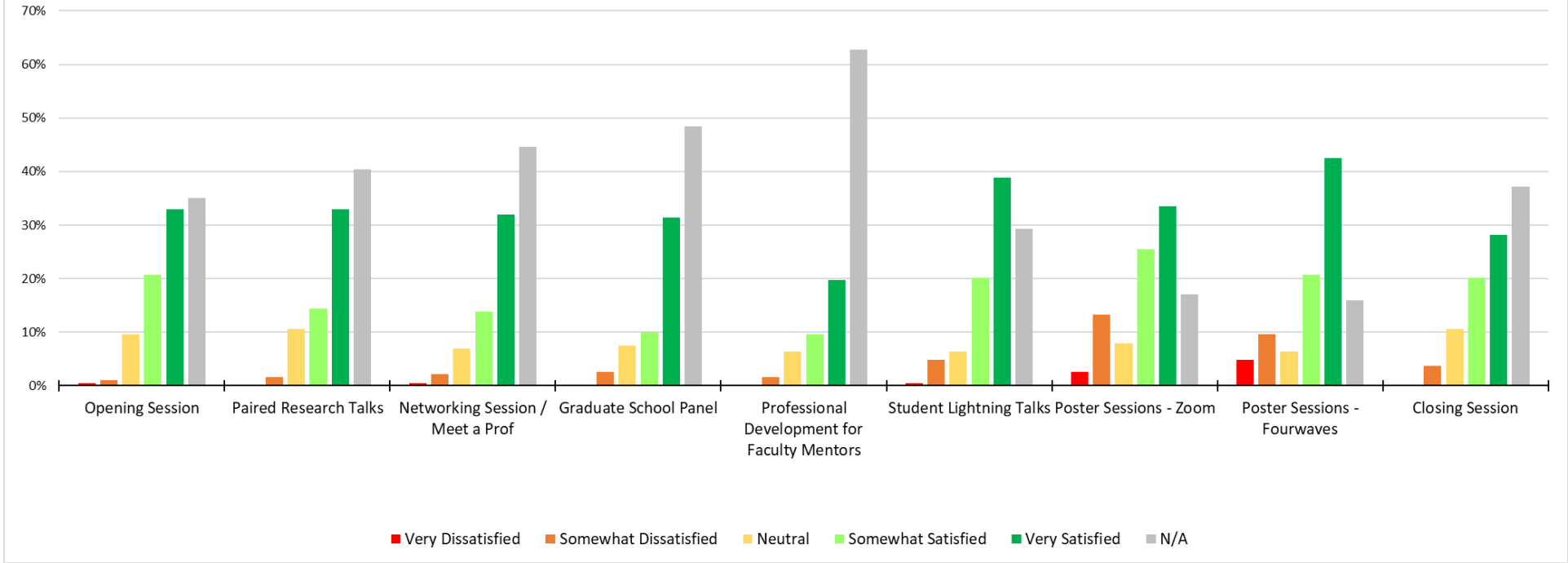
Q3) Please tell us how satisfied you were with the following aspects of the conference.



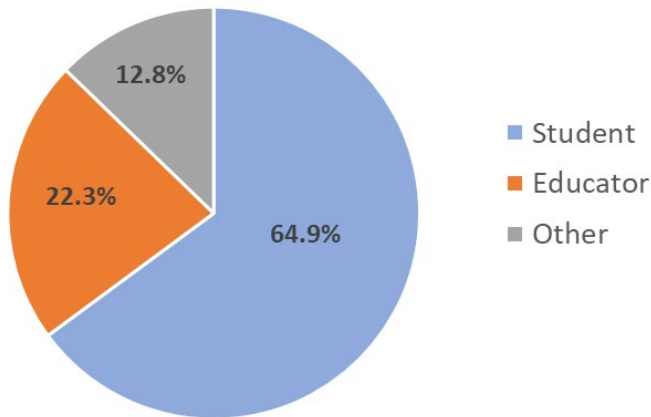
Q4) For each session that you attended, please let us know how satisfied you were with that session.

Session	Very Dissatisfied		Somewhat Dissatisfied		Neutral		Somewhat Satisfied		Very Satisfied		N/A		Total	
	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count
Opening Session	1%	1	1%	2	10%	18	21%	39	33%	62	35%	66	100%	188
Paired Research Talks	0%	0	2%	3	11%	20	14%	27	33%	62	40%	76	100%	188
Networking Session / Meet a Prof	1%	1	2%	4	7%	13	14%	26	32%	60	45%	84	100%	188
Graduate School Panel	0%	0	3%	5	7%	14	10%	19	31%	59	48%	91	100%	188
Professional Development for Faculty Mentors	0%	0	2%	3	6%	12	10%	18	20%	37	63%	118	100%	188
Student Lightning Talks	1%	1	5%	9	6%	12	20%	38	39%	73	29%	55	100%	188
Poster Sessions - Zoom	3%	5	13%	25	8%	15	26%	48	34%	63	17%	32	100%	188
Poster Sessions - Fourwaves	5%	9	10%	18	6%	12	21%	39	43%	80	16%	30	100%	188
Closing Session	0%	0	4%	7	11%	20	20%	38	28%	53	37%	70	100%	188

Q4) For each session that you attended, please let us know how satisfied you were with that session.



Q5) Please select your role.

