WEBVTT

1
00:00:02.429 --> 00:00:20.190
Ana Bonaca: So as we're gonna say if the girls side they today at the Agency colloquium we have a true double header so i'll try to keep the intro short for our speaker is our Pritchard, who is currently a postdoc at the space telescope science Institute and that her PhD at Oxford.

2
00:00:21.240 --> 00:00:23.940
Ana Bonaca: is not that long ago, like you a couple of years ago.

3
00:00:25.170 --> 00:00:37.170
Ana Bonaca: So Laura is a observer who studies the permission and evolution of galaxies and mostly has been using large ground based spectroscopic facilities to to study.

4
00:00:37.950 --> 00:00:53.190
Ana Bonaca: kind of galaxy populations, all the way from the local universe to to hire a redshift and in the first part of the talk will hear about her most recent work on studying the ionizing continued galaxies that pressure so for.

5
00:00:54.450 --> 00:01:04.830
Ana Bonaca: The same dollar has been very much involved in improving the outcomes of astronomical meetings and so we're very fortunate to have her here for this.

6
00:01:05.460 --> 00:01:13.860
Ana Bonaca: Cooper talking and the second part, you will be talking about the future of astronomical conferences so without further ado, or freeze the.

7
00:01:15.330 --> 00:01:18.240
Laura Prichard: Okay, great thanks so much i'll just share my screen.

8
00:01:20.850 --> 00:01:21.360
Laura Prichard: Okay.

9
00:01:23.190 --> 00:01:24.090
Laura Prichard: Can everyone see that.

10
00:01:25.110 --> 00:01:25.500
Okay.

11
00:01:27.030 --> 00:01:29.340
Laura Prichard: Okay, so thank you so much.

12
00:01:30.630 --> 00:01:35.520
Laura Prichard: for inviting me to give this split talk on two incredibly challenging topics and astronomy.

13
00:01:36.030 --> 00:01:46.050
Laura Prichard: So i'll spend the first about 10 minutes talking about my research but probably time for a quick question and then, when we went to the big topic of astronomical conferences so.

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00:01:46.770 --> 00:01:53.550
Laura Prichard: The original title for this talk was spectroscopic confirmation of escaping ionizing flux from individual high rates of galaxies.

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00:01:53.880 --> 00:02:00.030
Laura Prichard: But as a testament to just how challenging this area of astronomy is some significant developments just in the last week.

16
00:02:00.360 --> 00:02:05.520
Laura Prichard: Of meant the results of this work is slightly change, so the talk i'm going to pivot slightly today.

17
00:02:05.880 --> 00:02:13.440
Laura Prichard: and give you an honest depiction of really how challenging as workers and, after years of work, you may not actually come away with any results so.

18
00:02:13.920 --> 00:02:24.090
Laura Prichard: Talk i'm giving today is the elusive nature of mine continue in flux, so this project focused on the identification of galaxies like this that emit ionizing UV radiation.

19
00:02:24.510 --> 00:02:31.560
Laura Prichard: So these galaxies likely be the biggest role in the realization of the universe transforming it from mutual to almost completely Ionized.

20
00:02:32.070 --> 00:02:40.800
Laura Prichard: So, as you can see in the figure these galaxies have central galaxy out flowing ionizing radiation and mutual clouds of material that surround it.

21
00:02:41.220 --> 00:02:44.490
Laura Prichard: Any ionizing photon that escapes this galaxy is typically called.

22
00:02:45.030 --> 00:02:55.920
Laura Prichard: alignment continuum photon as their admitted below the line and break at wavelengths sort of the 902 million streams, so these ionizing photons are hoovered up by any neutral material.

23
00:02:56.430 --> 00:03:07.110
Laura Prichard: And as such a retro spray to them five the density of the intergalactic medium is such that it actually acts as an opaque veil which obscures our view of cosmic realization as it blocks this radiation.

24
00:03:07.680 --> 00:03:15.750
Laura Prichard: So while we can't look back to cosmic reorganization itself, we can get back to galaxy is pretty close in time and properties between a batch of three and five.

25
00:03:16.320 --> 00:03:30.210
Laura Prichard: However, this is an incredibly difficult challenge because, firstly, owners and photon has to escape the galaxy itself, then it has to travel across most of the age of the universe without coming into contact with any neutral clouds material until we can observe it.

26
00:03:31.350 --> 00:03:41.880
Laura Prichard: So while these are our best hope for placing observational constraints on the epoch of right reorganization, they are an elusive population of galaxies that present numerous observational challenges.

27
00:03:42.270 --> 00:03:52.500
Laura Prichard: As such, there have been a string of bad luck in there's been a string of bad luck in this field of false or not widely accepted detections and I think i've made myself in that category now.

28
00:03:53.130 --> 00:04:04.320
Laura Prichard: So today it's there are only a handful of spectroscopic detections of leaking line we continue from individual galaxies So how do we go about searching for these galaxies and why are they so hard to find.

29
00:04:04.980 --> 00:04:15.540

Laura Prichard: So here i'm showing a part of a typical lineman break galaxy so it shows the signature line and break below 912 it streams there's no flux, as these are these photons were absorbed typically.

30
00:04:16.020 --> 00:04:25.890
Laura Prichard: there's a strong woman alpha line and Obama break around 4000 students in this plot overlaid i'm showing different photo metric bands, these are the HST bands and used in the candle survey.

31
00:04:26.460 --> 00:04:32.370
Laura Prichard: And, and these like these bands for rest of our ultraviolet light well.

32
00:04:33.270 --> 00:04:40.830
Laura Prichard: As far as like wavelengths through to the near infrared so most often galaxies that high redshift have a spectrum they look pretty similar to something like this.

33
00:04:41.610 --> 00:04:46.320
Laura Prichard: Now, an incredibly powerful method for finding high redshift object, or something called.

34
00:04:46.620 --> 00:05:01.260
Laura Prichard: The lineman break technique, and this was pioneered by truck style 1996 so instead of relying on very deep expensive spectroscopy to find high rate of objects, you can instead just use multi bounds of images to identify them efficiently.

35
00:05:02.250 --> 00:05:15.990
Laura Prichard: So a galaxy will actually disappear from an image when a band samples below that line and break so with these three HST bands that i've highlighted here, you can actually span the below the line and break and.

36
00:05:16.440 --> 00:05:24.780
Laura Prichard: A retro space than 2.4 3.1 and 4.4 respectively, so you can use these bands to really take you all the way up to the observable approach of five.

37
00:05:27.510 --> 00:05:38.460
Laura Prichard: However, an important question to ask is, if you add flux below the line and break is this galaxy always identifiable as a lineman break galaxy another question to ask.

38
00:05:38.970 --> 00:05:45.750

Laura Prichard: Is is our linemen break galaxy selections actually missing some potential environment continuing galaxies.

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00:05:46.230 --> 00:05:50.460
Laura Prichard: And this was really what we set out to we set out to test this hypothesis.

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00:05:50.850 --> 00:06:04.800
Laura Prichard: So, in order to identify a lineman continuing galaxy you need to bits of information, you need the redshift and a method of identifying any leaking line and continue in flux, so what we needed to do to really test this was to identify a redshift of high population.

41
00:06:05.910 --> 00:06:10.680
Laura Prichard: population of high rates of galaxies without relying on the line and break technique for their redshift.

42
00:06:11.160 --> 00:06:20.460
Laura Prichard: So for this we targeted the cosmos field, as it has 30 pounds of the emerging, including deep by our four star bands that we used in the sea forge survey.

43
00:06:20.730 --> 00:06:24.690
Laura Prichard: To get their photos ease and the food was really the ideal survey here because.

44
00:06:25.170 --> 00:06:30.270
Laura Prichard: These medium I our bands 30 sample the bomber break, as shown here on figure on the right.

45
00:06:30.600 --> 00:06:42.600
Laura Prichard: without having to solely rely on the line of break that we're not sure if these galaxies might have so this extra sampling results and very accurate redshift with errors of less than 2% and minimal catastrophic errors.

46
00:06:43.710 --> 00:06:53.970
Laura Prichard: And so we've also compiled extra information from the candle survey cosmos and also any extra expenses that are already in the literature, so we have a method of accurate redshift and.

47
00:06:54.540 --> 00:07:01.440
Laura Prichard: All that's needed then as a method to efficiently detect anything i'm continuing flux for this, we have deep HST images.

48
00:07:01.920 --> 00:07:13.140
Laura Prichard: And that span below that lineman break at retrospective than 3.1 or 4.4 respectively F 336 w and 435435 w and you can see our fault and targeted fields.