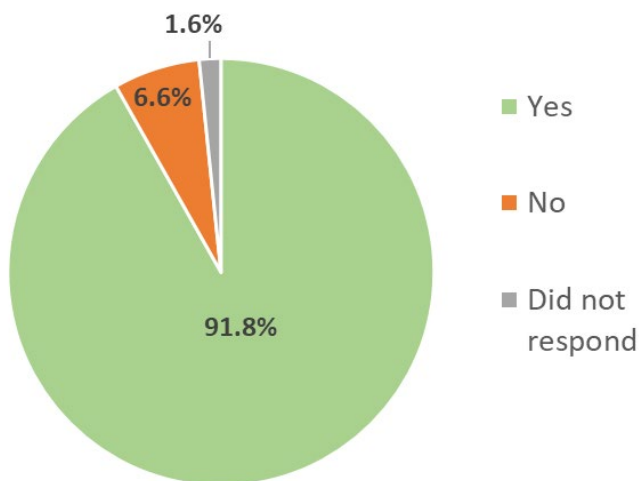


Answer	%	Count
Student	64.9%	122
Educator	22.3%	42
Other	12.8%	24
Total	100.0%	188

Q6) Other roles reported:

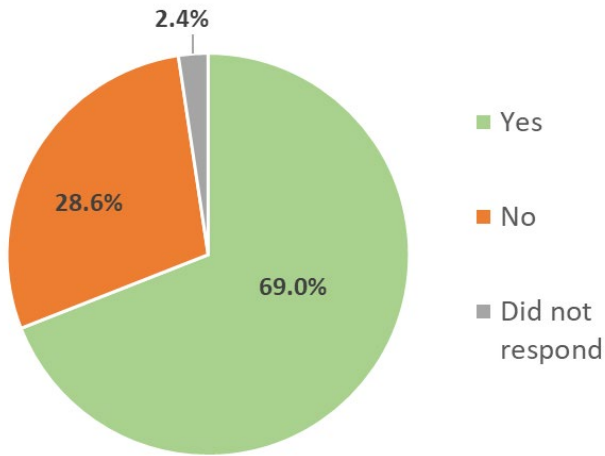
- Administrator
- Educator
- Family/friend
- Industry
- Staff
- Student

Q7) Did you present a poster? (This question presented only to the respondents who selected “Student” as their Role.)



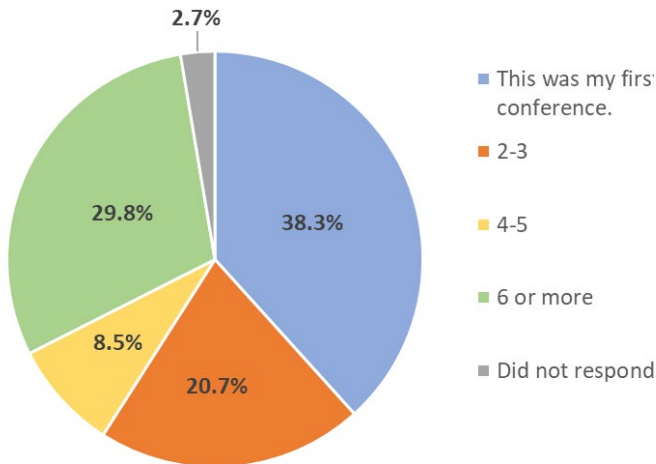
Answer	%	Count
Yes	91.8%	112
No	6.6%	8
<i>Did not respond</i>	1.6%	2
Total	100.0%	122

Q8) Were you a mentor of a student researcher who presented a poster? (This question presented only to the respondents who selected “Educator” as their Role.)



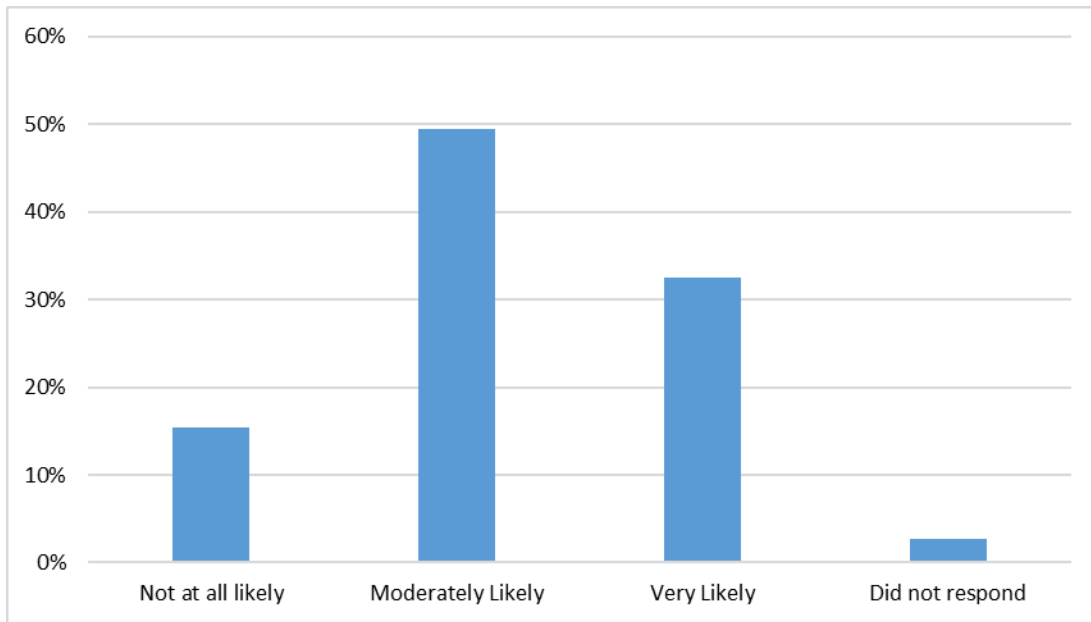
Answer	%	Count
Yes	69.0%	29
No	28.6%	12
<i>Did not respond</i>	2.4%	1
Total	100.0%	42

Q9) How many conferences (technical and professional conferences) have you attended including this one?



Answer	%	Count
This was my first conference.	38.3%	72
2-3	20.7%	39
4-5	8.5%	16
6 or more	29.8%	56
<i>Did not respond</i>	2.7%	5
Total	100.0%	188

Q10) How likely are you to attend ICUR next year?