49
00:07:13.650 --> 00:07:17.430
Laura Prichard: In ancient the HST putting things in the large customers field on the left there.

50
00:07:18.180 --> 00:07:24.900
Laura Prichard: We are in the regime that every pixel counts, to identify these often very faint ionizing sources are high redshift.

51
00:07:25.140 --> 00:07:33.720
Laura Prichard: So for this I made several improvements to the wide field camera three users reduction to clean these images up far beyond what's publicly available from mast.

52
00:07:34.140 --> 00:07:38.370
Laura Prichard: So here's just a quick example that was used in another project, this is a nearby spiral.

53
00:07:38.850 --> 00:07:50.490
Laura Prichard: So my reduction remains gradients and the images offset block a blotchy patterns divots and so noise and space telescope so actually adopted many of my improvements as standard in that pipeline so you'll be able to.

54
00:07:50.970 --> 00:07:56.490
Laura Prichard: download much improved data from master really in the coming days is coming on coming online very soon.

55
00:07:57.510 --> 00:08:08.010
Laura Prichard: So with these newly would use images we don't visually inspected 400 galaxies that we're in the right redshift range is such that our images would prob leaking line continue blacks.

56
00:08:08.490 --> 00:08:16.380
Laura Prichard: And these high resolution, he has to do is help to identify any leverage of contaminants so did this last bias approach work.

57
00:08:17.790 --> 00:08:23.580

Laura Prichard: So we thought so here are our top three lineman continuum of galaxy candidate so.

58
00:08:24.180 --> 00:08:28.200
Laura Prichard: Each row is a different object and all the available photo metric bands.

59
00:08:28.440 --> 00:08:39.930
Laura Prichard: And the linemen continuum is on the left and there's actually a combined image showing by the yellow labels here and noisy paralyzed image and then we get there segmentation maps on the right, and these are the footprints we use for flux extraction.

60
00:08:40.860 --> 00:08:50.970
Laura Prichard: So, in order to confirm that true nature, we require spectroscopic redshift to really nail down Lucy forward redshift and this turned out to be an incredibly challenging.

61
00:08:51.870 --> 00:08:59.520
Laura Prichard: bit of work to do so, my collaborators have been pioneering this work for about the last eight years and i've joined, for the last three.

62
00:08:59.820 --> 00:09:10.380
Laura Prichard: And some version of this project has been awarded about 23 nights a telescope time most of that uncovered over the last eight years, but unfortunately due to poor weather.

63
00:09:10.890 --> 00:09:27.150
Laura Prichard: Only about 10% of that time has actually been usable so in January of 2020 we did manage to get some spectra but unfortunately it was in kind of less than ideal conditions, and so the results are pretty incomplete so so that's what i'm going to show you today.

64
00:09:28.230 --> 00:09:40.530
Laura Prichard: So here's one of those inconclusive spectra, this is one of our brightest objects here's a smooth our spectrum in black and there's an LPG composite just laid over the top and blue there.

65
00:09:41.670 --> 00:09:46.890
Laura Prichard: This is an interesting object and even with this slightly ratty spectra I do believe this redshift.

66
00:09:47.370 --> 00:09:53.490

Laura Prichard: But, as you can see from the images, this is actually a double source, it has a bright and optically bright component.

67
00:09:53.790 --> 00:10:03.840
Laura Prichard: That you can see in the f8 one for w imagine that slightly to the to the left, where is the line and continue on component in F F 336 w is slightly to the right and, unfortunately, because of the.

68
00:10:04.380 --> 00:10:12.510
Laura Prichard: Hours slip position we really only can resolve that optically bright component, we just kind of miss miss that thing to learn and continue on component.

69
00:10:13.170 --> 00:10:20.250
Laura Prichard: So we don't really know what the subject is but at redshift or 4.37, which is where we spoke to the company can find it at.

70
00:10:20.460 --> 00:10:31.410
Laura Prichard: This would be a 10 Sigma lineman continuum detection and this licence actually detected well below the line and break, and so I think the most likely explanation for this object, would be a lousy contaminant.

71
00:10:32.400 --> 00:10:46.050
Laura Prichard: So there's more agnostic approach is certainly very effective are getting viable LCD candidates and we have a sizable population but with this bad luck and spectroscopic follow up we can't yet say if there's result if this.

72
00:10:47.070 --> 00:10:54.900
Laura Prichard: method actually yields results yet so In conclusion, this is an incredibly challenging area of astronomy that requires deep HST imaging.

73
00:10:55.320 --> 00:11:05.100
Laura Prichard: spectroscopic follow up in good conditions, and we have just resubmitted on us a cat proposal for the most recent one that was whether it out, so please wish us luck for next year.

74
00:11:05.700 --> 00:11:11.880
Laura Prichard: And even with no clear results, I think this is a worthwhile investigation into this less explored parameters, but it's.

75
00:11:13.080 --> 00:11:14.760
Laura Prichard: i'll just pause there for a question.

76
00:11:17.700 --> 00:11:26.760
Ana Bonaca: Thank you so much for this yeah, thank you for having us appreciate how hard this this actually isn't if people have questions here, please drop me a note.

77
00:11:28.320 --> 00:11:31.680
Ana Bonaca: In the chat and I will kick things off.

78
00:11:33.000 --> 00:11:33.450
Ana Bonaca: yeah.

79
00:11:34.500 --> 00:11:39.810
Ana Bonaca: Christians about this object you just presented as a moment of continuum candidates and so.

80
00:11:41.010 --> 00:11:54.810
Ana Bonaca: Instead I think it's most likely that that because it's a physically displays for from the kind of worried about the optical detection is that it's likely an internal person, so I was wondering why is.

81
00:11:56.040 --> 00:12:03.390
Ana Bonaca: Like what kind of object, who that is it's not really detected in in other bands a strongly.

82
00:12:04.590 --> 00:12:04.920
Laura Prichard: It.

83
00:12:04.980 --> 00:12:10.470
Ana Bonaca: would still be an interesting object, or is there just kind of unknown class of contaminants.

84
00:12:10.770 --> 00:12:18.840
Laura Prichard: yeah this is, this is a really a really good point and, obviously, you have to be pretty damn lucky to get a contaminant like bang over the top of another object, but.

85
00:12:18.900 --> 00:12:26.040
Laura Prichard: The way that we're select selecting these objects were kind of prone to find that freaks in this whole sample when you look in the movie and so.

86

00:12:26.550 --> 00:12:30.810
Laura Prichard: it's not too surprising that you know we're kind of biased towards these really rare cases.

87
00:12:31.290 --> 00:12:41.430
Laura Prichard: And one you know one genuine feeling when we first saw this object is that it could actually be a merger of the same redshift and then you can imagine, in a merger, where a lot of.

88
00:12:41.790 --> 00:12:52.740
Laura Prichard: The cgm is displaced and distorted that could be prime conditions for really getting that ionizing flux out of that system so that we could see it but you'd also have to be along a really.

89
00:12:53.040 --> 00:12:59.640
Laura Prichard: Clean line of sight to that object as well, which you know, again, this is the selection method that would find that type of system.

90
00:13:00.540 --> 00:13:07.950
Laura Prichard: But I think in the images I showed it does look slightly confusing why you're only seeing the human component, but bear in mind those are all scaled relative to.

91
00:13:08.220 --> 00:13:20.160
Laura Prichard: Like relatively for for each band, and so i'm going to be doing some analysis really just on those pixels with the weather UV component is just to see if I can really get the flux measurements just that object and saw the band so.

92
00:13:20.520 --> 00:13:26.070
Laura Prichard: Well, yet to see if if it is really weird or just to kind of you know happenstance.

93
00:13:26.790 --> 00:13:27.870
Ana Bonaca: Just medium weird.

94
00:13:31.470 --> 00:13:38.280
Ana Bonaca: pepe has a question about the other components, so please go ahead and mute.

95
00:13:38.850 --> 00:13:39.750
pepi: it's actually me.

96

00:13:41.880 --> 00:13:55.290
pepi: So, but yeah whatever you get even if there's interlopers like this you've at least got an upper limit on was equals four leakage if you had enough object, so I wondered if that was getting to be interesting, yet or.

97
00:13:55.680 --> 00:14:02.640
Laura Prichard: yeah yeah very, very good point, and so a collaborative mine yours master actually recently submitted a paper just just on that so.

98
00:14:03.240 --> 00:14:12.750
Laura Prichard: compiled a lot of the non detections and that that's he's just transition to a new job in a different country in a pandemic, so it will be resubmitted at some point but um.

99
00:14:13.080 --> 00:14:22.290
Laura Prichard: So yeah it's a that it's definitely an important thing and honestly in this work, you can find a really rare object, and you know they exist, like I own three.

100
00:14:23.610 --> 00:14:34.440
Laura Prichard: But how much can they really tell you, because each system is so different and that's so rare and hard to find and we really need to get the numbers up in order to play some good constraints on those kind of really rare objects.

101
00:14:34.770 --> 00:14:42.990
Laura Prichard: But I think the most promising kind of direction for this field are these upper limits and so there's definitely been a kind of a growing body of work heading in that direction.

102
00:14:44.880 --> 00:14:48.210
Laura Prichard: Thanks, so I want to keep it moving because we want some a lot of content to cover today.

103
00:14:50.190 --> 00:14:53.100
Ana Bonaca: please feel free to send me an email, if you have further questions on science.

104
00:14:53.100 --> 00:14:58.260
Ana Bonaca: stuff we do have a couple of other questions so let's see Okay, really, really well I.

105
00:15:00.090 --> 00:15:01.980

Ana Bonaca: Hope Charlotte can you go ahead, please.

106
00:15:05.610 --> 00:15:11.310
Charlotte Mason: hello, that was very nice I was just wondering just maybe just following up on that question, if you had.

107
00:15:12.630 --> 00:15:28.560
Charlotte Mason: If there was anything you could say about the properties of the candidates related to the the upper limits, I mean if the sample is big enough to say like oh these types of galaxies seem to be have you know higher limits than others or anything.

108
00:15:28.920 --> 00:15:39.960
Laura Prichard: yeah so I mean my collaborator has run these three candidates assuming they're on the right redshift obviously that's a big caveat run them through as codes for determining escape and.

109
00:15:41.010 --> 00:15:52.530
Laura Prichard: The results from that it's quite unlikely that they are genuine detections but if they are, it would be an escape fraction of around 100% which I know sounds a bit crazy, but at least it's not over.

110
00:15:53.670 --> 00:16:10.500
Laura Prichard: that a lot of a lot of detections already and so that's yeah we kind of get these like glimmers of information from these very few sample very small sample but yeah I guess kind of the limits of the non detections will be something as well, I can include in that.

111
00:16:10.800 --> 00:16:16.830
Charlotte Mason: Okay, I just meant like properties of those galaxy so they particularly low mass.

112
00:16:17.640 --> 00:16:23.340
Laura Prichard: Well, I must say that each one is a very, very different system one i'm like is that even the galaxy.

113
00:16:25.200 --> 00:16:28.710
Laura Prichard: They are strange so yeah but yeah good question.

114
00:16:30.480 --> 00:16:38.280
Ana Bonaca: OK, to close off this section I think Nelson has I kind of forward looking at questions, please go ahead, Nelson.

115
00:16:39.390 --> 00:16:51.960

Nelson Caldwell: Or maybe maybe backward yeah it's just a technical question of is correct, the only game in town, is there any way of getting you know similar quality data from vlt or ttc or.

116
00:16:52.650 --> 00:16:54.210
Nelson Caldwell: yeah smaller telescopes.

117
00:16:54.540 --> 00:17:04.410
Laura Prichard: yeah so we put in an LGBT proposal because, but the key here is that you need a very blue instrument, so we use ours, because it can really capture those blue wavelengths and.

118
00:17:04.770 --> 00:17:13.290
Laura Prichard: The the location of kak means that you know the seeing is is good, and you know the atmosphere is just that much, then you can just get more of that blue flux through.

119
00:17:13.680 --> 00:17:19.110
Laura Prichard: And unfortunately, all the LGBT time was completely whether or not, as well known didn't even open so.

120
00:17:19.710 --> 00:17:31.830
Laura Prichard: But the VI lt is another is another option as well, and my collaborators of life, the time down there because they're Australian there in Australia, so they have access now and so yeah there are some other things you can do, but.

121
00:17:32.700 --> 00:17:40.620
Laura Prichard: yeah it's a it's kind of limited and they've they've had some issues on from the lt as well, so it feels like this, this project is.

122
00:17:42.510 --> 00:17:43.710
Nelson Caldwell: suffering the same yes.

123
00:17:44.280 --> 00:17:44.880
it's tough.

124
00:17:47.580 --> 00:17:48.090
Laura Prichard: Okay.

125
00:17:48.450 --> 00:17:49.110
Laura Prichard: Should I mean.

126
00:17:49.830 --> 00:17:52.110
Ana Bonaca: they're they're actually more questions but.

127
00:17:52.770 --> 00:17:53.790
Ana Bonaca: let's move on and.

128
00:17:54.720 --> 00:17:59.760
Laura Prichard: ground to cover, but please, please do email me and to answer your questions, after as well okay.

129
00:18:00.270 --> 00:18:10.560
Laura Prichard: So now changing topic quite bit and switching to Part two of this colloquium and I will say that when I was first invited to give this talk, I was pretty intimidated by the subject.

130
00:18:11.100 --> 00:18:20.880
Laura Prichard: Well i've spent a lot of time thinking about diversity equity and inclusion within conferences, this is a big and multifaceted subject that extends way beyond even that.

131
00:18:21.240 --> 00:18:25.830
Laura Prichard: So this talk is really meant to serve as a starting point for conversation that should definitely continue.

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00:18:26.400 --> 00:18:35.010
Laura Prichard: I will say that I will be covering some difficult and potentially triggering subjects really just to play lay the groundwork for the context of diversity, equity and inclusion.

133
00:18:35.370 --> 00:18:38.760
Laura Prichard: And I want to acknowledge that I have a lot of privilege as an educated.

134
00:18:39.090 --> 00:18:48.480
Laura Prichard: White women and that, I do have a narrow live set of experiences, especially through the pandemic, so, while some continuously trying to educate myself with others experiences.

135
00:18:48.720 --> 00:18:52.830
Laura Prichard: I may miss things or mainly step and cause harm, and if that is the case, please do let me know.

136
00:18:53.520 --> 00:19:00.930

Laura Prichard: So firstly Why are we having this conversation now well 2020 was the year that everyone's plans change due to the covert 19 pandemic.

137
00:19:01.500 --> 00:19:12.600
Laura Prichard: Jobs changed overnight people were immediately cut off from friends and family, while others were forced to go to work and risk their lives every day to keep the country running or to save others and parents.

138
00:19:13.140 --> 00:19:18.840
Laura Prichard: will have to figure out how to homeschool their kids overnight or balance full time jobs along side full time childcare.

139
00:19:19.110 --> 00:19:24.180
Laura Prichard: Well, others were really just to fighting fighting to get through the day with no means of income or support.

140
00:19:24.540 --> 00:19:31.710
Laura Prichard: Today over 3 million lives been lost over 19 and many others have been lost a very challenging situations during this time.

141
00:19:32.310 --> 00:19:42.780
Laura Prichard: As relatives, friends neighbors and loved ones just a couple of months into the pandemic, we all witnessed the horrifying death of George floyd by police and marches for black life.

142
00:19:43.830 --> 00:19:47.640
Laura Prichard: swept the nation and beyond, and those with privilege.

143
00:19:48.210 --> 00:19:54.960
Laura Prichard: who've had the privilege to ignore the oppression of black people really started to open their eyes only choose a did we get.

144
00:19:55.230 --> 00:20:05.610
Laura Prichard: The long awaited guilty verdict of murder by police and while this did bring some relief and maybe even hope it does not really it does not bring back the life that was last.

145
00:20:06.300 --> 00:20:12.150
Laura Prichard: there's also been a rise in ignorant rhetoric throughout the pandemic that seen a rise and anti aging hate crimes.

146
00:20:13.050 --> 00:20:21.870

Laura Prichard: And all of this, all of these attacks on black and Asian communities have also existed on top, with the effects of the pandemic that we know, have had a disproportionate effect.

147
00:20:22.140 --> 00:20:30.030
Laura Prichard: On different communities of color and very varied ways, so our colleagues have kind of especially black indigenous latinx.

148
00:20:30.480 --> 00:20:42.660
Laura Prichard: An Asian are dealing with the hurt their communities as well as the effect of the pandemic was also working in a field that it's not diverse inclusive or equitable so that's what this will only compounding issues that they face.

149
00:20:43.320 --> 00:20:48.150
Laura Prichard: So let's take a look at some of the inequities within our field and how the pandemic has affected them.

150
00:20:48.600 --> 00:20:52.470
Laura Prichard: I will just say that conversations have an equity are often centered on women.