Answer	%	Count
Not at all likely	15.4%	29
Moderately Likely	49.5%	93
Very Likely	32.4%	61
<i>Did not respond</i>	2.7%	5
Total	100.0%	188

Q13) How did you find out about ICUR?

The following table summarizes categories mentioned in the open-ended responses to this question and the count of respondents who mentioned them. The summary is sorted by the greatest number of mentions to the lowest. 145 respondents answered to this question; ONE mentioned more than one take-away. The sum of the category counts is 146.

CATEGORIES OF COMMENTS	COUNT
Specific faculty or staff member	24
SARE	23
Student research participation (not specified)	13
REU program	12
Email	8
I have previously attended	8
Mentor	7
From the university/school (no specifics given)	6
INBRE	6
Student	6
LSAMP	5

Advisor	4
From a previous ICUR attendee	4
Office of Undergraduate Research (not necessarily BSU)	3
B2B	2
HERC	2
SRC	2
Website	2
Advanced Materials Laboratory	1
Chemistry department (BSU)	1
Friend	1
ICUR committee	1
IFITS	1
Internship	1
McNair Scholars	1
Socia media	1
URCA	1

Q14) If this was NOT your first time attending ICUR, were there any elements of your previous in-person ICUR experience that you wish we could have replicated or incorporated better into the virtual version of ICUR?

The following table summarizes categories mentioned in the open-ended responses to this question and the count of respondents who mentioned them. The summary is sorted by the greatest number of mentions to the lowest, with the exception of those that do not include a suggestion. 55 people responded to the question, but most said “n/a” or that they did not have a suggestion to make.

CATEGORIES OF COMMENTS	COUNT
Desired in-person elements difficult or impossible to reproduce remotely	5
Positive feedback for 2021 virtual event	4
Networking: Add more opportunities	2
Yes (no recommendation specified)	2
Ability to select which poster session to attend	1
Ask students to wear presentation attire	1
Different poster session platform / Fourwaves criticism	1
Does not like virtual conferences in general	1
Eliminate or shorten closing session	1
Lunch	1
Preferred the 2020 virtual format	1
Virtual format is preferred	1
n/a or no suggestion	34

The complete list of comments grouped by role follows, excluding “n/a” and no suggestion responses.

STUDENTS	
Student	I liked pdf upload of posters
Student	I think having no closing session (or one only 5 minutes) works best. Everyone is tired by then and somewhat checked out.
Student	I think the FourWaves website was a disadvantage to the conference and put students in a place where many did not have people come to their poster. There are better ways to organize the poster sessions (and better platforms) for interaction and attendance.
Student	Last year's way on dealing with virtual presentations was better
Student	No, I like the changes that were made. I liked being able to talk more about my research.
Student	No, the online version is the preferable version of ICUR and should continue to be used in the future.
Student	Yes
EDUCATORS	
Educator	I want to be able to select which live poster sessions I attend. I want to support my student presenters (instead of random students). Perhaps, at the very least, allowing us to select which discipline would decrease my frustration.
Educator	It is hard to say. I am not a fan of virtual conferences at all.
Educator	It's hard to make up for the actual physical circulation among posters. However, if it's expected that presenters also visit posters, it seems good.
Educator	maybe having students wear presentation attire?
Educator	Networking opportunities and poster presentations were much better when held in-person versus remote delivery.
Educator	Not sure you can replicate the in-person experience.
Educator	Some opportunity to mill about and make random connections with other attendees.
Educator	Thought it improved.
Educator	Unfortunately, the in-person elements most lacking are the ones that *can't* be reproduced remotely.
Educator	Virtual just can't compete with the real thing. I don't know that there is anything you could have done to fix that.
OTHER ROLES	
Other	I think it is hard to replicate the experience you get in person to a virtual setting.
Other	lunch :)
Other	Much more networking.
Other	This was probably my favorite ICUR yet, so no.

Q11) What were your greatest lessons or take-aways from the conference?

The following table summarizes categories mentioned in the open-ended responses to this question and the count of respondents who mentioned them. The summary is sorted by the greatest number of mentions to the lowest. 126 respondents answered to this question; some mentioned more than one take-away. The sum of the category counts is 158.

A few criticisms were received in response to this question and are indicated in red text.

CATEGORIES OF COMMENTS	COUNT
Learn about students'/others' research	21
Diversity of research	13
Graduate school info	13

Networking opportunities	13
Opportunity to present/practice presenting my research/poster	7
Ability/potential/growth of students	6
Common challenges	5
Gained confidence to present/conduct research	5
Interacting with/meeting students	5
Students' enthusiasm	5
Benefits of a remote/virtual conference platform	4
Career guidance	4
Exposure to research conference experience	4
Meet the Prof session	4
How to create a poster	3
How to present research/posters	3
Interacting with/meeting faculty/professionals	3
Learn about fields and types of research	3
Networking/interpersonal skills	3
Ability to support students	2
Criticism: Not in person	2
Fourwaves poster session	2
How to be a better researcher/succeed with research	2
Learn to communicate to a large audience/people outside my field	2
n/a	2
Paired research talks	2
Students' positive response to ICUR experience	2
Technical instruction for presenting on Zoom and Fourwaves	2
Value of research	2
Advice from faculty	1
Criticism: Few or no attendees for student's individual poster	1
Criticism: More can be done to show students what career options exist and what to expect in graduate school	1
Criticism: No take-aways	1
Disadvantages of a remote/virtual conference platform	1
Diversity of students doing research	1
Funding opportunities	1
Hearing different paths to success	1
How to conduct research	1
How to find a mentor	1
Importance of mentoring	1
Praise: ICUR in general	1
Research during COVID-19	1
Research opportunities	1

Strong responses:

- STUDENT: *“Practice makes perfect and even then you can/and will make mistakes, but that doesn't take away from how well you understand your research topic. Improvement can/and will always follow if determined.”*
- STUDENT: *“It was interesting seeing just how many topics of research there are and seeing how many questions we have about the world. It was encouraging seeing other students passionate about their research.”*
- STUDENT: *“Idaho is powerful - so many different kinds of research and leading the way in those fields!”*
- STUDENT: *“I was so grateful for the opportunity to share a video, and that the staff was so accommodating to my schedule. I enjoyed that I was able to look at other posters although my work schedule prevented me from attending synchronously.”*
- EDUCATOR: *“The talent, skills and knowledge these students are displaying is outstanding.”*
- STUDENT: *“I have a poster, figures and abstract for the research that I completed. Without ICUR, I'm not sure that would have happened.”*
- STUDENT: *“Because of ICUR, I learned just how much incredible research is taking place in Idaho and that students are unstoppable- especially undergraduates! I saw incredible examples of dedication and motivation.”*
- STUDENT: *“I learned that everyone struggles and may think that they are not capable enough to do research, but this is part of the process of improving and building confidence.”*
- STUDENT: *“It was very community orientated and allowed individuals to present their research in a meaningful way. I very much enjoyed being able to see all the paths individuals took to becoming a researcher. It helped make the journey as a budding researcher feel less lonely and intimidating.”*
- STUDENT: *“I met a professor who specializes in the field I want to go into, and he was able to offer some great insight. I also got to speak with a professor outside of my field who gave me some good advice about studying abroad.”*
- EDUCATOR: *“Seeing the students interact with each other. They're so excited to share their work and so supportive of one another.”*

The complete list of comments grouped by role follows, excluding “n/a” responses.

STUDENTS	
Student	Advice from graduate students.
Student	All the research people presented
Student	Allow me to practice my public speaking skills
Student	Be picky with who you have as an advisor for grad school
Student	Because of ICUR, I learned just how much incredible research is taking place in Idaho and that students are unstoppable- especially undergraduates! I saw incredible examples of dedication and motivation.
Student	Being able to gather research in a small amount of time and presenting the information as an expert.
Student	Being able to network with researchers outside of my major
Student	Biggest takeaway for me was individuals approaches to mentoring, specifically how to recognize the difference between sponsoring and mentoring and individual.
Student	Could not attend in person
Student	Diversity in STEM
Student	Engaging in more casual conversations related to research such that I'm less intimidated by the experience now.
Student	Even in Idaho there is a lot of work being done to understand our world.

Student	everyone struggles with the same things--not knowing the answer is okay
Student	Finding a good research mentor usually involves having conversations with them to ensure their expectations are known to you.
Student	gaining a new experience that involved a wide range of studies
Student	Getting to say I attended a conference.
Student	getting to see other majors research topics was a cool experience
Student	Going to visit other undergraduates posters.
Student	Graduate panel
Student	Hearing about other students' research was interesting
Student	How much work goes into creating a poster
Student	I can learn research in a discipline unlike mine.
Student	I can't wait for it to be in person.
Student	I did not attend the posters or present, but it appeared to be a positive experience for my lab mates. Also, I thought it was funny that my name was drawn for the gift cards on both days when I was not on the zoom call.
Student	I enjoy hearing about different paths to success for professors
Student	I gain better skills related to networking and researching.
Student	I have a better understanding on grad school.
Student	I have a poster, figures and abstract for the research that I completed. Without ICUR, I'm not sure that would have happened.
Student	I have gained confidence that I can effectively present my research.
Student	I learned about a wide range of projects.
Student	I learned more about difficulties in receiving grants at Boise State and other universities. The process appears to be very political and is something I will look out for and avoid in applying for graduate schools.
Student	I learned more about what it's like to be a researcher in my discipline.
Student	I learned that everyone struggles and may think that they are not capable enough to do research, but this is part of the process of improving and building confidence.
Student	I liked browsing the posters and talking with the creators of the posters
Student	I liked the fourwave session a lot, and help shows that not all the time your gonna have a lot of people at your poster. Though when you did it was a fun way to basically talk about what your doing. Very relaxed than what we originally thought it was gonna be.
Student	I loved being able to network, and talk to current grad students!
Student	I loved the second part of the conference in which we were able to choose which posters we wanted to look at and discuss with the presenter. I was also grateful for the opening session in the Zoom main room in which coordinators went over how to present on each platform.
Student	I met a professor who specializes in the field I want to go into, and he was able to offer some great insight. I also got to speak with a professor outside of my field who gave me some good advice about studying abroad.
Student	I really liked hearing about the work other students were doing. I also appreciated the Grad school panel because I'm debating going to grad school
Student	I was so grateful for the opportunity to share a video, and that the staff was so accommodating to my schedule. I enjoyed that I was able to look at other posters although my work schedule prevented me from attending synchronously.
Student	Idaho is powerful - so many different kinds of research and leading the way in those fields!
Student	It as very good for me to go through the process of preparing to present. It was uncomfortable, but I feel like a better communicator because of it.
Student	It felt better when I learned that I wasn't the only person who felt like they had imposter syndrome. We all are great people and scholars!