151
00:20:52.740 --> 00:21:00.300
Laura Prichard: And this is even though you know that is not balanced either it's because there are enough women that you can actually track track statistical trends.

152
00:21:00.600 --> 00:21:09.660
Laura Prichard: But this means that communities of color LGBT Q a plus people non binary people, people with disabilities are left out of the conversation was together, which is a real issue.

153
00:21:10.590 --> 00:21:19.410
Laura Prichard: And just shows how broken this field is that we don't have that data available so when we do look at these trends just bear in mind that this is really just the tip of the iceberg.

154
00:21:20.190 --> 00:21:24.690
Laura Prichard: So one year into the pandemic these figures show the change in how academics spend their time.

155
00:21:25.170 --> 00:21:32.880
Laura Prichard: And it's clear that the dynamic has changed a lot for both men and women so on the left, you can see women and blue men and pink and this the average.

156
00:21:33.660 --> 00:21:46.350
Laura Prichard: On average, women have lost more time to research and spend more time on child care and household chores and on the right to see lots of time spent on research by age of youngest child and women are losing more time across the board.

157
00:21:46.920 --> 00:21:51.690
Laura Prichard: And, and for the youngest children, this can equate to almost one day of work, a week.

158
00:21:52.380 --> 00:22:01.020
Laura Prichard: So, here are some other trends as well i've compiled a lot of references and resources and making this talk so i'll send a document round afterwards so.

159
00:22:01.530 --> 00:22:07.470
Laura Prichard: The path is even rockier for scientists of color who encounter other biases in the workplace and now has to do with a disproportionate impact.

160
00:22:07.920 --> 00:22:19.200
Laura Prichard: Of the pandemic on black and Latino communities, and then a couple of other papers found that women of submitting fewer papers and are left out, but more recent research well on average men are actually submitting more papers.

161
00:22:19.740 --> 00:22:30.720
Laura Prichard: Recent modeling by Lisa Cooley in Australia found that it will take until 2080 for them to achieve 30% of women within within their professional astronomers.

162
00:22:31.680 --> 00:22:40.260
Laura Prichard: So the pandemic has forced us all to stop business as usual and it's also starkly exposed and worsened the inequities in society and the field.

163
00:22:40.740 --> 00:22:52.410
Laura Prichard: But the pandemic also creates a valuable opportunity to redesign a field and create a field that can sustain long into the future, with full buy in from the most marginalized communities.

164
00:22:52.830 --> 00:22:58.260

Laura Prichard: And if you think this sounds a bit grandiose we're talking about conferences that I hope to convince you that this is right, where we need to be having this conversation.

165
00:22:58.980 --> 00:23:05.130
Laura Prichard: So let's take a step back and when you're starting to build anything it's important to look at the very core of what you're trying to achieve.

166
00:23:05.460 --> 00:23:15.210
Laura Prichard: So what is our ultimate goal in astronomy I think most answers this question can boil down to some version of discover the secrets of the universe and understand our place in it.

167
00:23:15.690 --> 00:23:20.700
Laura Prichard: And what do we need to achieve this well at its most basic level we new ideas and resources.

168
00:23:21.480 --> 00:23:31.860
Laura Prichard: So ideas can come from some combination of innovative thinking fresh perspectives and knowledge of the field, while the resources that we need to work on this includes data equipment time, money and training.

169
00:23:32.370 --> 00:23:41.970
Laura Prichard: We tie these two together through networking and collaboration, so the best way to tie fresh perspectives and knowledge of the field together is through diversity and inclusion.

170
00:23:42.450 --> 00:23:48.360
Laura Prichard: And the most efficient way to distribute the resources to work with these ideas is through equity.

171
00:23:49.110 --> 00:23:59.070
Laura Prichard: We tie all of this together through conferences, these are valuable regular opportunities to boost ideas and increase access to resources to push the field forward.

172
00:23:59.760 --> 00:24:08.970
Laura Prichard: So a few words on the trifecta that is diversity, inclusion and activity and the historically white and male centered fields such as astronomy.

173
00:24:09.330 --> 00:24:16.170

Laura Prichard: These words can often be used as code words, and so I just want to try and redefine them in the truest sense of the world in the true sense of the words.

174
00:24:17.340 --> 00:24:27.120
Laura Prichard: So beyond the fact that it's only right that everyone has equal access to opportunities research to show that ethnic diversity and a group actually increases its scientific productivity.

175
00:24:27.600 --> 00:24:36.840
Laura Prichard: Close intercultural relationships increase creativity, innovation and entrepreneurship well racial diversity and group actually makes everyone smarter.

176
00:24:37.500 --> 00:24:51.810
Laura Prichard: So diversity exists among many axes and i've already highlighted some race, ethnicity and gender but there's a vast array of axes that the best you can exist along in a group and I just highlighted some of those here so sorry.

177
00:24:56.220 --> 00:25:03.930
Laura Prichard: inclusion is not culture fit its culture, add so thinking not of assimilation, but of expansion and evolution.

178
00:25:04.440 --> 00:25:16.350
Laura Prichard: And there were serious ramifications for not committing to inclusion micro aggressions such as passing comments perceived stupid questions or stupid jokes and proceed question perceive timeless questions.

179
00:25:17.190 --> 00:25:20.520
Laura Prichard: These all add up and they're often referred to as death by 1000 cuts.

180
00:25:21.300 --> 00:25:33.270
Laura Prichard: Studies have consistently shown that experiencing persistent micro aggressions actually damages people's health to to constant elevated stress of navigating non inclusive environments so.

181
00:25:34.200 --> 00:25:42.150
Laura Prichard: Inclusion takes a lot of work and it's required of everyone, but it's especially required of those that benefit from existing power structures.

182
00:25:43.320 --> 00:25:54.210

Laura Prichard: And then finally equity is not equal share it's an ongoing process that involves continuously identifying and removing barriers to ensure equal access to opportunities.

183
00:25:54.570 --> 00:26:04.800
Laura Prichard: So, given the systemic oppression within our society, this is a course correction within the field, so that we can ensure everyone can play on an equal playing field within astronomy.

184
00:26:05.490 --> 00:26:19.170
Laura Prichard: So these are three simple powerful interlink concepts that do not work in isolation, a workplace that's diverse equitable and inclusive is one where everybody benefits it's the most healthy and it leads to innovation.

185
00:26:19.770 --> 00:26:25.860
Laura Prichard: and conferences provide valuable opportunities to enhance diversity equity and inclusion in the field.

186
00:26:26.610 --> 00:26:34.410
Laura Prichard: So this was the guiding principle behind this initiative by the women and astronomy forum space telescope science institute that I lead back in 2019.

187
00:26:34.920 --> 00:26:40.020
Laura Prichard: So the idea was to survey the sizable cohort of research staff, so we are at three responses around.

188
00:26:40.530 --> 00:26:46.080
Laura Prichard: Half the research staff and their ability to attend conferences and this turned into an asteroid 2020 White Paper.

189
00:26:46.710 --> 00:26:58.380
Laura Prichard: So we asked 27 questions that span three main areas factors motivating people to attend conferences factors limiting their attendance of conferences and any practices that would have facilitated by participation.

190
00:26:59.040 --> 00:27:09.270
Laura Prichard: We are some optional demographic questions, to see if there are any trends in these responses with gender identity using his PhD racial identity ethnic identity relationship status.

191
00:27:09.600 --> 00:27:13.410

Laura Prichard: English as a first language and number of dependence a lot, as well as some others.

192
00:27:14.220 --> 00:27:20.250
Laura Prichard: And I will just highlight some glaring issues with the demographic distributions of this of the survey respondents.

193
00:27:20.670 --> 00:27:28.920
Laura Prichard: So the binary gender or their it's actually relatively representative of St St is workforce it's well below that of society.

194
00:27:29.370 --> 00:27:38.370
Laura Prichard: And also, none of the respondents identified as non binary gender non conforming and that really places a serious limit that this data is just isn't captured in a survey.

195
00:27:39.210 --> 00:27:47.190
Laura Prichard: and other major issue is that the respondents are not racially or ethnically diverse, which places even more significant limitations on the results.

196
00:27:47.700 --> 00:27:55.230
Laura Prichard: The results for analyzing aggregate form and for the demographic data, where we had enough enough information, so please bear these limitations in mind.

197
00:27:56.280 --> 00:28:03.630
Laura Prichard: So in aggregate We found that the factors limiting people's attendance were lack of time travel funds or too many conferences to attend.

198
00:28:03.990 --> 00:28:09.030
Laura Prichard: And then the practices that aided participation helps inform the key recommendations which were to.

199
00:28:09.630 --> 00:28:16.770
Laura Prichard: offer remote participation ensure diverse representation of conferences and offer flexible funding for dependent care support.

200
00:28:17.640 --> 00:28:26.700
Laura Prichard: And then offer additional funding for travel so i'll just dive into each one of these recommendations and a bit more information on on the motivation behind each.

201

00:28:27.420 --> 00:28:34.770
Laura Prichard: So the first is strive for two way remote participation at every Conference so two ways at something like zoom where you can.

202
00:28:35.190 --> 00:28:42.810
Laura Prichard: Present remotely you can ask questions you can be involved in discussions and the motivation for this is that we found 43% of women.

203
00:28:43.290 --> 00:28:50.070
Laura Prichard: Compared with just 28% of man, so that remote participation would have helped them participate in a conference.

204
00:28:50.580 --> 00:29:01.980
Laura Prichard: The additional benefits is that this benefits all underrepresented groups and with our intensive year of training during the pandemic there's really no excuse as to why we can't offer this anymore, it also has significant environmental benefits.

205
00:29:03.120 --> 00:29:12.720
Laura Prichard: So the second recommendation is that you should select diverse organizing committees contributors and attendees and a tip for success here is to invite more researchers.

206
00:29:13.140 --> 00:29:25.980
Laura Prichard: More junior researchers with marginalized identities, so the motivation behind this was that we found that 78% of men received between one and 11 invitations over the last three years, compared with 52% of women.

207
00:29:26.580 --> 00:29:36.390
Laura Prichard: And the plot on the right, shows the fraction of invitations accepted and with women and orange and men and blue and we found that women were more likely to accept the invitation that they've received.

208
00:29:37.320 --> 00:29:45.450
Laura Prichard: But an interesting point here is that we found that a few women received a few senior women received many more invitations than anyone else.

209
00:29:45.900 --> 00:29:56.400
Laura Prichard: So what this means is that conference organizers may feel that they're doing their due diligence by inviting the most well established and as a result, often most overburdened women.

210
00:29:56.730 --> 00:30:04.170
Laura Prichard: that are more likely to reject the offer meanwhile junior women were actually being excluded and they were the ones, more likely to accept the invitations anyway.

211
00:30:05.310 --> 00:30:12.180
Laura Prichard: Another important point is that 22% or women said that more diverse representation at conferences would have actually encouraged them to attend.

212
00:30:12.420 --> 00:30:23.790
Laura Prichard: So optics really matter when you're putting together a conference, and there are existing tools for creating for selecting more diverse participants and contributors in less biased ways and i'll share those resources after.

213
00:30:24.780 --> 00:30:32.340
Laura Prichard: So the third recommendation is to provide flexible funding for any additional costs incurred as a part of participating in a conference.

214
00:30:32.730 --> 00:30:39.360
Laura Prichard: So, the key word here is flexible, this really gives researchers, the freedom to find the best option that works for them.

215
00:30:39.810 --> 00:30:50.070
Laura Prichard: And the motivation for this was that women with dependence shown in the red line here didn't apply for around six conferences that they were interested in.

216
00:30:50.610 --> 00:31:00.030
Laura Prichard: And compared to three four men with dependence June and dark blue and then women and men, with no dependence didn't apply to the same number that they were interested in which was too.

217
00:31:00.870 --> 00:31:06.720
Laura Prichard: So this recommendation benefits a wide range of astronomers from those were children to those non self sufficient relatives.

218
00:31:08.100 --> 00:31:18.060
Laura Prichard: And then the fourth recommendation is to allocate institutional or conference financing funding for people to attend conferences, so the main reason for 42% of people are not.

219
00:31:18.630 --> 00:31:29.310
Laura Prichard: attending conferences, was the lack of funding and this funding can be used equitably, you can provide funding for specific underrepresented groups invited speakers or students.

220
00:31:30.210 --> 00:31:39.570
Laura Prichard: So, given the limitations of the White Paper, I wanted to draw in some more recommendations from an expert outside of astronomy.

221
00:31:39.840 --> 00:31:50.100
Laura Prichard: on how to increase diversity equity and inclusion, but the focus on race, so the recommendations that were presented were don't look at experts by title, so we already know that this field is not diverse.

222
00:31:51.000 --> 00:32:00.720
Laura Prichard: Diverse diverse or equitable and set an ambitious and audacious goal for diversity, this includes everyone on the organizing committees through to everyone participating in the conference.

223
00:32:01.350 --> 00:32:06.930
Laura Prichard: asked for speaker recommendations from a diverse group, this is a lot easier to do if you have a diverse Organizing Committee.

224
00:32:07.440 --> 00:32:12.690
Laura Prichard: and pay your speakers, at least for an academic conference cover the cost of their attendance.

225
00:32:13.320 --> 00:32:16.380
Laura Prichard: Do not always unless people of color to speak about diversity issues.

226
00:32:16.740 --> 00:32:25.350
Laura Prichard: and pass the baton if you find that you're being consistently invited to talks and you're from pretty well represented group recommend a speaker from the underrepresented group.

227
00:32:26.100 --> 00:32:34.860
Laura Prichard: Use your sponsorship sponsorship privilege don't endorse a conference that's not overs and finally refuse to speak out or attend a homogeneous event.

228
00:32:35.940 --> 00:32:44.490

Laura Prichard: So while so is wrapping up the White Paper planning for the inclusive astronomy to meeting at space telescope in October of 2019.

229
00:32:45.060 --> 00:32:51.750
Laura Prichard: And was well underway, so I ended up as a local Organizing Committee kosher and after the original chair left the field.

230
00:32:52.470 --> 00:32:56.730
Laura Prichard: And as a test case I attempted to implement all of the recommendations from the White Paper.

231
00:32:57.720 --> 00:33:04.470
Laura Prichard: So, of the four White Paper recommendations all but one were implementable in the very short time frame that we left ourselves.

232
00:33:05.040 --> 00:33:12.330
Laura Prichard: An important thing to note is that meeting did happen, but it felt significantly short of its originally intended goals.

233
00:33:12.600 --> 00:33:21.120
Laura Prichard: And this was due to inexperience mismanagement incredibly short amount of time that we left ourselves and also messed up missteps along the way, that caused harm.

234
00:33:21.690 --> 00:33:30.330
Laura Prichard: So the local Organizing Committee spent the nine months after the Conference writing a comprehensive document of recommendations, based on the lessons that we learned.

235
00:33:31.470 --> 00:33:36.030
Laura Prichard: So the High Level recommendations here and there are many more specifics in the document that was sent around.

236
00:33:36.630 --> 00:33:46.740
Laura Prichard: Most importantly, start a year to a year and a half in advance for an online conference i'd recommend at least nine months to really be can diversity equity and inclusion at the core.

237
00:33:47.580 --> 00:33:54.750
Laura Prichard: seek involvement from experts and people are many identities in the planning of the Conference be transparent in decision making.

238
00:33:55.410 --> 00:34:03.000

Laura Prichard: Fine, use utilize resources outside of astronomy this is so important for lightening the burden of those actually planning the conferences.

239
00:34:03.900 --> 00:34:19.560
Laura Prichard: accessibility and access, it should be really involved at every stage of the planning process and organizing committees can can carefully set up planning structures to ensure success, including good communication and multi level leadership to avoid single single single point videos.

240
00:34:20.760 --> 00:34:28.890
Laura Prichard: So the White Paper and inclusive astronomy to we're all in a pre pandemic world and overnight everyone became a remote participant.

241
00:34:29.160 --> 00:34:37.410
Laura Prichard: And the real benefit of that is that video conferencing software and virtual connection tools have rapidly evolved and virtual conferences are now commonplace.

242
00:34:37.770 --> 00:34:43.230
Laura Prichard: So the question to ask is not what we need to stop but what's morally responsible to resume.

243
00:34:43.830 --> 00:34:51.210
Laura Prichard: So imagining ahead to a post pandemic world you have three basic format for how a conference could could be set up.

244
00:34:51.900 --> 00:35:06.420
Laura Prichard: All in person hybrid in person and to a virtual and all virtual so the white people shows that all in person conferences, do not support diversity equity equity and inclusion and there are many other significant cons a hybrid.

245
00:35:07.440 --> 00:35:13.530
Laura Prichard: A hybrid conference for the two way component does have the pros and in person Conference, and it can support di.

246
00:35:14.010 --> 00:35:23.100
Laura Prichard: A con is that can be hard to connect all your participants, and so this is something that really needs to be worked on and it's but it's important to facilitate in person.