Student	It is a fantastic opportunity for other students to network with faculty, and learn about different research going on at BSU
Student	It was great learning about all the incredible research happening here in Idaho!
Student	It was great to talk to other researchers and educators
Student	It was interesting seeing just how many topics of research there are and seeing how many questions we have about the world. It was encouraging seeing other students passionate about their research.
Student	It was the networking (both in practicing my ability to as well as actually being able to).
Student	It was very community orientated and allowed individuals to present their research in a meaningful way. I very much enjoyed being able to see all the paths individuals took to becoming a researcher. It helped make the journey as a budding researcher feel less lonely and intimidating.
Student	It's very hard to replicate in-person conferences with online formats.
Student	learned more about what is needed in my field in terms of graduate school and what degrees provide for what options
Student	Learning about other student's research projects.
Student	Learning how to communicate my research to people outside my field.
Student	Learning that research does not exclude everything outside of the hard sciences, but can include the social sciences.
Student	Less words on a poster.
Student	Making friends and extending my knowledge
Student	Most impactful part for me was the fourwaves poster session. being able to take time to present and explain my research was fun and gave me some great experience.
Student	My greatest take away was the graduate student panel. They offered some great insight into the process of graduate school.
Student	N/A
Student	Networking
Student	Networking
Student	Networking and understanding that my studies are important and meaningful
Student	Networking with non-math/CS majors
Student	Networking with other researchers and professors
Student	networking, presenting research
Student	None.
Student	Practice makes perfect and even then you can/and will make mistakes, but that doesn't take away from how well you understand your research topic. Improvement can/and will always follow if determined.
Student	Presenting
Student	Presenting research doesn't have to be scary.
Student	Research is being conducted in an extremely wide variety of fields.
Student	Sagebush is really popular
Student	Seeing how much research is available to do!
Student	Seeing other peoples research and their presentations
Student	Seeing other students' research. It's amazing what undergraduates are capable of doing.
Student	Synthesizing all the research into a few minutes
Student	That I can connect with whoever I want to. If they say no, I move on to another person. There's always an opportunity out there.
Student	that it wasn't as high pressure as I had made it to be in my mind. It was very relieving.
Student	That networking is so essential. I learned so much that I could never have learned on my own.
Student	The ability to share my research with such a large and broad audience, as well as the opportunity to gain insight into other undergraduate research.
Student	The confidence I gained in presenting my project.

Student	The experience in presenting research and learning how to do it effectively.
Student	The grad student talks were very helpful.
Student	The interesting research that everyone is doing across a multitude of fields.
Student	The meet a prof where I got to hear from a prof from my major that helped a lot with what to do with my major and grad school
Student	The most impactful part of the conference was listening to the graduate student panel.
Student	The networking opportunities.
Student	The process of putting together a research poster presentation was a great learning experience.
Student	There are good poster presentation opportunities virtually
Student	Trying to find a passion for plant research, almost got it
Student	Watching the paired researchers and learning about the possibility of continuing my education after my bachelor's degree.
EDUCATORS	
Educator	Great to see my student present his summer research and learn about the other research projects going on through my school and other Idaho Universities.
Educator	I liked being able to attend the fourwaves poster session where students could control their screens. There were fewer individuals in the rooms and I know that my students didn't like that, but I found it nice to be able to check in on how things went for everyone.
Educator	I love the meet the prof session. I believe it helps students with their career paths.
Educator	I really the cross-disciplinary experience.
Educator	It was amazing to see how many undergrads are actively working on research.
Educator	It was great to see students empowered by the experience.
Educator	It's a great experience for students
Educator	Keeping students engaged in research during the pandemic.
Educator	Meeting other research students and faculty.
Educator	Meeting other students and professors around the state
Educator	Our undergraduate students are conducting very interesting research.
Educator	Remote conferencing is a great innovation
Educator	seeing students excited about research
Educator	Seeing the students interact with each other. They're so excited to share their work and so supportive of one another.
Educator	Sharing science with others
Educator	Student interactions.
Educator	Student presentations
Educator	Students are curious and hard-working!
Educator	Students continue doing wonderful and creative research
Educator	Students were given an opportunity to participate in an organized research activity.
Educator	Supporting the student I mentored since very few attended her poster presentation
Educator	The learning experience for the students
Educator	The paired research talks were interesting!
Educator	The talent, skills and knowledge these students are displaying is outstanding
Educator	UG researchers are not all in their 20s - UG researchers can also be non-traditional!
Educator	vast spectrum of the research being conducted
Educator	very important for the students
Educator	We are doing our best.
OTHER ROLES	
Other	Hearing about the students' research and experiences is always the highlight!
Other	How to use FourWave
Other	I enjoyed the meet the prof/graduate student panels.

Other	It was fun to participate in the meet the professor panel. I think more can be done to show students what career options exist and what to expect in graduate school. I had physics students very interested in a presentation I give on this.
Other	It's exciting to see students sharing their research with a larger audience.
Other	N/A
Other	Seeing the great work our students are doing.
Other	Seeing the knowledge growth in the interns.

Q12) What changes in the ICUR would significantly improve the conference experience for you?

The following table summarizes categories mentioned in the open-ended responses to this question and the count of respondents who mentioned them. The summary is sorted by the greatest number of mentions to the lowest. 97 respondents suggested a change; some made more than one suggestion. The total count of suggested changes/improvements is 147. 91 respondents either did not answer this question or indicated they had no suggestions for improvement.

CATEGORIES OF COMMENTS	COUNT
Poster sessions	56
Conference - general	33
No changes suggested	28
Other logistics	14
Networking	7
Discipline focus	4
Plenary/breakout/other talk sessions	4
Positive comment / no changes suggested	1

Highlights:

- Poster sessions
 - 12 people did not like the random Zoom breakout rooms
 - 9 people said there were few or no attendees for a student's individual poster
 - 8 people made structure redesign suggestions for the suggestions*
 - 7 people stated students needed more time to present*
 - 7 people mentioned not being able to show posters during the Zoom poster sessions
 - 6 people requested being allowed to choose which session/room to attend*
 - 4 people did not like the Fourwaves platform for the poster sessions
- Conference - general
 - 25 people desire resuming an in-person conference and/or did not like the virtual format*
 - 2 people gave session structure redesign suggestions
 - 2 people think ICUR needs better/more promotion
- Networking
 - 7 people suggested better/more networking opportunities*
- Plenary/breakout/other talk sessions

- 3 people made session structure redesign suggestions*
- Other logistics
 - 4 people had general concerns with the Fourwaves platform
 - 3 people suggested better/more communication of sessions and details before conference begins
 - 2 people said the schedule is confusing

**Repeat highlight from last year*

Strong criticisms:

- STUDENT: *“Being able to actually give a poster presentation. This year we waited in our room for an hour, with no one showing up.”*
- STUDENT: *“No one really clarified that the AM poster sessions were “elevator talks” and I hadn’t prepared a presentation that way. The moderator in my group didn’t want any of us to pull our posters up”*
- STUDENT: *“I wish I had more time to look at people's posters on the Fourwaves platform, there were so many that I was interested in. I was very dissatisfied with the Zoom breakout rooms, I really wish we were put in breakout rooms with people that have similar interests as us (For ex, mine are Psychology, Social Sciences, etc). I ended up in rooms with people that studied Astrophysics, Wildlife Biology, and Chemistry. I basically had no idea what anybody was talking about (even with simplified terms) and so it was difficult to understand and be interested in their research and ask questions that weren't just about clarifications. It was an overall uncomfortable setting for me, and I felt like the odd one out (my groups all had similar majors, except for me). It would be helpful if we presented to similar majors in the breakout rooms, then were allowed to look at general posters of all majors on the Fourwaves platform.”*
- EDUCATOR: *“I wish that the students could have shared their screens in the Zoom poster sessions. This was possible at the undergraduate research showcase and it made for a much better experience since they could zoom in or share the most pertinent parts of their poster--it is hard to see things on my computer screen on the full-size poster.”*
- STUDENT: *“Make more open social time for networking and meeting people. While the opening session encouraged everyone to be open to new connections and not stay within their huddle of friends and colleagues, there were no opportunities for such huddles to even occur. I hope that you consider social / discussion breakout rooms and open time slots for socialization in online events in the future. Consider making breakout names with subjects or topics of discussion as names.”*
- STUDENT: *“More opportunities to talk more about my own research. In the Zoom breakout rooms, I'm lucky if I get one question about my research. I enjoy hearing about others research too though.”*
- STUDENT: *“A more streamlined process when it comes to the breakout rooms where we "sold" our research. We were told to prepare talks, but in some breakout rooms we were encouraged to casually talk about our posters without showing them. As someone who needs to prepare (and honestly, needs to become more comfortable with public speaking), casually speaking without a plan (script) and without the aid of a poster made a quick "sale" of our research extremely difficult.”*
- STUDENT: *“I did not agree with the zoom breakout for the session A and Session B stuff. I just felt it was unnecessary, and that there wasn't a clear direction of what to talk about until you were at the conference. So something that my partner and I wrote up was kind of irrelevant to what the session was. I feel there needs to be more clear description of what thursday is because a lot of people were disappointed when they wanted to hear a certain person talk. That they got put into a random breakout room, and what I been told by many accounts is*

that when they asked to see a certain person. That their wishes were totally disregarded and made me feel bad inviting them in the first place.”

Changes/Comments by Category (sorted by the greatest number of mentions to the lowest):

CATEGORY > SPECIFICS	
Poster sessions	56
Did not like random Zoom breakout rooms	12
Few or no attendees for student's individual poster	9
Session structure redesign suggestion	8
More time to present	7
Allow choosing which session/room/poster to attend	6
Did not like Fourwaves	4
Better/more communication of sessions and details before conference begins	3
Group by discipline	2
Technological issue	1
Disorganized	1
Website is confusing/difficult to navigate	1
Organize so presenters have the opportunity to see other poster presentations	1
More interactive sessions	1
Conference - general	33
Desires in-person / did not like virtual format	25
Session structure redesign suggestion	2
Better/more promotion of ICUR	2
Change dates of conference	1
Too long	1
Scheduling suggestion	1
Schedule is confusing	1
Other logistics	14
Did not like Fourwaves	4
Better/more communication of sessions and details before conference begins	3
Schedule is confusing	2
Submission process is confusing/complicated	1
Technological issue	1
Website is confusing/difficult to navigate	1
Better communication during conference	1
Registration process was confusing	1
Networking	7
Better/more networking opportunities	7
Discipline focus	4
Include disciplines other than hard science	2
More diversity of content	1

Better/more communication of sessions and details before conference begins	1
Plenary/breakout/other talk sessions	4
Session structure redesign suggestion	3
More time to present	1
Positive comment / no changes suggested	1
No changes suggested	28

The complete list of comments grouped by role follows, excluding “n/a” and “none” responses that do not elaborate further.

STUDENTS	
Student	A more streamlined process when it comes to the breakout rooms where we "sold" our research. We were told to prepare talks, but in some breakout rooms we were encouraged to casually talk about our posters without showing them. As someone who needs to prepare (and honestly, needs to become more comfortable with public speaking), casually speaking without a plan (script) and without the aid of a poster made a quick "sale" of our research extremely difficult.
Student	Advertise it more! Encourage students to invite their peers, family, friends, etc. Send out invitation links and advertisements to the department heads of each of the universities represented by the presenting students. Publicity!
Student	All of the email updates and separate links and logins and forwaves and zoom and different time slots with the same name, it was very unclear where we were supposed to be and when. I didn't feel like I had the opportunity to check out other people's posters and hear from them
Student	Aside from COVID and those regulations that came with it, I would have enjoyed having a bit more of an understanding as to what was happening during each 'event'. A more detailed schedule would have been nice.
Student	Being able to actually give a poster presentation. This year we waited in our room for an hour, with no one showing up.
Student	Being allowed to submit the video after initial poster submission and before the actual day ICUR starts
Student	Being in person A more streamlined fourwaves experience; nobody showed up to my poster which was a bummer
Student	Being in-person would have been very helpful, but the circumstances are understood.
Student	Being virtual, I missed having personal interactions with people about my research. I was really excited about my findings, but, being on FourWaves, my ability to share that excitement or invite people to learn more was limited
Student	Bring back an in-person conference....No one came to my poster.
Student	Change the platform from the FourWaves site to something else (could use just Zoom, could use Pheedloop, could use Whova).
Student	During the moderated 2-minute talks breakout rooms it seemed like there was an inconsistency among moderators. Some allowed you to show your poster while you gave the two-minute talk while others told you you weren't allowed to share your poster and weren't allowed to use a script for the two-minute talk.
Student	Explain set up of conference better. Myself and all other presenters I knew did not realize there was a separate presentation in the breakout rooms outside of the lightening round.
Student	I did not agree with the zoom breakout for the session A and Session B stuff. I just felt it was unnecessary, and that there wasn't a clear direction of what to talk about until you were at the conference. So something that my partner and I wrote up was kind of irrelevant to what the session was. I feel there needs to be more clear description of what thursday is because a lot of people were disappointed when they wanted to hear a certain person talk. That they got put into a random breakout room, and what I been told by many accounts is that when they asked to see a certain person. That their wishes were totally disregarded and made me feel bad inviting them in the first place.