247
00:35:23.940 --> 00:35:33.000

Laura Prichard: Attendance as a primary goal a virtual component alone should not be a substitute for all the important work that goes into diversity equity and inclusion.

248
00:35:33.990 --> 00:35:39.930
Laura Prichard: But for the white people, we found that much people, people would much rather participate they're actually they're not at all.

249
00:35:40.800 --> 00:35:57.390
Laura Prichard: And then third doesn't all virtual Conference, which is the most supportive of di there are many pros to these, although you don't get the in person interactions that you get from in passing that you get that are really valuable component of conferences, for many people, but an important.

250
00:35:58.560 --> 00:36:05.700
Laura Prichard: Additional note is that all virtual conferences, limit the spread of viruses and diseases, which I know is something we've all been thinking a lot about over the last year.

251
00:36:06.480 --> 00:36:22.080
Laura Prichard: So, given what we now know and our 10th year of virtual training, you should not be setting out to plan and exclusively all in person meeting anymore given adequate planning time if your venue cannot support a virtual component, you can find another venue.

252
00:36:23.490 --> 00:36:28.860
Laura Prichard: So now on to an important aspect of conferences, which is the environmental impact, so researchers.

253
00:36:29.430 --> 00:36:37.590
Laura Prichard: compared the European astronomical society meeting he is meeting the 2019 in person, one and the 2020 virtual one.

254
00:36:37.980 --> 00:36:46.260
Laura Prichard: And they found that the carbon footprint of the virtual meeting was 3000 times smaller than the in person meeting and that the Internet related emissions are negligible.

255
00:36:47.010 --> 00:36:58.050
Laura Prichard: And they found the intercontinental travel of the in person meeting accounted for about 50% of the travel emissions, which is significant, as as a European meeting and most people from Europe.

256
00:36:59.070 --> 00:37:05.130

Laura Prichard: So now on to the destination of this talk, what should the future of astronomical conferences look like.

257
00:37:05.880 --> 00:37:13.860
Laura Prichard: An important thing to note here is the environmentally conscious conferences are more diverse equitable and inclusive so some of the suggestions here.

258
00:37:14.370 --> 00:37:22.290
Laura Prichard: are taken from that he is study the European astronomical society study, but they also overlap with the White Paper results and the inclusive astronomy to.

259
00:37:23.040 --> 00:37:36.360
Laura Prichard: Recommendations as well, simplifying and localizing conferences means that everybody on the environment, benefits and the pandemic is the perfect time to really adopt policies that create real change.

260
00:37:36.840 --> 00:37:42.210
Laura Prichard: And so we can take the next couple of years to experiment and also document what works and what doesn't.

261
00:37:43.590 --> 00:37:52.260
Laura Prichard: So the first recommendation is what we've already touched upon post coven 19 compensation be a mix of purely virtual and a hybrid conferences are the two way virtual component.

262
00:37:53.190 --> 00:38:09.690
Laura Prichard: All conferences should be enzyme designed with increasing diversity equity and inclusion and astronomy as a core function, and this is an iterative process, you can use existing recommendations build upon them and pass them along for future organizers so that we can all evolve.

263
00:38:10.740 --> 00:38:16.620
Laura Prichard: Recommendation from inclusive astronomy recommendations and the meeting is to attach satellite meetings.

264
00:38:17.040 --> 00:38:30.000
Laura Prichard: To smaller satellite meetings to annual conferences, so this reduces barriers or participation by using existing infrastructure, for example, just tagging a meeting on the end of one of the biannual ws meetings.

265
00:38:30.540 --> 00:38:40.650

Laura Prichard: An important part of this, and something additional is that you can lean on the resources outside of astronomy to lighten the burden, for example, use event planners, as they do for all ws meetings.

266
00:38:42.060 --> 00:38:56.580
Laura Prichard: So this is a cool idea for a global meeting you can hold it a regional hubs and this is actually already been done by another field this lowers the threshold of participation and will undoubtedly facilitate a wider and more diverse participants.

267
00:38:57.840 --> 00:39:08.340
Laura Prichard: These regional hubs can be located along public transport routes with in locations, with many resources nearby and they can be scheduled to aid participation, for example, within regular work hours.

268
00:39:09.660 --> 00:39:21.210
Laura Prichard: You could have at any conference, you can have a mix of synchronous and asynchronous talks or pre session so pre recorded talks a lot of discussion sessions, so this will be a global participation and interaction.

269
00:39:22.740 --> 00:39:30.150
Laura Prichard: And you could also centrally schedule all of your conferences, for example through something like the International astronomical Union.

270
00:39:30.660 --> 00:39:35.310
Laura Prichard: A third of people from the conference survey said that they couldn't attend conferences, because there was just too many to attend.

271
00:39:35.490 --> 00:39:45.990
Laura Prichard: So we can certainly streamline and condense the sheer volume of conferences that we had pre pandemic to really make sure that every conference is intentional and a real value to maximize its returns.

272
00:39:47.040 --> 00:39:53.760
Laura Prichard: And then, in order to reward organizers for their valuable contributions to the field and also to incentivize.

273
00:39:54.750 --> 00:40:01.860
Laura Prichard: sharing this responsibility of this work, we need to properly properly recognize the work that goes into planning conferences.

274
00:40:02.520 --> 00:40:09.240

Laura Prichard: And this could include conference related acknowledgments and citations three to properly, including them in job appraisals.

275
00:40:10.170 --> 00:40:19.620
Laura Prichard: So now on to the discussion discussion part of the talk, do you have any thoughts on this, do you have any ideas to throw into the pool and what do you want to see for the future of astronomical conferences.

276
00:40:20.070 --> 00:40:23.430
Laura Prichard: Thank you so much, and i'm happy to take any questions and we're looking forward to hearing your ideas.

277
00:40:25.380 --> 00:40:27.540
Ana Bonaca: thanks for this is really excellent.

278
00:40:29.850 --> 00:40:37.080
Ana Bonaca: i'm sure yeah people start telling you their questions in the chat so perhaps just to kick things off.

279
00:40:37.290 --> 00:40:37.950
Morgan Elowe MacLeod: Can I.

280
00:40:38.220 --> 00:40:39.150
Morgan Elowe MacLeod: just say one.

281
00:40:39.330 --> 00:40:52.140
Morgan Elowe MacLeod: thing first sorry to interrupt, as we have this conversation I want to also talk about like the form that we're in right now, like colloquia and sort of visits, which have obviously been forced online, but like.

282
00:40:53.880 --> 00:40:57.900
Morgan Elowe MacLeod: I think of this as not a full on conference, but like miniature version so.

283
00:40:59.580 --> 00:41:01.410
Morgan Elowe MacLeod: yeah back to you i'm sorry.

284
00:41:03.810 --> 00:41:05.460
Ana Bonaca: yeah that's a great.

285
00:41:06.900 --> 00:41:12.660

Ana Bonaca: For endeavors yeah all of these practices are yeah word beyond conferences as well.

286
00:41:13.980 --> 00:41:29.040
Ana Bonaca: My question was regarding the the first bubble that appear here about the hybrid conferences, so you like, a number of conferences i've been successful completely virtually but it's.

287
00:41:30.330 --> 00:41:34.860
Ana Bonaca: I guess a little bit unclear kind of how the.

288
00:41:35.880 --> 00:41:45.870
Ana Bonaca: impersonal versus virtual experience or would compare like it's the same conference So could you maybe discuss some of the practices that would would.

289
00:41:46.260 --> 00:41:56.040
Ana Bonaca: kind of enable virtual participants are the same level of networking that is kind of just naturally comes out of an in person at them, and so the conference.

290
00:41:56.670 --> 00:42:00.510
Laura Prichard: yeah it's a it that's a barrier that that certainly needs a lot of work.

291
00:42:00.900 --> 00:42:05.910
Laura Prichard: That I that I hinted that before it's really hard to bring your virtual and you're in person people together.

292
00:42:06.090 --> 00:42:14.370
Laura Prichard: Something we did our inclusive astronomy to I was running the virtual participation, and it was the first time that it probably been done for for space telescope conference.

293
00:42:14.760 --> 00:42:27.450
Laura Prichard: I don't know that that was all that successful, but one thing we did was actually have videos of the virtual participants, at least at the beginning of the session so people could see oh look there are actually people online and then everyone was on the slack.

294
00:42:28.830 --> 00:42:35.100
Laura Prichard: And so there's there's kind of ways that you can you can get people to interact and we have, I think, maybe three virtual presentations.

295
00:42:35.490 --> 00:42:47.520
Laura Prichard: and also an important thing to note is that some people were saying yes i'm definitely not going to be able to make it please sign me up as a virtual participant some people actually just mashing masters, the day of the meeting, saying.

296
00:42:48.060 --> 00:42:56.760
Laura Prichard: I can't come in person, thank you for giving me virtual participation like i've had a you know big disaster, can I just sign on and so that flexibility.

297
00:42:56.940 --> 00:43:09.270
Laura Prichard: Is everything, obviously I think most people would much rather be in person, get the most out of a conference in that sense and that's why it should never be used as a substitute for doing all that work to get everyone in the room.

298
00:43:10.290 --> 00:43:21.810
Laura Prichard: But it's great it's great as a backup and it really helps, you know as we've seen more women and i'm sure underrepresented groups of all kinds attend conferences participating conferences.

299
00:43:23.310 --> 00:43:23.610
Great.

300
00:43:24.720 --> 00:43:25.020
Ana Bonaca: and

301
00:43:26.760 --> 00:43:27.960
Ana Bonaca: First, so please go ahead.

302
00:43:30.570 --> 00:43:31.200
Anna L Rosen: hey Laura.

303
00:43:31.230 --> 00:43:32.130
Anna L Rosen: Nice stocks.

304
00:43:32.190 --> 00:43:34.710
Anna L Rosen: nice to see you again I haven't seen you since inclusive astronomy.

305
00:43:36.660 --> 00:43:41.160

Anna L Rosen: yeah this is, I mean this is great yeah I think that pandemic has definitely made people think.

306
00:43:41.340 --> 00:43:53.910
Anna L Rosen: Different air think a lot more about how to how to schedule our plan conferences better in this regard um, I just wanted to like give it another couple of ideas to because.

307
00:43:54.720 --> 00:44:03.870
Anna L Rosen: A lot of things that you said to like really resonated and so just give a couple examples of you know, basically two conferences, out of the money, money i've been to but.

308
00:44:04.680 --> 00:44:12.330
Anna L Rosen: These are things I really like so like I went to a conference in 2014 that had a large numbers of Grad students speaking.

309
00:44:13.050 --> 00:44:20.220
Anna L Rosen: I think one of the problems is a lot of times grasping, especially young Grad students are very early Grad students, you know.

310
00:44:20.730 --> 00:44:24.840
Anna L Rosen: Just kind of assume that they should be doing a poster in this and that, I think.

311
00:44:25.560 --> 00:44:37.170
Anna L Rosen: I think, giving a talk and stuff like that and getting more interaction, because we know not everyone's a little bit your poster but everyone will listen to your talk and that was really the only meeting I saw that really.

312
00:44:38.640 --> 00:44:41.580
Anna L Rosen: Actually, actively make sure they had.

313
00:44:42.690 --> 00:44:52.710
Anna L Rosen: A lot of grads unit talks, one of the disadvantages was they make them shorter much or that was a disadvantage or not, but because they made it 10 minutes, rather than 15 minutes.

314
00:44:53.790 --> 00:45:03.240
Anna L Rosen: They were able to have a lot more people get a lot more Grad students give talks so and that's something I really liked, and the same thing too with the speakers.

315

00:45:03.750 --> 00:45:12.660
Anna L Rosen: You know the star formation conference I go to it's always the same people star formation, is a lot more popular in Europe so most of the conferences are there, and you know.

316
00:45:13.800 --> 00:45:15.780
Anna L Rosen: I always see like the same names on there.

317
00:45:17.220 --> 00:45:26.310
Anna L Rosen: And I think there's a big group, you know when I gave a invited talk to a GMT conference a couple years ago, or a few years ago.

318
00:45:26.790 --> 00:45:32.880
Anna L Rosen: And it was I was like you know you look at the list, and it was, like all these young people, you know postdocs.

319
00:45:33.720 --> 00:45:40.710
Anna L Rosen: Early faculty and so on, and it was like 50 women and men, and I was like so impressed I was like wow I really like how you guys.

320
00:45:41.040 --> 00:45:47.460
Anna L Rosen: chose your speakers and then, when it's when people at the conference people in the soc was like oh yeah we wanted it to people that will actually use the telescope.

321
00:45:48.990 --> 00:45:56.850
Anna L Rosen: So what I had thought was not right um so i'm wondering too if yeah having something global where.

322
00:45:58.080 --> 00:46:07.350
Anna L Rosen: You know, to try to make it because I think to like being invited to give talks getting talks when you apply for topic, especially when you're young is a huge confidence boost and I think.

323
00:46:08.880 --> 00:46:09.990
Anna L Rosen: Especially now, with.

324
00:46:11.850 --> 00:46:17.190
Anna L Rosen: You know I don't even know what the damage like this pandemic is going to do to people's.

325
00:46:19.050 --> 00:46:26.820

Anna L Rosen: You know imposter syndrome and whatnot in second home for the song but um you know, have you guys thought about maybe like even a database like how.

326
00:46:27.780 --> 00:46:47.340
Anna L Rosen: The site is White Paper like, how do you kind of expect the rest of the astronomy community to to go by these guidelines, because I, I feel like it's going to be hard to convince all these associates to make their on their invited list a lot more diverse right now.

327
00:46:47.850 --> 00:46:50.370
Laura Prichard: yeah, but not if the SEC is over.

328
00:46:51.390 --> 00:46:54.810
Laura Prichard: And that's the key it's like the day one.

329
00:46:54.870 --> 00:46:59.280
Laura Prichard: You know, it has to be baked into the whole system.

330
00:47:00.420 --> 00:47:06.810
Laura Prichard: Because it's it's just you're right it's really hard to convince and it's also as I found.

331
00:47:07.380 --> 00:47:18.870
Laura Prichard: Creating a really diverse equitable and inclusive conference is a huge amount of work, and it is a burden that unfortunately disproportionately falls on the most marginalized people in.

332
00:47:19.530 --> 00:47:23.790
Laura Prichard: In the field and that's why I think an important part of this whole thing is.

333
00:47:24.150 --> 00:47:35.580
Laura Prichard: We need to start properly acknowledged and acknowledging that work, and I feel i'm an incredibly privileged person within this whole environment and I don't really want to do, diversity, equity and inclusion work anymore i'm kind of done with it.

334
00:47:35.880 --> 00:47:39.840
Laura Prichard: and have the inclusive astronomy to meeting three of those people have left the field now.

335
00:47:40.230 --> 00:47:51.750

Laura Prichard: And they're involved in the lsc it was a bad situation, but like you know there's there's so many things that can be baked in right at the beginning and then that's your thing, like you, if it's not right.

336
00:47:52.050 --> 00:47:58.770
Laura Prichard: don't do it, you know if the first few meetings are going, not the direction that it should be going and don't just plow ahead like.

337
00:47:58.800 --> 00:47:59.670
Anna L Rosen: That those corrected.

338
00:47:59.820 --> 00:48:01.860
Laura Prichard: have to happen in those first few meetings.

339
00:48:03.690 --> 00:48:18.090
Anna L Rosen: yeah yeah no I agree and that's unfortunate I mean I feel like a lot of the talk is D is so important and then people aren't rewarded for putting in those efforts I mean i'm sure many of us, because they like, like my.

340
00:48:19.680 --> 00:48:27.450
Anna L Rosen: You know emails for being on panels and conferences sorry panels and reviewing papers like skyrocketed this year.

341
00:48:28.380 --> 00:48:39.480
Anna L Rosen: And i'm sure many others and and I wondered why you know i'm and that's hard to because when I was because also, I think, having diverse panels, is very important, when I was on a.

342
00:48:40.470 --> 00:48:51.450
Anna L Rosen: NASA ATP panel there's probably 10 of us on there, and the only woman on that panel was me and another post, you know female postdoc and so it's it's.

343
00:48:51.930 --> 00:49:10.530
Anna L Rosen: it's tough, because you need to increase represent representation in those fields and the way to do it, too, is to get a more balance opinion with all these things is to have a diverse panel are diverse so see and that's not but then it always falls to the limited number of people.

344
00:49:11.220 --> 00:49:17.040

Laura Prichard: So I will say, and something I can't emphasize enough is leaning on resources outside of the astronomy community.

345
00:49:17.400 --> 00:49:24.930
Laura Prichard: But also, even within astronomy, for example, if you're trying to put together a conference at a relatively small institution or a not very diverse institution.

346
00:49:25.170 --> 00:49:34.770
Laura Prichard: You can ask the double as input we did actually have someone from the working group and accessible in accessibility and disability I think w good for them.