Student	I remember having no critiques for my in-person ICUR experience years ago. But if next year's event has to be online, I think it would be beneficial to shorten the second day to only the student poster presentations.
Student	I think the poster session on zoom could have been better. We spend lots of time making our poster and then we were told to not use them in the zoom poster session. I think they should pre-assign people in groups with less presenters and more people to listen and allow everyone to present their posters. And maybe instead of having questions be at the end of everyone's presentation we could do a 2-3 minute question session after one person presents. Or a way where there is more time for people to present in a bigger group of people. The fourwaves session was good, but only about 5 people came into each room which was not enough people that I wanted to present my research to.
Student	I think the poster site was okay, but the sorting system should probably be improved. I'm not sure how, but maybe if they're set up laterally next to each other it would be easier to sort because there are so many posters.
Student	I was in the first poster session and only the REU at BSU Director came to my poster. I would have liked it if more people would have come to my poster. Perhaps there can be a counter to see how many people have looked at a poster and people can see which ones have gotten few hits which may encourage them to check out those posters.
Student	I wish I could have opened a web-call with a presenter and continue browsing other posters. I think joining calls should open a new window.
Student	I wish I had more time to look at people's posters on the Fourwaves platform, there were so many that I was interested in. I was very dissatisfied with the Zoom breakout rooms, I really wish we were put in breakout rooms with people that have similar interests as us (For ex, mine are Psychology, Social Sciences, etc). I ended up in rooms with people that studied Astrophysics, Wildlife Biology, and Chemistry. I basically had no idea what anybody was talking about (even with simplified terms) and so it was difficult to understand and be interested in their research and ask questions that weren't just about clarifications. It was an overall uncomfortable setting for me, and I felt like the odd one out (my groups all had similar majors, except for me). It would be helpful if we presented to similar majors in the breakout rooms, then were allowed to look at general posters of all majors on the Fourwaves platform.
Student	I wish there was more time to hear other students' poster presentations. Maybe there could be time devoted to this throughout both days of ICUR.
Student	I wish there were more criminologists (my major) or at least more information I could relate to.
Student	I wish we could have somehow chosen which zoom poster presentations we went to. The fact that it was random made it less likely that others in our break out groups would be interested in our research topic, and I think the Four Waves poster sessions had fairly low attendance, perhaps partially because students felt awkward about entering one on one conversations with poster authors.
Student	I wish we had more of an opportunity to present our research! There were many excellent posters, so I only had one visitor to mine, and would have loved to see more when it was my turn!
Student	I would have liked to have a longer poster presentation--thats the whole reason we are here, for undergraduate research, and I dont think we focused enough on that.
Student	I would like the conference to be in person.
Student	I would love to attend ICUR in person
Student	I would love to do ICUR in person. The ZOOM rooms were a little awkward but I understand why it couldn't be in person.
Student	If when we presented the first time, in zoom, we had our posters also visible in the same room for others to look at while we gave our lightning talk. Because we were paired with so many different areas of research, and though that's the point of making our lightning talks comprehensible, another aid would be nice.
Student	In person
Student	In person conference- when the pandemic is over
Student	In person events (if applicable). I believe the connections made during both the SRC and ICUR would be stronger if it is possible to transition the event to an in person conference/community (however, despite the extenuating circumstance the organizers did a fantastic job at creating such an atmosphere :))
Student	In person would be nice

Student	In person would be way better so hopefully no more pandemic.
Student	in person!
Student	It is very frequent that a moderator would state that "research communication is extremely important" etc., however students lack clear and concise information as to this topic as well as the ability to practice. Two years ago at the in person ICUR we practiced giving elevator pitches many times. For ICUR, I believe that there should be a long session divided into three parts: (1) one instructor gives clear and concise information on how to give an effective elevator pitch, (2) students spend about 15 minutes drafting an outline of their elevator pitch based on the previous lecture, (3) students get into groups and practice giving elevator pitches for the rest of the time. Along with this information ICUR should inform students to be cognizant of their audience as well as the time format. In other words, if the project has to do with complex DNA sequencing and the audience has no prior knowledge, the researcher should spend most of the time on the introduction and should scarcely mention the methodology. I would recommend hosting two parallel sessions for this, one for STEM researchers and the other for humanities researchers, since the way those two disciplines should present talks to lay audiences is completely different.
Student	It was a bummer it couldn't be in-person and wasn't more interactive, which is difficult to do online.
Student	It was a great experience, but I definitely would have gotten more out of it if it was in person. I know that's not something that could have been avoided though
Student	It was difficult to view other posters during sessions where I needed to be present at my poster. I feel like the math and computer science students didn't get many people attending their poster. I wish this could be improved because no one came to my team's poster.
Student	It was hard for visitors to find their student's breakout rooms, but having the Q & A sessions was a great idea!
Student	It was pretty good as it, but doing some things in person or hybrid would be very intriguing for improved networking opportunities.
Student	Just let us know beforehand that Sagebush would be a big thing
Student	Make it in person, online made it feel fake and more of an inconvenience than anything.
Student	Make more open social time for networking and meeting people. While the opening session encouraged everyone to be open to new connections and not stay within their huddle of friends and colleagues, there were no opportunities for such huddles to even occur. I hope that you consider social / discussion breakout rooms and open time slots for socialization in online events in the future. Consider making breakout names with subjects or topics of discussion as names.
Student	Maybe 3-4, rather than 2, minutes for each poster group to present.
Student	more info before the conference
Student	More interactive poster session
Student	More networking
Student	More networking
Student	More opportunities to talk more about my own research. In the Zoom breakout rooms, I'm lucky if I get one question about my research. I enjoy hearing about others research too though.
Student	More opportunities to talk to other professionals and more networking
Student	More time browsing and presenting posters, seemed like we worked 10+ weeks and only had 30 minutes to browse other peoples posters and present our own.
Student	More time for the fourwaves poster presentations, so that people could visit more posters.
Student	More time in the "Meet a Prof" session
Student	More unstructured time for networking opportunities, perhaps after the poster sessions
Student	No one really clarified that the AM poster sessions were "elevator talks" and I hadn't prepared a presentation that way. The moderator in my group didn't want any of us to pull our posters up
Student	Not to do it online
Student	Perhaps more Fourwaves groups with fewer presenters in each group thus increasing the chances of someone attending a poster session. Given my poster was one of 111 in Group Session A, I did not find myself presenting my data to anyone. Furthermore, it might have been better if there were more varying majors aside from