347
00:49:35.370 --> 00:49:47.340
Laura Prichard: From ws actually advisors and so that, like there are resources around within the astronomy Community but also there's a lot of fields who've already just saw this out that regional hubs things or biology conference.

348
00:49:47.610 --> 00:49:49.380
Laura Prichard: And they are psychologists to come in.

349
00:49:49.710 --> 00:49:51.600
Laura Prichard: and evaluate how well it went.

350
00:49:51.900 --> 00:49:59.730
Laura Prichard: And you know I think we can lean on sociologists, we can lean on psychologist as well for getting that type of stuff and we can lean on like more diverse fields for.

351
00:49:59.910 --> 00:50:05.160
Laura Prichard: understanding how you increase diversity and stuff and so that's why I pulled in some other recommendations from outsiders from me.

352
00:50:11.010 --> 00:50:14.940
Ana Bonaca: that's awesome Maybe you can go to the next question but JESSICA.

353
00:50:18.000 --> 00:50:27.420
Jessica Mink: hi um I think one of the I mean w get actually started pretty much at the first inclusive astronomy conference in 2015.

354
00:50:28.620 --> 00:50:43.920

Jessica Mink: And they were sort of almost and not quite an afterthought, but they weren't in the original diversity grouping that started organizing it, I was on the organizing committee for that, but I actually have an Organizing Committee meeting later today for the.

355
00:50:45.210 --> 00:51:00.030
Jessica Mink: think the 32nd annual astronomical data analysis software and systems Conference, which is very international and we pivoted to do last year's which was going to be in Spain.

356
00:51:01.440 --> 00:51:13.020
Jessica Mink: Totally online and we ran into one big problem you have with doing international conferences online if literally you have people all the way around the world is when do you have the meetings.

357
00:51:14.070 --> 00:51:29.790
Jessica Mink: And it was challenging so we had three a day, and they were sort of centered around Eastern Europe, so those people could make it to everything but that meant we had to sometimes stay up way past midnight or wake up in the middle of the night to go to session so NASA.

358
00:51:31.230 --> 00:51:35.790
Jessica Mink: Geographic diversity issue that is very hard to deal with.

359
00:51:36.660 --> 00:51:46.200
Laura Prichard: And can be tough and I want one of the points that one of the bottom left there is the asynchronous and synchronous sessions, which is obviously something now everyone has a kid in school is very familiar with.

360
00:51:46.890 --> 00:51:54.510
Laura Prichard: But you know it allows you know, yes, there may be some very narrow window of the day when you don't really have a discussion, but everyone can watch everything on their own time.

361
00:51:54.660 --> 00:51:56.010
Jessica Mink: On the schedule that yeah well we didn't.

362
00:51:56.010 --> 00:52:17.310
Jessica Mink: have to buy so anything was recorded yeah, but a lot of it is the interaction that you both participate in and here live, so you can react to people and what we what really was missed was that time in between sessions so it's easy to broadcast and it's hard to do.

363
00:52:19.140 --> 00:52:27.270

Jessica Mink: times when everybody can talk and I think doing some sort of breakout rooms, is the way it needs to evolve to but I haven't seen that really happening yeah.

364
00:52:28.410 --> 00:52:30.990
Jessica Mink: You can really form small discussion groups.

365
00:52:31.590 --> 00:52:38.670
Jessica Mink: I like the idea of smaller local conferences, but in this field where we're we've always been very international it's been.

366
00:52:39.480 --> 00:52:48.750
Jessica Mink: really hard, I mean we literally, the last two chairs have been women, though, of the organizer of the program Organizing Committee, which is our equivalent to the scientific.

367
00:52:49.290 --> 00:53:05.280
Jessica Mink: And we do have quotas, which is a thing that's easy to do an international conferences and impending American conferences, I have discovered because Europeans think about quotas and Americans don't really aren't really allowed to think about quotas.

368
00:53:06.360 --> 00:53:07.050
Jessica Mink: So we have a.

369
00:53:07.140 --> 00:53:22.350
Jessica Mink: Pretty strict, so our field is more heavily male I mean software field is more heavily male then astronomy in general, and so we have a we do try for a third women everywhere, both in invited speakers and.

370
00:53:23.430 --> 00:53:34.950
Jessica Mink: In in people that are giving oral talks, as well as the organizing committee the program Organizing Committee local organizing committee on always as well balance.

371
00:53:35.550 --> 00:53:46.140
Jessica Mink: It depends on who they can get the past time to volunteer but it's all volunteers to which makes a difference so it's easier to pay later mostly volunteer event because you don't have to.

372
00:53:46.560 --> 00:53:55.830
Jessica Mink: charge as much for it to support the infrastructure which we don't have any up, so thank you for your talk it was really enlightening thanks.

373
00:53:58.050 --> 00:54:02.010
Ana Bonaca: The one we're headed to run ahead yeah.

374
00:54:02.070 --> 00:54:12.300
Giovanni Fazio: Thanks thanks for this talk was very quite interesting i've been on many organizing committees, particularly with ESP IE on instrumentation.

375
00:54:13.050 --> 00:54:24.240
Giovanni Fazio: And one of the things I think you can do that would help would be to contact the sponsors and the organizers of the Conference, and that when they picked the.

376
00:54:25.050 --> 00:54:36.960
Giovanni Fazio: chairs and the organizing committee nation instruct them on these items that you bring up you know diversity equity inclusion this and you know instruct them that these items must be included when they.

377
00:54:38.220 --> 00:54:46.710
Giovanni Fazio: When they organize it and that way, I think you could also get some unity and more action occurring.

378
00:54:48.780 --> 00:55:03.780
Laura Prichard: So that's a really interesting point and I money is so important in situation if you if you have, if you have a grant that has in it stipulated this needs to be a diverse conference you know along the Rockies that's that speaks volumes.

379
00:55:05.070 --> 00:55:11.370
Laura Prichard: i'm ultimately really, really help conferences thrive, when the money says that that's the way it's supposed to be.

380
00:55:12.510 --> 00:55:14.970
Laura Prichard: yeah that's a really good point i'm making notes, by the way.

381
00:55:15.390 --> 00:55:16.920
Giovanni Fazio: Now, but wait, you know.

382
00:55:19.590 --> 00:55:31.200
Giovanni Fazio: When we if we were told by the sponsors that you know you had to be had to have these items in your talk that we would tend to follow that you know it.

383
00:55:32.040 --> 00:55:44.340
Giovanni Fazio: Because there's sponsor they picked you and I think that's really the key if you can get them to or in a grant to specify that if you're organizing a conference that these things be in it.

384
00:55:45.660 --> 00:55:57.510
Giovanni Fazio: Then I would go a long way okay thanks again, and thanks for being so for bringing all these items up, I think I think they're great thanks.

385
00:56:00.450 --> 00:56:02.040
Ana Bonaca: me final final bill.

386
00:56:04.440 --> 00:56:12.300
william forman: hi, I just wanted to add your follow up, I give it to that it would be great to let the I you know because they sponsor a huge number of meetings symposia.

387
00:56:13.140 --> 00:56:22.380
william forman: You all around the world, and if they had your ideas in their guidelines that would they would they would automatically go out to all the sponsors only organizing committees and would even be part.

388
00:56:22.650 --> 00:56:30.780
william forman: Of the guidelines, so the people who are proposing for the meetings so that would be a fabulous way to spread your ideas very, very widely, thank you for a fabulous talk.

389
00:56:31.260 --> 00:56:32.670
Laura Prichard: Thanks that's a really good idea.

390
00:56:34.290 --> 00:56:42.630
Laura Prichard: So it's hard, because I completely burnt out by diversity and inclusion work and it's definitely impacted my science output, but then it's also like well now i'm.

391
00:56:42.960 --> 00:56:52.530
Laura Prichard: Some i'm one of many people he's done quite a work and then can provide the information so it's a i'm always caught halfway out the door, but this but I appreciate.

392
00:56:53.610 --> 00:56:54.930
Laura Prichard: everyone's feedback.

393
00:56:55.860 --> 00:56:59.580
Laura Prichard: yeah and thanks for thanks for giving me the opportunity to speak on this.

394
00:57:00.510 --> 00:57:05.190
Morgan Elowe MacLeod: or with that let's thank Laura all together, one more time.

395
00:57:06.420 --> 00:57:07.680
Morgan Elowe MacLeod: We are going to.

396
00:57:08.970 --> 00:57:13.410
Morgan Elowe MacLeod: Stop the recording at this point, but those of you who would like to.