	biology. I feel that as my research was outside of biology, the conference participants had little interest in my research.
Student	Probably longer times for poster areas via fourwaves
Student	Registration via Fourwaves was difficult for first-timers who don't already know what they're doing
Student	Something that I think would be interesting (not necessarily an improvement) is to offer lab tours as part of ICUR, to help showcase to visitors and other participants what type of research is being done here in the Gem state.
Student	The audio lagged in the four waves poster presentations. I felt like I was talking over the top of people through the whole thing. It was definitely a communication barrier.
Student	The conference format. I would rather the conference be in person in the future, as long as Covid rates remain low.
Student	The four waves site was not user friendly to family and friends that joined for the virtual walk through.
Student	The online poster platform resulted in many people not getting someone to view their poster as a result of being too far down in the poster list to be seen. If there was some way to make it to where people didn't have to scroll as far to see poster, it would allow for more people to have at least one person visit their poster.
Student	The prize drawings were a bit too much. Maybe pre-draw winners and just email them.
Student	The virtual portion of the conference was lacking and hard to follow times that presentations were occurring.
Student	The Zoom talks by ICUR attendees were a little rushed and I think conversation would have been better if we had been able to ask questions after each presentation rather than at the end.
Student	Training those mentors for the breakout session might help, mine was confused on what to do.
EDUCATORS	
Educator	back to in person.
Educator	Being able to pick which posters to attend in both the morning and afternoon session. I had two students presenting at each of the afternoon sessions and felt like I had to divide my attention after they'd worked so hard to be there.
Educator	Better set up for student poster presentations
Educator	Create several working groups focused on narrower topics, and select the posters to be presented within each working group. The students and their mentors may select the working group by themselves.
Educator	Equal emphasis on all disciplines (not just science).
Educator	For meet the prof breakout session, organizers need to be very specific about stipulating the roles of students and faculty. A little extra time will improve learning through breakout discussions.
Educator	Having a choice in going to the break out poster sessions. Make one random, other choice.
Educator	I had the feeling it wasn't very well promoted.
Educator	I think ICUR should be held at the beginning of Fall or the end of Summer. The conference took too much time from the actual research we were conducting. Also, it was very disappointing for the teams that presented posters to work hard and have no one attending. Maybe there were way too many sessions at the same time for the limited number of attendees.
Educator	I think students really like showing their posters during the lightning rounds on Zoom.
Educator	I thought the website was a little confusing to navigate (find posters, Zoom links, etc.)

Educator	I wish that the students could have shared their screens in the Zoom poster sessions. This was possible at the undergraduate research showcase and it made for a much better experience since they could zoom in or share the most pertinent parts of their poster--it is hard to see things on my computer screen on the full-size poster.
Educator	in person! fingers crossed...
Educator	In-person.
Educator	let people see which poster presentation they would like to see. Also, clarify how the waiting rooms work for when you ask the presenters questions.
Educator	Make it in-person
Educator	People need to be able to attend specific breakout rooms for student posters; I was not able to support my interns. Also, having students "on call" for poster discussions was not optimal. First, it was not clear how to call the students, and second, it would be easier if they were already online. For the students who were online, we had nice discussions. There wasn't enough time to talk to very many students though.
Educator	Randomly assigning break-out rooms for the poster presentations does not work well -- I was unable to see my own student's presentation or any others relevant to my field, and students were not able to present to specific attendees.
Educator	Return to in-person conference??
Educator	See above regarding in-person networking and poster presentation comments.
Educator	The zoom poster presentations didn't work very well. It would be better to have a format where students can present their posters full screen and give a formal presentation with a specific time limit.
Educator	Very tedious and difficult web process to find and connect to the poster I was interested in
OTHER ROLES	
Other	An extra reminder email.
Other	Being able to choose the group for poster presentations
Other	I did not care for the fourwaves program for poster viewing. It felt awkward trying to access the right poster and if there were any camera malfunctions it would not let you into any poster session.
Other	I had a difficult time staying engage in the virtual conference for two days. I think a shorter time-frame would be better.
Other	I liked the poster session on FourWaves better than the Zoom breakout room version of poster presentations - it came closer to replicating an in-person poster session. However, I wish the program had a more clear description of the FourWaves session/distinguished it from the zoom poster presentations.
Other	Some type of social media like component, not really Facebook or Twitter, but, a way to connect in real-time.